

# Central-West Orana Renewable Energy Zone Transmission project

Submissions Report

March 2024

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# Acknowledgement of Country

The Energy Corporation of NSW acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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Published by Energy Corporation of NSW

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Central-West Orana Renewable Energy Zone Transmission project

First published: March 2024

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# Glossary

Term	Definition
Access road	Permanent access roads to switching stations and energy hubs.
Access track	Temporary and permanent access tracks along and to transmission line easement.
Central-West Orana Renewable Energy Zone	A geographic area of approximately 20,000 square kilometres centred on the regional towns of Dubbo and Dunedoo and extending west to Narromine and east beyond Mudgee and to Wellington in the south and Gilgandra in the north, that will combine renewable energy generation, storage and transmission infrastructure to deliver energy to electricity consumers.
Construction area	The area that would be directly impacted by the construction of the project, including (but not limited to) transmission towers and lines, brake and winch sites, access roads to the switching stations and energy hubs, access tracks, energy hubs, switching stations, communications infrastructure, workforce accommodation camps, worker amenities and parking, construction compounds, laydown and staging areas.
Construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials, and/or construction site offices and worker facilities. It can also comprise concrete batching plant, crushing, grinding and screening plant, testing laboratory and wastewater treatment plant.
Construction routes	Roads used by construction vehicles (light and heavy).
Consumer Trustee	The <i>Electricity Infrastructure Investment Act 2020</i> (NSW) establishes the NSW Consumer Trustee as an independent statutory role with various planning, advisory and procurement functions which must be conducted in the long-term financial interests of NSW electricity customers. Australian Energy Market Operator services, as the NSW Consumer Trustee, runs competitive tenders for Long-Term Energy Services Agreements and Renewable Energy Zone Access Rights to support investment, construction and operation of renewable energy generation and long duration storage infrastructure in NSW.
Enabling works	Activities that would be carried out before the start of substantial construction in order to make ready the key construction sites (including workforce accommodation camps and compounds), facilitate the commencement of substantial construction, manage specific features or issues and collect additional information required to finalise the final design and construction methodology.
Energy hub	A substation where energy exported from renewable energy generation projects is aggregated, transformed to 500 kV (where required) and exported to the transmission network, and may include battery storage.
EnergyCo	The Energy Corporation of New South Wales constituted by section 7 of the <i>Energy and Utilities Administration Act 1987</i> as the NSW Government statutory authority responsible for the delivery of NSW's Renewable Energy Zones.
The exhibited project	The Central-West Orana REZ Transmission project as described in the EIS.
Operation area	The area that would be occupied by permanent components of the project and/or maintained, including transmission line easements, transmission lines and towers, energy hubs, switching stations, communications infrastructure, access roads to the switching stations and energy hubs, maintenance facilities and permanent access tracks to the easements.
The project	The Central-West-Orana REZ Transmission project as described in the EIS for the exhibited project as amended by the Amendment Report (inclusive of the proposed amendments, refinements and clarifications to the exhibited project).
Renewable Energy Zone	A geographic area identified and declared by the NSW Government as a Renewable Energy Zone.

Term	Definition
Submission	A written response from an individual or organisation, which is submitted to the Department of Planning, Housing and Infrastructure during the public exhibition of an EIS, Amendment Report, preferred infrastructure report or modification report (where required), for State significant infrastructure.
Substation	A facility used to increase or decrease voltages between incoming and outgoing transmission lines (e.g. 330 kilovolts to 500 kilovolts).
Switching station	A facility used to connect two or more distinct transmission lines of the same designated voltage.
Transmission line easement	An area surrounding and including the transmission lines which is a legal 'right of way' and allows for ongoing access and maintenance of the transmission lines. Landowners can typically continue to use most of the land within transmission line easements, subject to some restrictions for safety and operational reasons.
Transmission tower	A free-standing steel lattice tower (tension tower or suspension tower) or monopole.
Twin transmission lines	A pair of single or double circuit transmission lines running parallel.
Workforce accommodation camps	Areas that would be constructed and operated during construction to house the construction workforce.

# Abbreviations

Term	Definition
AADT	Annual Average Daily Traffic
ABS	Australian Bureau of Statistics
AC	Alternating Current
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan
ADT	Average Daily Traffic
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AER	Australian Energy Regulator
AFG	Aboriginal Focus Group
AHIMS	Aboriginal Heritage Information Management System
AILA	Australian Institute of Landscape Architects
ALA	Aircraft Landing Areas
ALC	Aboriginal Land Council
ANZECC	Australian and New Zealand Environment Conservation Council
APZ	Asset Protection Zone
ARENA	Australian Government Renewable Energy Agency
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ARRB	Australian Road Research Board
AS/NZS	Australian and New Zealand Standard
BAL	Bushfire Attack Level
BAM	Biodiversity Assessment Method
BC Regulation	Biodiversity Conservation Regulation 2017
BCS	Biodiversity Conservation and Science
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BMP	Biodiversity Management Sub-Plan
BOS	Biodiversity Offsets Scheme
BSAL	Biophysical Strategic Agricultural Land
CASA	Civil Aviation Safety Authority
CEBP	Community and Employment Benefit Program
CEEC	Critically Endangered Ecological Community
CEMP	Construction Environmental Management Plan
CFG	Candidate Foundation Generators



<b>Term</b>	<b>Definition</b>
CNVG	Construction Noise and Vibration Guideline
CNVMP	Construction Noise and Vibration Management sub-Plan
COAG	Council of Australian Government
CSSI	Critical State Significant Infrastructure
Cth	Commonwealth
CWC	Central West Cycle
DA	Development application
dB	Decibels
DC	Direct Current
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
DPE	NSW Department of Planning & Environment (former)
DPHI	NSW Department of Planning, Housing & Infrastructure
DPI	NSW Department of Primary Industries
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Field
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EPI	Environmental Planning Instruments
EPL	Environment Protection Licence
ESOO	Electricity Statement of Opportunities
FMP	Fire Management Plan
GDE	Groundwater Dependent Ecosystems
GIS	Geographic Information Systems
GP	General Practitioner
GPR	Ground Penetrating Radar
GPS	Global Positioning System
Heritage NSW	NSW Department of Climate Change, Energy, the Environment and Water – Heritage NSW
HHMP	Historical Heritage Management Sub-Plan
HVAC	High-Voltage Alternating Current
HVDC	High-Voltage Direct Current
IAP2	International Association for Public Participation
IBRA	Interim Biographic Regionalisation for Australia
ICNG	Interim Construction Noise Guideline
ICNIRP	International Commission for Non-Ionizing Radiation Protection
ICOMOS	International Council on Monuments and Sites
IPART	Independent Pricing and Regulatory Tribunal
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
ISP	Integrated System Plan
LALC	Local Aboriginal Land Council

<b>Term</b>	<b>Definition</b>
LEP	Local Environmental Plan
LGA	Local Government Area
LLS	Local Land Services
LLS Act	<i>Local Land Services Act 2013 (NSW)</i>
LoS	Level of Service
LRWF	Liverpool Range Wind Farm
LSC	Land and Soil Capability assessment scheme
LTESA	Long-Term Energy Service Agreements
MCP	Moolarben Coal Project
MDEG	Mudgee District Environment Group
MLF	Marginal Loss Factors
MNES	Matters of National Environmental Significance
NBN	National Broadband Network
NCA	Noise Catchment Area
NEM	National Energy Market
NHVR	National Heavy Vehicle Regulator
NML	Noise Management Level
NP&W Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW	New South Wales
NVR	Native Vegetation Regulatory
OEH	NSW Office of Environment and Heritage (former)
OEMP	Operational Environmental Management Plan
OJD	Ovine Johnes Disease
OLS	Obstacle Limitation Surfaces
OOH	Out of Hours
OSOM	Oversize and overmass
PAD	Potential Archaeological Deposits
PCT	Plant Community Type
PEC	Priority Ecological Communities
PMF	Probable Maximum Flood
PNTL	Project Noise Trigger Level
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
QLD	Queensland
RBL	Rating Background Levels
REZ	Renewable Energy Zone
RFI	Radio Frequency Interference
RFS	NSW Rural Fire Service
RNP	NSW Road Noise Policy
RVMP	Riparian Vegetation Management Plan
SAII	Serious and Irreversible Impact

<b>Term</b>	<b>Definition</b>
SBP	Strategic Benefit Payment
SCA	State Conservation Area
SEAR	Secretary's Environmental Assessment Requirement
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SIA	Social Impact Assessment
SISD	Safe Intersection Sight Distance
SSAL	State Significant Agricultural Land
SSI	State Significant Infrastructure
TEC	Threatened Ecological Community
TISEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
TSR	Travelling Stock Reserve
UCC	Ulan Coal Complex
UCMPL	Ulan Coal Mines Pty Ltd
UHF	Ultra-High Frequency
V/C Ratio	Volume to Capacity Ratio
WAL	Water Access Licence
WARR Act	<i>Waste Avoidance and Resource Recovery Act 2001 (NSW)</i>
WCPL	Wilpinjong Coal Pty Ltd
WHO	World Health Organisation
WHS	Work Health and Safety
WM Act	<i>Water Management Act 2000 (NSW)</i>

# Executive summary

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## Overview

The NSW Government is leading the development of Renewable Energy Zones (REZ) to deliver renewable energy generation and storage, supported by high voltage transmission infrastructure across NSW. REZs will play a vital role in delivering clean, affordable and reliable electricity for homes, businesses and industry in NSW to help replace the State's existing coal power stations as they come to their scheduled end of operational life.

REZs will group new renewable energy generation infrastructure into locations where it can be efficiently stored and transmitted across NSW. Five regions have been identified for the development of REZs: the Central-West Orana, South-West, New England, Hunter-Central Coast and Illawarra regions of NSW.

EnergyCo is proposing the construction and operation of new electricity transmission infrastructure, new energy hubs and switching stations and ancillary works required to connect new renewable energy generation and storage projects within the Central-West Orana REZ to the NSW transmission network (the project).

The project would enable 4.5 gigawatts of new network capacity to be unlocked initially. It would enable renewable energy generators to access new transmission infrastructure within the Central-West Orana REZ to export electricity to the NSW transmission network (as part of the National Electricity Market (NEM)). Importantly, the development of renewable energy generation projects in the Central-West Orana REZ is the responsibility of private generators and subject to separate planning and environmental approvals.

This Submissions Report provides analysis and responses to the issues raised in submissions on the project and the project's Environmental Impact Statement (EIS). It is to be read in conjunction with the Amendment Report, which provides description and assessment of the proposed amendments and refinements to the project since exhibition of the EIS.

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## Approval process and EIS

The project was declared as Critical State Significant Infrastructure (CSSI) under section 5.13 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act) and is considered essential for the State for economic, environmental or social reasons. The project is subject to approval by the NSW Minister for Planning under Division 5.2 of the EP&A Act. The project is also a controlled action and requires a separate approval from the Commonwealth Minister for the Environment and Water (or its delegate) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cth).

The Environmental Impact Statement (EIS) was prepared to support EnergyCo's application for approval in accordance with the requirements of Division 5.2 of the EP&A Act. It was prepared with regard to the NSW State Significant Infrastructure (SSI) Guidelines (DPE, 2022a) and addresses the Secretary's Environmental Assessment Requirements (SEARs) issued for the project.

The EIS was publicly exhibited between 28 September 2023 to 8 November 2023 and during this time government agencies, stakeholders and the community had the opportunity to make a written submission to the NSW Department of Planning, Housing and Infrastructure (DPHI) for consideration in its assessment of the project.

# Purpose of this report

DPHI provided copies of the submissions received on the project during public exhibition of the EIS to EnergyCo. This Submissions Report has been prepared to provide a written response to all issues raised in submissions and agency advice as requested by DPHI in accordance with section 5.17(6)(a) of the EP&A Act.

## Overview of submissions

A total of 398 submissions on the exhibited EIS were received from the community (comprising members of the public and community or interest-based organisations) and registered on the Planning Portal website. This includes instances where a submitter has made multiple submissions. Advice was also received from 22 local (council), State and Australian Government departments and agencies.

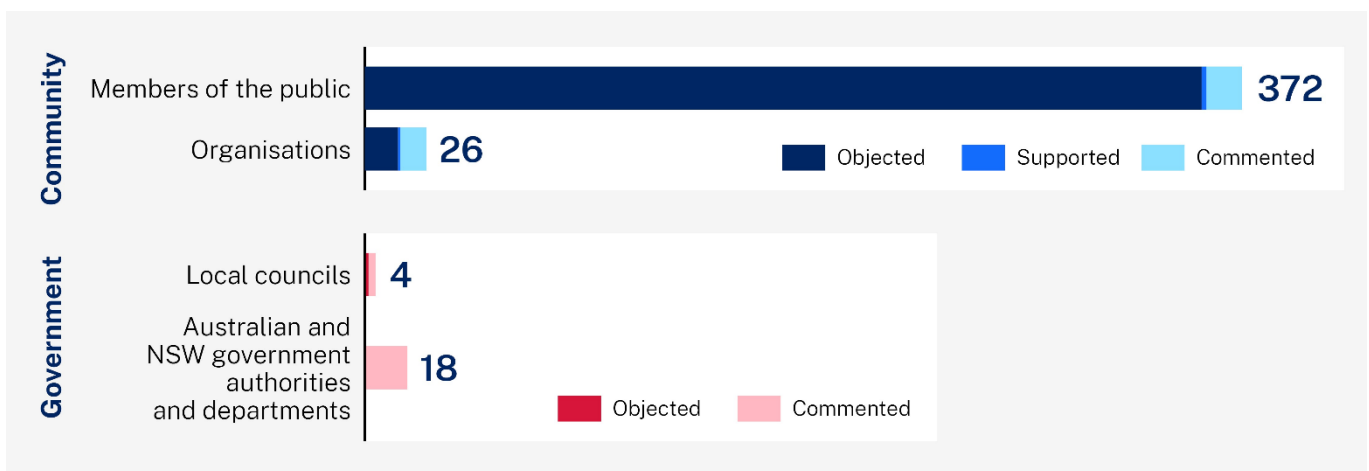


Figure ES-1 Break down of submissions received on the project

Of the 398 submissions received from the community, 369 objected to the project, three provided support for the project, and 26 provided comment on the project.

Of the four submissions received from local councils, one objected the project while the other three provided commentary on the project. All of the NSW Government department or agency advice received provided commentary on the project but did not state a position.

Of the community submissions, 379 were from within NSW and 19 were received from interstate. The majority of the community submissions (288) were received from suburbs within 50 kilometres of the Central-West Orana REZ.

The majority of issues raised in the submissions received by the community were associated with environmental, social and economic impacts (74 per cent). The top five key issues raised by the community were:

1. strategic context
2. cumulative impacts
3. social
4. landscape character and visual amenity
5. agriculture.

---

## Amendments to the project

During and subsequent to public exhibition of the EIS, EnergyCo has undertaken further investigations and is proposing a number of design amendments and refinements. The amendments and refinements aim to minimise the potential impacts of the project where practicable; particularly in respect of land use, traffic and biodiversity impacts. The amendments and refinements have arisen as a result of engagement activities, submissions received during the EIS exhibition period, and in response to continued design development and detailed construction planning.

An Amendment Report has been prepared to consider the amendments and refinements to the exhibited project. The Amendment Report considers whether the proposed amendments and refinements would result in any changes to the potential environmental impacts of the exhibited project described by the EIS, and whether any changes to the mitigation measures are required as a result of the amendments and refinements.

The key amendments and refinements include:

- changes to the 500 kV and 330 kV transmission line alignments
- relocating five 330 kV switching stations and providing an additional 330 kV switching station
- a construction compound at the Neeleys Lane workforce accommodation camp, including materials storage and laydown facilities
- additional brake and winch sites (to facilitate transmission line conductor installation) and changes to the location of brake and winch sites identified as part of the exhibited project
- confirming the locations of microwave repeater sites
- refining the alignments of access roads at the energy hubs and New Wollar Switching Station
- refining the alignments of access tracks and providing additional access tracks along and to the transmission lines
- refining the alignment and design of local road and intersection upgrades, including bridge and drainage works
- removing the option for one 200 megawatts/400 megawatts per hour battery energy storage system (BESS) at the Merotherie Energy Hub as a replacement for a synchronous condenser
- adding crushing, grinding and screening plant at switching station M1, at the end of the Cassilis connection.

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## Mitigation and management

The EIS outlined the approach to environmental management of the project and identified the mitigation measures that would be implemented to address potential impacts of the project. The mitigation measures have been updated to respond to the issues raised in submissions and to the findings of further assessments of the proposed amendments and refinements in the Amendment Report.

Should the project be approved, the environmental performance of the project would be managed in accordance with:

- the environmental management systems and procedures of the Network Operator
- the design of the project as described in the EIS and Amendment Report
- the mitigation measures as amended in response to submissions and project amendments and refinements
- the conditions of approval and other licences, permits and consents granted for the project
- the Construction Environmental Management Plan (CEMP)
- an Operational Environmental Management Plan (OEMP) (or equivalent).

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## Conclusion and next steps

EnergyCo has carefully considered the issues raised in submissions and has prepared responses in this report. DPHI will review this report alongside, the EIS and the Amendment Report, on behalf of the Minister for Planning. An Environmental Assessment Report prepared by DPHI will be provided to the Minister, who will then approve the project with conditions, or refuse to approve the project. The Environmental Assessment Report and the Minister's determination will be published on the Planning Portal website following determination, including conditions of approval, should the project be approved.

A project of this scale and geographical spread would inevitably have impacts on the local environment and community, particularly during construction. Subject to project approval, opportunities to further minimise potential impacts would be sought and ongoing input from stakeholders and the community would be, taken into account during detailed design and construction planning in accordance with the conditions of approval. The potential residual construction and operational impacts of the project are considered manageable with the implementation of the proposed mitigation and management measures.

# 1 Introduction

This Submissions Report has been prepared for the Central-West Orana Renewable Energy Zone Transmission project (the project). This report provides analysis and responses to the issues raised in submissions on the project and the project's Environmental Impact Statement (EIS).

It is to be read in conjunction with the Amendment Report, which provides description and assessment of the proposed amendments and refinements to the project since exhibition of the EIS.

---

## 1.1 Background

The NSW Government is leading the development of Renewable Energy Zones (REZ) to deliver renewable energy generation and storage, supported by high voltage transmission infrastructure across NSW. REZs will play a vital role in delivering clean, affordable and reliable electricity for homes, businesses and industry in NSW to help replace the electricity supply from the State's existing coal power stations as they come to the end of their operational life.

REZs will unlock new renewable energy generation by providing transmission infrastructure into locations where renewable energy can be efficiently generated, stored and transmitted across NSW. Five regions have been identified for the development of REZs in NSW: the Central-West Orana, South-West, New England, Hunter-Central Coast and Illawarra regions.

The Central-West Orana REZ is approximately 20,000 square kilometres in size and centred by Dubbo and Dunedoo, on the land of the Wiradjuri, Wailwan and Gamilaroi peoples. The Central-West Orana REZ was formally declared on 5 November 2021 under Section 19(1) of the *Electricity Infrastructure Investment Act 2020* with an intended network capacity of three gigawatts. Under the declaration, the Energy Corporation of NSW (EnergyCo) was appointed by the NSW Government as the Infrastructure Planner responsible for coordinating the development of generation and network infrastructure.

The Central-West Orana REZ declaration, as amended in December 2023, provides for an intended network capacity of six gigawatts. The NSW Government is proposing to increase the network capacity to 4.5 gigawatts initially, and around six gigawatts by 2038, which would allow for more renewable energy from solar, wind and storage projects to be distributed through the NSW transmission network.

EnergyCo is proposing the construction and operation of new electricity transmission infrastructure, new energy hubs and switching stations and ancillary works required to connect new renewable energy generation and storage projects within the Central-West Orana REZ to the NSW transmission network (the project). The project is located within the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter Local Government Areas (LGAs) and generally extends north to south from Cassilis to Wollar and east to west from Cassilis to Goolma.

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## 1.2 The project

The project would enable 4.5 gigawatts of new network capacity to be unlocked initially. It would enable renewable energy generators to access new transmission infrastructure within the Central-West Orana REZ to export electricity to the NSW transmission network (as part of the National Electricity Market (NEM)). Importantly, the development of renewable energy generation projects in the Central-West Orana REZ is the responsibility of private generators and subject to separate planning and environmental approvals.



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## 1.2.1 The project (as exhibited in the EIS)

The project as described in the publicly exhibited EIS (hereafter referred to as the ‘exhibited project’) included the following features:

- a new switching station (the New Wollar Switching Station), located at Wollar to connect the project to the existing 500 kilovolts (kV) transmission network
- around 90 kilometres of twin double circuit 500 kV transmission lines and associated infrastructure to connect two energy hubs to the existing NSW transmission network via the New Wollar Switching Station
- energy hubs at Merotherie and Elong Elong (including a potential battery storage option at the Merotherie Energy Hub) to connect renewable energy generation projects within the Central-West Orana REZ to the 500 kV network infrastructure
- around 150 kilometres of single circuit, double circuit and twin double circuit 330 kV transmission lines, to connect renewable energy generation projects within the Central-West Orana REZ to the two energy hubs
- thirteen switching stations along the 330 kV network infrastructure at Cassilis, Coolah, Leadville, Merotherie, Tallawang, Dunedoo, Cobbora and Goolma, to transfer the energy generated from the renewable energy generation projects within the Central-West Orana REZ onto the project’s 330 kV network infrastructure
- underground fibre optic communication cables along the 330 kV and 500 kV transmission lines between the energy hubs and switching stations
- construction of microwave repeater sites at locations along the alignment, as well as off the alignment at Botobolar, to provide a communications link between the project and the existing electricity transmission and distribution network
- a maintenance facility within the Merotherie Energy Hub to support the operational requirements of the project
- establishment of new, and upgrade of existing access tracks for transmission lines, energy hubs, switching stations and other ancillary works areas within the construction area (such as temporary waterway crossings, laydown and staging areas, earthwork material sites with crushing, grinding and screening plants, concrete batching plants, brake/winch sites, site offices and workforce accommodation camps)
- property adjustment works to facilitate access to the transmission lines and switching stations. These works include the relocation of existing infrastructure on properties that are impacted by the project
- utility adjustments required for the construction of the transmission network infrastructure, along with other adjustments to existing communications, water and wastewater utilities. This would include adjustments to existing Transgrid and Essential Energy transmission infrastructure. This includes adjustments to TransGrid’s 500 kV transmission lines 5A3 (Bayswater to Mount Piper) and 5A5 (Wollar to Mount Piper) to provide a connection to the existing NSW transmission network, including new transmission line towers along the Transgrid network along the frontage of the New Wollar Switching Station, and other locations where there is an interface with TransGrid’s network.

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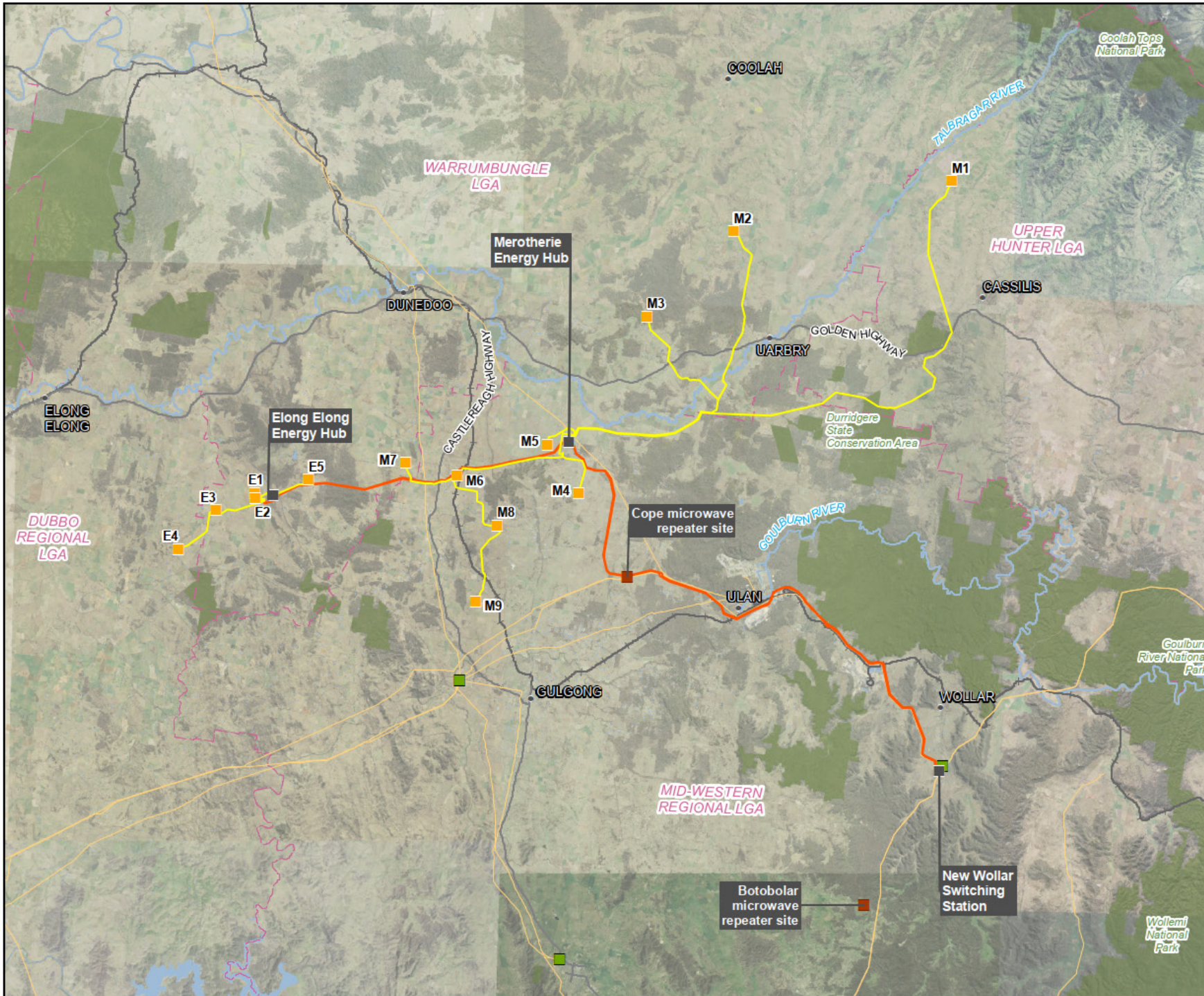
## 1.2.2 Project amendments and refinements

The proposed amendments to the exhibited project as described in the EIS (inclusive of the proposed alignment and other refinements and clarification to the EIS project) are collectively referred to in this report as the 'the project'. An overview of the project is shown in Figure 1-1 of this report. The proposed amendments and refinements to the exhibited project are described in Section 3.2 and Section 3.3 of the Amendment Report.

The key amendments and refinements to the exhibited project include:

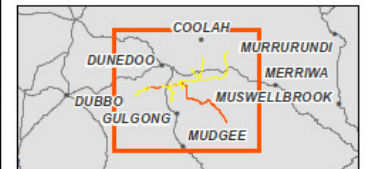
- changes to the 500 kV and 330 kV transmission line alignments
- relocating five 330 kV switching stations and providing an additional 330 kV switching station
- a construction compound at the Neeleys Lane workforce accommodation camp, including materials storage and laydown facilities
- additional brake and winch sites (to facilitate transmission line conductor installation) and changes to the location of brake and winch sites identified as part of the exhibited project
- confirming the locations of microwave repeater sites
- refining the alignments of access roads at the energy hubs and New Wollar Switching Station
- refining the alignments of access tracks and providing additional access tracks along and to the transmission lines
- refining the alignment and design of local road and intersection upgrades, including bridge and drainage works
- removing the option for one 200 megawatts/400 megawatts per hour battery energy storage system (BESS) at the Merotherie Energy Hub as a replacement for a synchronous condenser
- adding crushing, grinding and screening plant at switching station M1, at the end of the Cassilis connection.

Figure 1-1  
The project



**Legend**

- Energy hub / 500 kV switching station
- 330 kV switching station
- 500 kV transmission line
- 330 kV transmission line
- Microwave repeater site
- Existing substation
- Existing transmission line
- State road
- Railway
- Watercourse
- Water body
- Local government area
- NPWS estate



Coordinate system: GDA 1994 MGA Zone 55  
Scale ratio correct when printed at A4



1:500,000

Data sources: WSP 2023, EnergyCo, NSWSS

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## 1.3 Statutory context

The project was declared as Critical State Significant Infrastructure (CSSI) under section 5.13 of the EP&A Act and is considered essential for the State for economic, environmental or social reasons. The project is subject to approval by the NSW Minister for Planning under Division 5.2 of the EP&A Act.

The project is also a controlled action and requires a separate approval from the Commonwealth Minister for the Environment and Water (or its delegate) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cth). The project will be assessed under the NSW Assessment Bilateral Agreement under Part 9 of the EPBC Act, and the EPBC Act assessment requirements have been included in the Secretary's Environmental Assessment Requirements (SEARs) issued for the project by the then NSW Department of Planning and Environment (DPE) (now the NSW Department of Planning, Housing and Infrastructure (DPHI) as of 1 January 2024).

The EIS was prepared to support EnergyCo's application for approval in accordance with the requirements of Division 5.2 of the EP&A Act. It was prepared with regard to the NSW State Significant Infrastructure (SSI) Guidelines (DPE, 2022a) and addresses the SEARs issued for the project.

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## 1.4 EIS exhibition

The EIS was publicly exhibited between 28 September 2023 to 8 November 2023 and during this time government agencies, stakeholders and the community had the opportunity to make a written submission to the then NSW Department of Planning & Environment (DPE) (now DPHI) for consideration in its assessment of the project.

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## 1.5 Engagement

To support the public exhibition of the EIS, EnergyCo held several community information sessions to allow community members to ask questions directly to the project team and to deepen the community's understanding of the project, its impacts and planned mitigation measures.

Consultation activities included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop-up displays.

EnergyCo will continue to work closely with our directly affected landowners, communities, industry, regional stakeholders, government partners and generators to coordinate the delivery of the REZ and maintain strong relationships within local communities.

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## 1.6 Purpose and structure of this Submissions Report

DPHI provided copies of the submissions received on the project during public exhibition of the EIS to EnergyCo. On 9 November 2023, EnergyCo was requested to prepare a written response to all issues raised in submissions and agency advice, in accordance with section 5.17(6)(a) of the EP&A Act.

This Submissions Report has been prepared with regard for the SSI Guidelines (DPE, 2022a) including the content requirements for submissions reports as outlined in SSI guidelines – preparing a submissions report (DPE, 2022b). The structure of the report is outline in Table 1-1.

Table 1-1 Structure of this Submission Report

Chapter	Description
Chapter 1	<b>Introduction</b> Provides a background to the project, an overview of the key features of the project and identifies amendments to e project and engagement undertaken since exhibition. The chapter also outlines the overall structure and content of the Submissions Report.
Chapter 2	<b>Analysis of submissions</b> Provides a breakdown of submissions and categorisation of the issues raised.
Chapter 3	<b>Actions taken since exhibition</b> Provides a summary of the changes to the project, further engagement that was carried out and the further assessment of impacts that has been carried out since exhibition of the EIS.
Chapter 4	<b>Response to public submissions</b> Provides a summary of the issues raised in community submissions and EnergyCo’s response those issues.
Chapter 5	<b>Response to organisation submissions</b> Provides a summary of the issues raised in submissions from private and community organisations and EnergyCo’s response those issues.
Chapter 6	<b>Response to local council submissions</b> Provides a summary of the issues raised in local council submissions and EnergyCo’s response those issues.
Chapter 7	<b>Response to government submissions</b> Provides a summary of the advice received from NSW Government departments or agencies and EnergyCo’s response to the advice.
Chapter 8	<b>Conclusion</b> Provides an updated justification of the project and a conclusion.
Chapter 9	<b>References</b> Provides a list of references used to inform the Submissions Report.
<b>Appendices</b>	
Appendix A	Submissions register
Appendix B	Updated mitigation measures

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# 2 Analysis of submissions

## 2.1 Overview of submissions received

During the exhibition period of the EIS (28 September 2023 to 8 November 2023), submissions to DPHI were invited from the community, organisations (representative community groups, mining and renewable companies directly affected by the project and utility owners), government agencies and other stakeholders for consideration in its assessment of the project. Submissions were received by DPHI via electronic online submission or by post, and were managed and coordinated by DPHI, who registered each submission and uploaded them onto the Planning Portal website (available at: <https://www.planningportal.nsw.gov.au/major-projects/projects/central-west-orana-rez-transmission>). Submissions were then provided to EnergyCo for review and consideration.

A total of 398 submissions were received from the community and registered on the Planning Portal website. This includes instances where a submitter has made multiple submissions. Advice was also received from 22 local, State and Australian Government departments and agencies. A breakdown of the submissions and the advice registered on the Planning Portal website received during public exhibition of the project is provided in Table 2-1.

Of the 398 submissions received from the community, 369 objected to the project, three provided support for the project, and 26 provided comment on the project.

Of the four submissions received from local councils, one objected to the project while the other three provided comment on the project. All of the Australian and NSW Government department or agency advice received provided comment on the project but did not state an overall position of support or objection.

Table 2-1 Breakdown of submissions or advice registered on the Planning Portal website by type

Category	Group description	Total
Community	Members of the public	372
	Organisations, including representative community groups, utility owners and mining and renewable companies directly affected by the project	26
Government	Local councils	4
	Australian and NSW government agencies and departments	18

## 2.2 Community submissions

Submissions from members of the public and organisations, referred to as ‘community’ submissions for the purposes of the report, were analysed to understand the themes in the issues raised.

### 2.2.1 Approach to analysing community submissions

Each community submission was reviewed by EnergyCo, and the issues raised were summarised, categorised and grouped into the following five main issue types identified by the *SSI guidelines – preparing a submissions report* (DPE, 2022b):

- the project (such as the design, construction approach, timing, and operation and construction areas)
- procedural matters (such as community and stakeholder engagement, EIS adequacy and identification of relevant statutory requirements)
- environmental, social and economic impacts (such as land use, biodiversity, amenity, social and cumulative impacts)
- justification and evaluation of the project
- issues beyond the scope of the project.

Each issue type was then categorised into key issues and then each key issue was then further categorised into sub-issues. For example, a submission relating to construction noise impacts at a residential receiver would be categorised as the environmental, social and economic impacts main issue type. The key issue would be noise and vibration; and the sub-issue would be categorised as construction noise. The naming and selection of key issues and sub-issues for each main issue type was based on the structure of the EIS and the issues being raised.

### 2.2.2 Summary of issues raised in community submissions

Figure 2-1 shows a breakdown of the submissions received by the community by main issue type. The majority of key issues raised in the submissions received by the community are categorised as the environmental, social and economic impacts main issue type (74 per cent).

#### Breakdown of issues raised by type

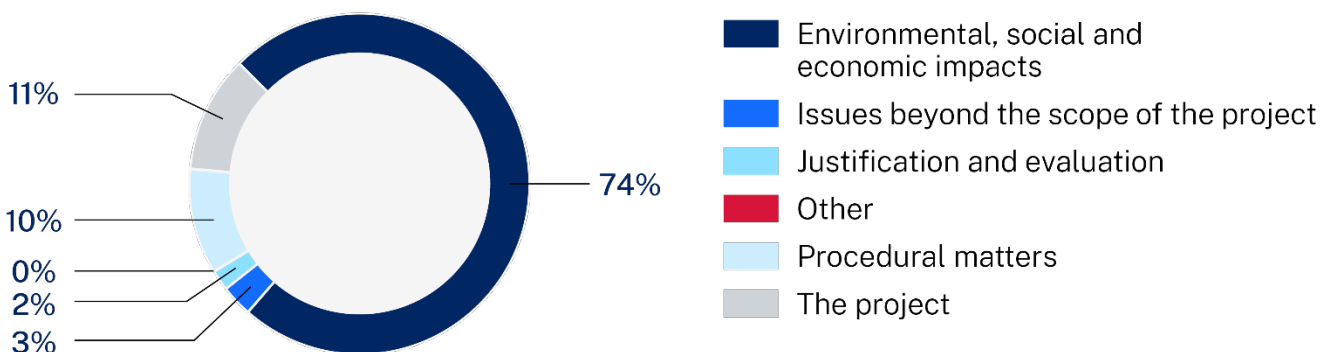


Figure 2-1 Issue types in community submissions

A breakdown of the key issues raised by the community is provided in Table 2-2. The top five key issues raised by the community were:

1. strategic context
2. cumulative impacts
3. social
4. landscape character and visual amenity
5. agriculture.

A breakdown of the strategic context and cumulative impacts sub-issues raised in the community submissions are shown in Figure 2-2 and Figure 2-3 respectively.

Table 2-2 Summary of key issues raised by community submissions

Key issue	Number of submissions which raised this issue	Percentage of submissions which raised this issue
<b>The project</b>		
Strategic context	181	46%
The project – Construction	27	7%
The project – Operation	14	4%
<b>Environmental, social and economic impacts</b>		
Cumulative impacts	169	43%
Social	168	43%
Visual and landscape character	155	39%
Agriculture	152	39%
Land use and property	131	33%
Biodiversity	130	33%
Hazard and risk	125	32%
Transport and traffic	93	24%
Hydrology, flooding and water quality	78	20%
Economic	48	12%
Waste management	39	10%
Noise and vibration	37	9%
Soils and contamination	15	4%
Aboriginal heritage	11	3%
Non Aboriginal heritage	11	3%
Climate change and greenhouse gas	9	2%
Groundwater	8	2%
Air quality	7	2%
Environmental management	4	1%
<b>Issues beyond the scope of the project</b>		
Impacts of renewable energy projects	87	22%



Key issue	Number of submissions which raised this issue	Percentage of submissions which raised this issue
<b>Procedural matters</b>		
Community and stakeholder engagement	110	28%
Statutory context	73	19%
<b>Justification and conclusion</b>		
Justification and conclusion	52	13%
<b>Other</b>		
Other (support or objection)	14	4%

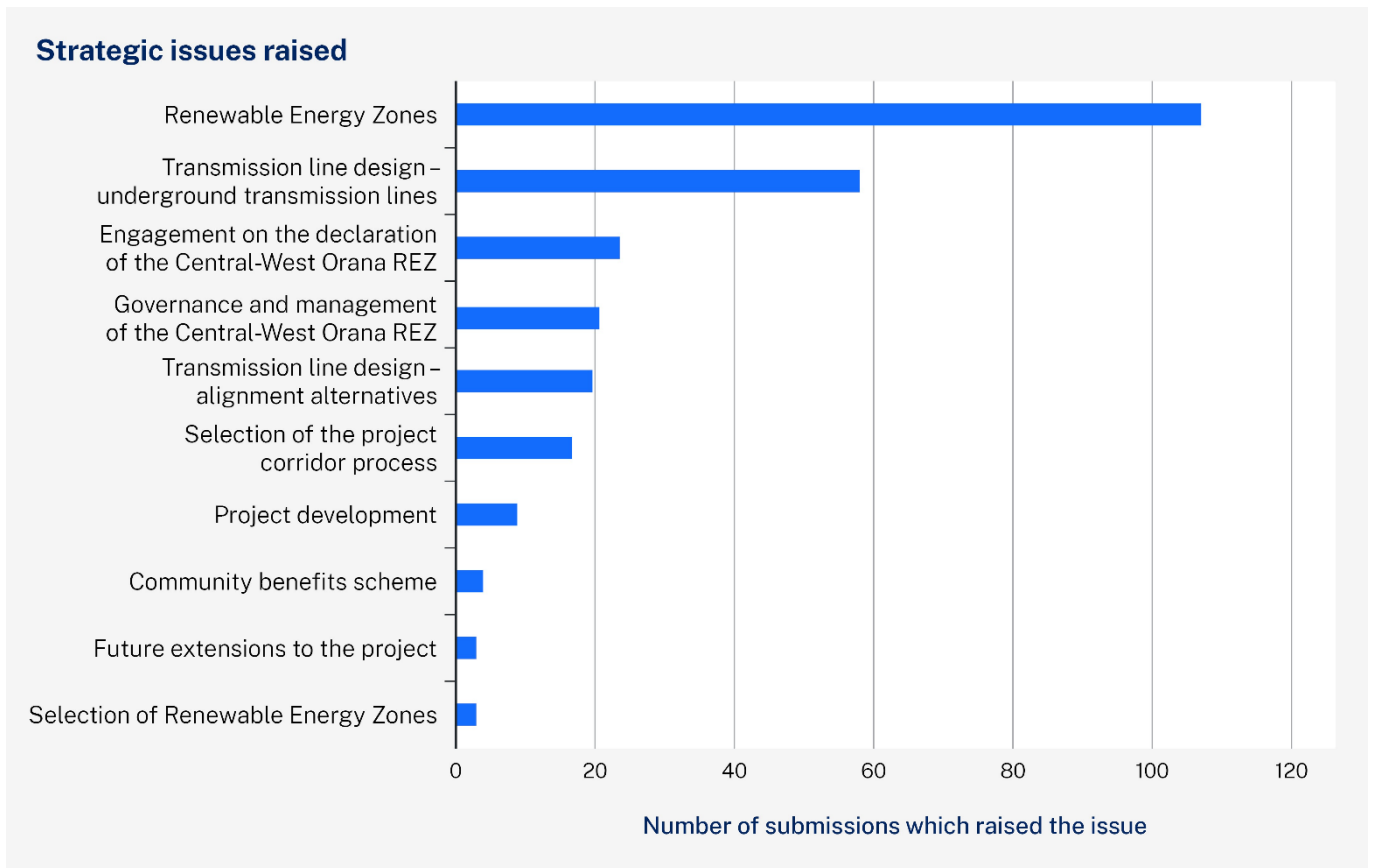


Figure 2-2 Strategic context sub-issues raised in community submissions

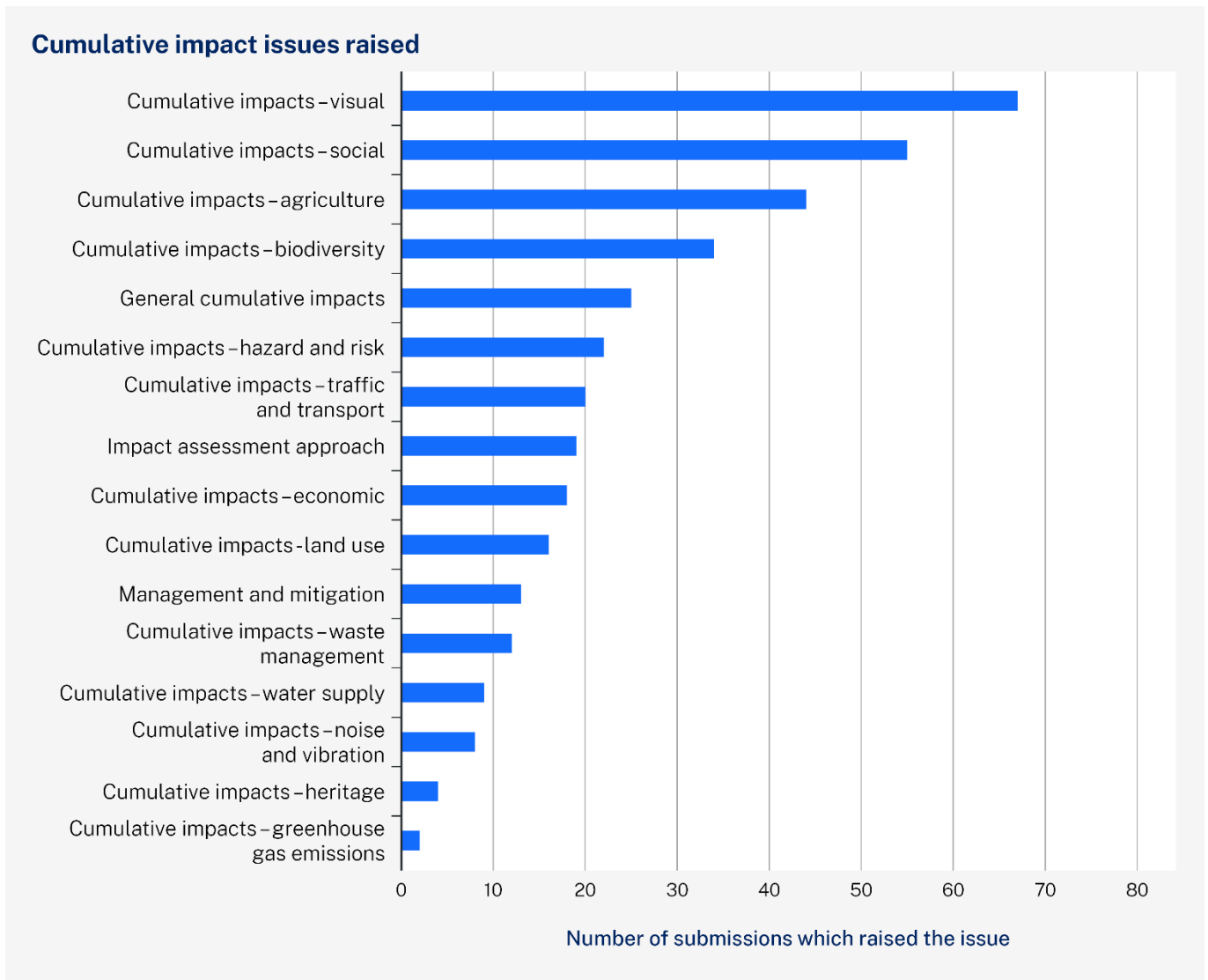


Figure 2-3 Cumulative impact sub-issues raised in community submissions

### 2.2.3 Location of community submissions

Community submissions (including the public and organisations) were received from around Australia with:

- 379 submissions from NSW
- 12 submissions from Queensland
- 5 submissions from Victoria
- 2 submissions from Western Australia.

A majority of the submissions (288) were received from suburbs within 50 kilometres of the Central-West Orana REZ as shown in Figure 2-4. The predominant key issue raised across submissions, regardless of location remained generally consistent, with cumulative impacts being the top issue raised in all location sub-categories, as shown in Table 2-3.

Table 2-3 Top issues raised by submissions

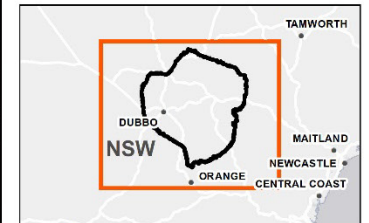
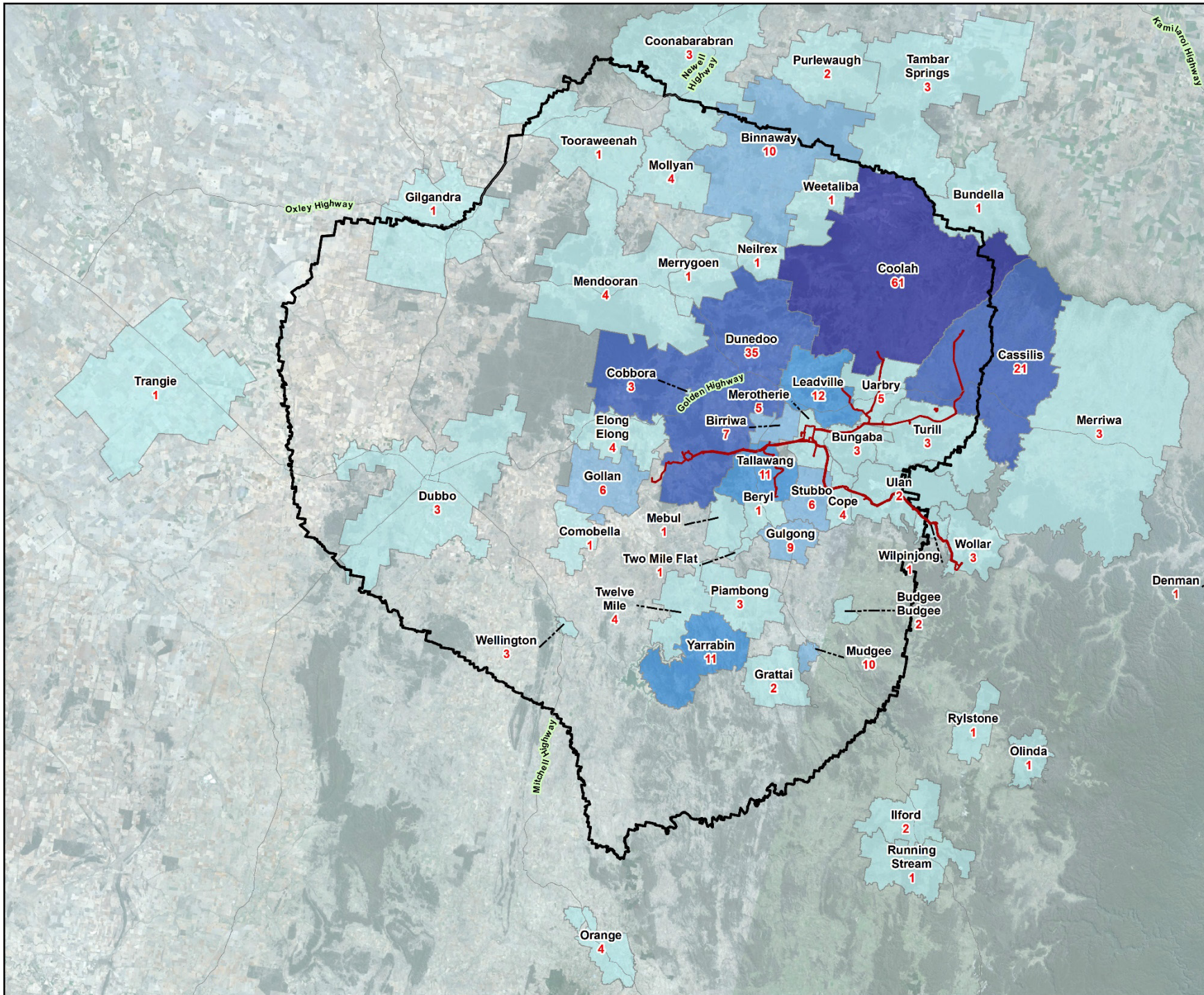
Locations of submission	Top issues raised
Suburbs intersected or adjacent to the project	<ol style="list-style-type: none"> <li>1. Social</li> <li>2. Strategic context</li> <li>3. Landscape character and visual amenity</li> <li>4. Agriculture</li> <li>5. Land use and property</li> </ol>
Suburbs within 50 kilometres of the Central-West Orana REZ	<ol style="list-style-type: none"> <li>1. Strategic context</li> <li>2. Social</li> <li>3. Cumulative impacts</li> <li>4. Landscape character and visual amenity</li> <li>5. Agriculture</li> </ol>
NSW	<ol style="list-style-type: none"> <li>1. Strategic context</li> <li>2. Cumulative impacts/Social</li> <li>3. Landscape character and visual amenity</li> <li>4. Agriculture</li> <li>5. Land use and property</li> </ol>
Interstate	<ol style="list-style-type: none"> <li>1. Cumulative impacts</li> <li>2. Agriculture/Hazards and risk/Social</li> <li>3. Strategic context</li> </ol>

Central-West Orana REZ  
Transmission

Figure 2-4  
Community submissions from the  
Central West Orana REZ

Legend

- State Roads
  - ▭ Construction area
  - ▭ Central-West Orana REZ
- Number of submissions per suburb**
- 1 - 5
  - 6 - 10
  - 11 - 20
  - 21 - 40
  - 41 - 61



GDA 2020  
Coordinate system: GDA2020 MGAZone 55  
Scale ratio correct when printed at A4  
1:1,250,000  
Data sources: WSP 2023, EnergyCo, NSWSES

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## 2.3 Government submissions

### 2.3.1 Approach to analysing government submissions

The government submissions were reviewed, and the issues raised in each submission were summarised, broadly according to the order provided in each submission. In some instances, related issues have been grouped under a single topic.

The issues raised in each submission, and responses to these issues, are provided per submitter in Chapters 5 and 6 of this report. Where relevant, input to the responses was sought from the technical specialists who assisted with preparing the EIS.

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### 2.3.2 Summary of government submissions

A total of 22 submissions were received from local councils, government departments and agencies, and where in this report the responses have been provided is detailed in Table 2-4.

Of the four submissions received from local councils, one objected to the project while the other three provided comment on the project. All of the Australian and NSW Government department or agency submissions received provided comment or advice on the project but did not state an overall position of support or objection.

For the purposes of this report, divisions of the former DPE have been referred to by their current department name, which is either NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) or DPHI. This includes past actions of DPE or advice received during the display of the EIS.

Table 2-4 Submissions received from government departments and agencies, and where these have been addressed

Submission category	Submitter	Where this submission has been addressed in this report
Local councils	Mid-Western Regional Council	Section 6.1
	Dubbo Regional Council	Section 6.2
	Warrumbungle Shire Council	Section 6.3
	Upper Hunter Shire Council	Section 6.4
Government departments and agencies	NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) including the following divisions:	
	• Heritage NSW	Section 7.1
	• Biodiversity, Conservation and Science (BCS)	Section 7.2
	• Water	Section 7.3
	DPHI – Crown lands	Section 7.4
	Heritage Council of NSW	Section 7.5
	NSW Department of Primary Industries (DPI) including the following divisions:	
	• Agriculture	Section 7.6
• Fisheries	Section 7.7	

Submission category	Submitter	Where this submission has been addressed in this report
	NSW Environment Protection Authority (EPA)	Section 7.8
	Transport for NSW	Section 7.9
	NSW National Parks and Wildlife Service	Section 7.10
	Fire and Rescue NSW	Section 7.11
	NSW Rural Fire Service (RFS)	Section 7.12
	Civil Aviation Safety Authority (CASA)	Section 7.13
	Airservices Australia	Section 7.14
	Department of Regional NSW – Mining, Exploration and Geoscience	Section 7.15
	WaterNSW	Section 7.16
	NSW Telco Authority	Section 7.17
	Department of Defence	Section 7.18

# 3 Actions taken since exhibition

## 3.1 Project amendments and refinements

An application for approval of a SSI project (including a CSSI project) may, with the approval of the Secretary of DPHI, and in accordance with Section 179(2) of the Environmental Planning and Assessment Regulation 2021, be amended before it is determined.

Following further stakeholder engagement, consideration of submissions received during EIS exhibition and ongoing development of the design and construction methodology, EnergyCo is proposing a number of amendments and refinements to the exhibited project. The amendments and refinements aim to minimise the potential impacts of the project where practicable; particularly in respect of land use and visual impacts.

An Amendment Report has been prepared to consider the amendments and refinements to the exhibited project. The Amendment Report considers whether the proposed amendments and refinements would result in any changes to the potential environmental impacts of the exhibited project described by the EIS, and whether any changes to the mitigation measures are required as a result of the amendments and refinements. The mitigation measures have been updated to respond to the issues raised in submissions as well. The full list of updated mitigation measures is provided in Appendix B of this report.

The proposed amendments and refinements are summarised in Table 3-1. Further information about the proposed amendments and refinements are provided in the Amendment Report.

The project description, provided in EIS Chapter 3 (Project description) has been updated taking into account the proposed amendments and refinements. The amended project description is provided in Appendix A of the Amendment Report.

Table 3-1 Summary of proposed amendments and refinements

Project feature	Summary of proposed amendments/refinements
<b>500 kV and 330 kV infrastructure</b>	
BESS at Merotherie Energy Hub	Removal of the optional 200 megawatts/400 megawatts per hour battery energy storage system (BESS) at the Merotherie Energy Hub (originally proposed in the exhibited EIS as an alternative to one synchronous condenser)
500 kV and 330 kV transmission line alignment	Minor changes to the 500 kV and 330 kV transmission line alignment are proposed in a number of locations to optimise the project design.
Cassilis connection	Changes to the 330 kV transmission line alignment along the Cassilis connection, thereby increasing the overall length by around 1.04 km.
Coolah connection and switching station M2	Relocation of switching station M2 in Coolah to the northwest by around 350 m and a change to the 330 kV transmission line alignment north of Cliffdale Road, Uarbry, thereby increasing the overall length of the Coolah connection by around 1.96 km.
Leadville connection and switching station M3	Relocation of switching station M3 in Leadville to the southeast by around 770 m, thereby reducing the overall length of the Leadville connection by around 820 m.
Twin 330 kV transmission lines extending northeast from Merotherie Energy Hub to form the Cassilis, Coolah and Leadville connections	A change to the twin 330 kV transmission line alignment east of the Merotherie Energy Hub in Bungaba, thereby increasing the overall length of the twin 330 kV transmission lines by around 210 metres.

Project feature	Summary of proposed amendments/refinements
Merotherie Energy Hub–Elong Elong Energy Hub connection and Tallawang west connection	Changes to the twin 500 kV transmission line alignment to run along the southern side of the Elong Elong Energy Hub to enable initial operations of the line at 330 kV, thereby increasing the overall length of the Merotherie Energy Hub–Elong Elong Energy Hub connection by around 2.43 km.
Tallawang west connection and switching station M7	Relocation of switching station M7 in Dunedoo to the north by around 1.5 km, thereby increasing the overall length of the Tallawang west connection by around 1 km.
New switching station E5 and 330 kV transmission line	Provision of an additional single circuit 330 kV transmission line extending around seven kilometres east from the Elong Elong Energy Hub to a new switching station E5 (referred to as the Dunedoo connection), to connect to the western cluster of the proposed Orana wind farm project.
Cobbora north connection and switching station E1	Relocation of switching station E1 around 690 m to the southeast, thereby reducing the overall length of the Cobbora north connection by around 755.
Goolma connection and switching station E4	Relocation of switching station E4 in Goolma around 200 m to the east, thereby reducing the overall length of the Goolma connection by around 2.25 km.
Leadville connection and switching station M3	Relocation of switching station M3 in Leadville to the southeast by around 770 m, thereby reducing the overall length of the Leadville connection by around 820 metres.
<b>Access roads and access tracks</b>	
Access roads	Minor changes to the alignment of access roads to the energy hubs, New Wollar Switching Station and switching station E2.
Access tracks	Minor changes to the alignment of access tracks included in the exhibited project.
<b>Local road and intersection upgrades</b>	
Local road and intersection upgrades	<p>Refinements to minor changes to local road and intersection upgrades, including:</p> <ul style="list-style-type: none"> <li>• minor changes to the extent and/or alignment of the local road and intersection upgrades</li> <li>• installation of two new bridges, one on Merotherie Road at crossing of Talbragar River and one on Spring Ridge Road at crossing of Laheys Creek</li> <li>• upgrade of drainage infrastructure</li> <li>• upgrading Neeleys Lane from the Neeleys Lane/Ulan Road intersection if required to the entrance of the Neeleys Lane workforce accommodation camp, if required for construction access</li> <li>• removing the upgrade of the intersection of Barigan Road with the existing access road to the existing Transgrid Wollar Substation, as these works have already been completed as part of the Wollar solar farm development.</li> </ul>
<b>Communications infrastructure</b>	
Microwave repeater sites	<p>The new microwave repeater site along the 500 kV New Wollar Switching Station–Merotherie Energy Hub connection would be provided along the southern side of the 500 kV transmission line easement, just east of Blue Springs Road, Cope.</p> <p>Provision of additional communications microwave equipment (microwave antennas) at two existing microwave repeater sites outside of the operation area, at Baldy Peak in Kandos and Magpie Hill in Galambine.</p>
<b>Construction methods and facilities</b>	
Brake and winch sites	Additional brake and winch sites (to facilitate transmission line conductor installation) and changes to the location of previously identified brake and winch sites along the exhibited project alignment.
Construction compounds	Provision of a construction compound at the Neeleys Lane workforce accommodation camp within the construction area of the exhibited project. The construction compound would include materials storage and laydown facilities.
Crushing, grinding and screening sites	Provision of an additional crushing, grinding and screening site at switching station M1.



Project feature	Summary of proposed amendments/refinements
<b>Construction and operation areas</b>	
Construction area	Changes to the construction area required to accommodate changes to the design of the exhibited project.
Operation area	Changes to the operation area corresponding with changes to the design of the exhibited project.

## 3.2 Additional assessment

The Amendment Report describes the proposed amendments to the project since the exhibition of the EIS and provides an assessment of the potential impacts of the amended project. The proposed amendments were evaluated to determine if they would result in any changes to the impacts described by the EIS, and if any changes to the mitigation measures are required. The assessment was informed by additional impact assessments for key issues where potential changes to impacts have been identified, including biodiversity, heritage, landscape character and visual amenity, noise, traffic and transport and flooding.

The Amendment Report includes the following updated and addendum technical papers:

- Appendix F Landscape Character and Visual Impact Assessment Addendum
- Appendix G Updated Biodiversity Development Assessment Report
- Appendix H Aboriginal Cultural Heritage Assessment Report Addendum
- Appendix I Noise and Vibration Impact Assessment Addendum
- Appendix J Traffic and Transport Impact Assessment Addendum
- Appendix K Flooding Assessment Addendum
- Appendix L Updated Cumulative Impact Assessment
- Appendix M Ground Penetrating Radar Report.

Other assessment matters, including air quality, land use and property and agriculture are addressed within the Amendment Report, however the extent of impact changes as a result of the amendments were not considered sufficient to require further detailed impact assessment reports.

## 3.3 Consultation and engagement undertaken during and after the EIS

### 3.3.1 Consultation overview

EnergyCo has been engaging with the local community for around two years about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. Prior to this, from around December 2020 engagement with the community about the Central-West Orana REZ and the transmission project was carried out by Transgrid, who was the proponent at the time.

Community and stakeholder feedback is an essential part of the development process to make sure we deliver the best outcomes for communities, energy consumers and the REZ. Community feedback has been critical in informing the locations for new REZ transmission infrastructure, including energy hubs and transmission lines. EnergyCo is committed to working closely with the community as we plan and deliver the project.

To support the public exhibition of the EIS between late September and early November, EnergyCo engaged with the community, addressing concerns and providing accurate and transparent information to deepen the community’s understanding of the project, its impacts and planned mitigation measures.

Consultation activities included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop-up displays.

NSW government agencies and other key stakeholders were briefed via emails, phone calls, meetings and presentations to ensure they received the relevant information to make a submission. Nine in-person meetings and presentations were held with key councils and associations and seven councils received copies of the EIS and supporting collateral for display.

The public exhibition period was extended by two weeks to give the community more time to provide feedback.

EnergyCo will continue to work closely with our directly affected landowners, communities, industry, regional stakeholders, government partners and generators to coordinate the delivery of the REZ and maintain strong relationships within local communities.

## 3.4 Engagement undertaken during EIS exhibition

The EIS for the project was placed on public exhibition by DPHI for six weeks between 28 September to 8 November 2023. The original 28 day exhibition period was extended by two weeks to give the community more time to provide feedback.

### 3.4.1 Community consultation during EIS exhibition

A summary of the engagement activities and tools used by EnergyCo during exhibition of the EIS is provided in Table 3-2.

Table 3-2 Community consultation activities during the EIS exhibition period

Activity	Detail
Website updates and fact sheets	<p>Fourteen fact sheets and a guide to the EIS were developed to help navigate and understand the EIS. These were all published on the project website at <a href="http://energyco.nsw.gov.au/cwo">energyco.nsw.gov.au/cwo</a>.</p> <p>The fact sheets developed to support the EIS include:</p> <ul style="list-style-type: none"> <li>• Guide to the EIS</li> <li>• Port to REZ</li> <li>• Workforce accommodation</li> <li>• Project description and context</li> <li>• Landscape character</li> <li>• Noise and vibration</li> <li>• Building the transmission project</li> <li>• Social impacts</li> <li>• Community engagement</li> <li>• Biodiversity</li> <li>• Cumulative impacts</li> <li>• Land use, property and agriculture</li> <li>• Managing hazard and risks</li> <li>• Heritage</li> <li>• REZ transmission infrastructure.</li> </ul>

Activity	Detail
EIS display (hard-copy)	<p>Throughout the public exhibition of the EIS, a hard-copy of the documentation was available for viewing at the following locations:</p> <ul style="list-style-type: none"> <li>• EnergyCo Office – Dubbo</li> <li>• Upper Hunter Shire Council – Merriwa Office</li> <li>• Warrumbungle Shire Council – Coolah</li> <li>• Mid-Western Regional Council – Gulgong</li> <li>• Mid-Western Regional Council – Mudgee</li> <li>• Mid-Western Regional Council – Rylstone</li> <li>• Dubbo Regional Council – Wellington</li> <li>• Dunedoo Post Office</li> <li>• Dunedoo Library</li> <li>• Coolah Library.</li> </ul>
Print advertisements	<p>Print advertisements were carried out ahead of and during the EIS exhibition (and in accordance with the NSW Environmental Planning and Assessment Regulation 2021) to give notice about the EIS exhibition and publicise the community information sessions, as follows:</p> <ul style="list-style-type: none"> <li>• The Sydney Morning Herald on 13 September 2023</li> <li>• The Daily Telegraph on 13 September 2023</li> <li>• Coolah District Diary on 13 September 2023</li> <li>• Coonabarabran Times on 14 September 2023</li> <li>• The Land Magazine on 14 September 2023</li> <li>• Wellington District Leader on 14 September 2023</li> <li>• Dubbo Photo News on 14 September 2023</li> <li>• Dubbo Daily Liberal on 15 September 2023</li> <li>• Mudgee Guardian and Gulgong Advertiser on 15 September 2023</li> <li>• Orange Central Western Daily on 15 September 2023</li> <li>• Gilgandra Weekly on 19 September 2023</li> <li>• Dunedoo District Diary on 20 September 2023</li> <li>• Coolah District Diary on 27 September 2023</li> </ul> <p>A second series of print advertisements in local and regional publications were carried out following the release of the EIS for public exhibition promoting the community information sessions, including:</p> <ul style="list-style-type: none"> <li>• Wellington District Leader on 28 September 2023</li> <li>• Coonabarabran Times on 28 September 2023</li> <li>• Dubbo Photo News on 28 September 2023</li> <li>• The Land Magazine on 28 September 2023</li> <li>• Dubbo Daily Liberal on 29 September 2023</li> <li>• Orange Central Western Daily on 29 September 2023</li> <li>• Mudgee Guardian on 29 September 2023</li> <li>• Gilgandra Weekly on 3 October 2023</li> <li>• Dunedoo District Diary on 4 October 2023</li> <li>• Coolah District Diary on 11 October 2023.</li> </ul>
Radio advertisement	<p>Radio advertising with community radio stations was undertaken in response to community feedback from the project’s Community Reference Group that local radio stations would be critical in expanding the reach of EnergyCo’s communications for the EIS public exhibition. Advertising was carried out on the following radio stations:</p> <ul style="list-style-type: none"> <li>• Binjang radio between 2 October 2023 to 12 October 2023</li> <li>• Three rivers radio between 2 October 2023 to 12 October 2023.</li> </ul>

Activity	Detail
Media release	The Minister for Energy (The Hon. (Penny) Penelope Sharpe) issued a media release announcing the public exhibition of the EIS on Thursday 28 September ( <a href="https://www.nsw.gov.au/media-releases/australias-first-renewable-energy-zone-reaches-milestone">https://www.nsw.gov.au/media-releases/australias-first-renewable-energy-zone-reaches-milestone</a> ).
Social media advertising	A social media tile was also developed and released to be shared by community groups and by EnergyCo on LinkedIn. EnergyCo shared the tile in posts announcing the opening and extension of the public exhibition.
E-newsletters	Notification regarding the pop-up events for September shared in the Central-West Orana REZ e-newsletter on the 25 and 27 September 2023.
Email notifications	<p>Campaign emails were sent to more than 650 subscribed community and stakeholder members with notifications about:</p> <ul style="list-style-type: none"> <li>• the start of the public exhibition of the EIS (28 September 2023)</li> <li>• a change of venue for the Coolah drop-in community information session (5 October 2023)</li> <li>• additional pop-up displays scheduled in Cassilis and upcoming drop-in information sessions (13 October 2023)</li> <li>• advising recipients about the extended exhibition period (19 October 2023)</li> <li>• the closing date for the public exhibition period (7 November 2023), consultation opportunities, the extension of the public exhibition and a reminder of the upcoming closing date for submissions.</li> </ul>
Letterbox distribution	<p>A postcard was distributed to 5,500 recipients in towns in the REZ transmission project area to notify the community of where to find information on the EIS and upcoming community information sessions. Where distribution to individual households was made difficult by distance, the local Post Office was asked to deliver to PO boxes and display the post card for viewing.</p> <p>Notification letters were mailed to 60 key stakeholder groups on 28 September 2023, advising of the public exhibition of the EIS for the project.</p>
Project contact and information points	<p>All published project-related materials included the contact details for the project, including:</p> <ul style="list-style-type: none"> <li>• The project information line – 1800 032 101 (9 am to 5 pm, Monday to Friday)</li> <li>• Community email address – <a href="mailto:cwo@energyco.nsw.gov.au">cwo@energyco.nsw.gov.au</a></li> <li>• EnergyCo postal address – Central-West Orana REZ, Suite 4, 155 Macquarie Street, Dubbo NSW 2830</li> <li>• Project office details – 155 Macquarie Street, Dubbo, NSW, 2830.</li> </ul>
Community information sessions	<p>Eight community drop-in sessions were held to provide interested stakeholders with an opportunity to access further information, and to receive guidance on how to make a submission to DPHI. Copies of the EIS and information boards were available for visitors to view. USBs with the EIS and fact sheets were also available for visitors to take away.</p> <p>There were a total of 123 visitors across the eight information sessions, which were held at the following locations:</p> <ul style="list-style-type: none"> <li>• Wellington Soldiers Memorial Club on 9 October 2023 (15 attendees)</li> <li>• Coolah Youth and Community Centre on 10 October and 17 October 2023 (15 and 20 attendees, respectively)</li> <li>• Jubilee Memorial Hall at Dunedoo on 11 October and 18 October 2023 (46 and 3 attendees, respectively)</li> <li>• Gulgong Memorial Hall on 12 October and 19 October 2023 (7 and 9 attendees, respectively)</li> <li>• St John the Baptist Anglican Church Hall, Mudgee on 18 October 2023 (8 attendees).</li> </ul>

Activity	Detail
Pop-up displays	<p>EnergyCo hosted 12 in-person pop-up displays in public areas, attended by around 93 visitors at the following locations:</p> <ul style="list-style-type: none"> <li>• outside the IGA at Coolah on 28 September and 3 October 2023 (10 and 7 visitors, respectively)</li> <li>• outside the IGA at Gulgong on 28 September and 3 October 2023 (11 and 7 visitors, respectively)</li> <li>• outside the Dunedoo Newsagency on 28 September and 3 October 2023 (11 and 2 visitors, respectively)</li> <li>• outside the Mudgee Newsagency on 28 September and 3 October 2023 (11 and 3 visitors respectively)</li> <li>• at the corner of Nanima Crescent and Swift Street, Wellington on 29 September and 4 October 2023 (15 and 4 visitors, respectively)</li> <li>• outside the IGA at Merriwa on Wednesday 4 October 2023 (12 visitors)</li> <li>• in front of the Cassilis Community Hall on 17 October (no visitors).</li> </ul>
Community reference group	An Extraordinary Meeting of the CRG was held on 31 October 2023 in Mudgee, acting as a question and answer session for the EIS.
Digital support material	<p>A digital EIS was developed to support exhibition of the EIS and launched on the project website on Thursday 28 September. It presents summaries of each chapter of the EIS alongside links to the relevant chapter and any associated technical papers and can be accessed at <a href="https://cworeztransmission.com.au/">https://cworeztransmission.com.au/</a>.</p> <p>A PDF of the EIS and all related technical papers was made available on the website and through the digital EIS.</p> <p>An interactive map is available on the EnergyCo project website. This provides an online tool to show the project and other geographical information about the project and explore the key outcomes of the EIS through interactive mapping. The interactive map allows its viewers to:</p> <ul style="list-style-type: none"> <li>• relate the project to the broader geographic context</li> <li>• analyse multiple datasets for the project simultaneously</li> <li>• view up-to-date information about the project</li> <li>• identify the transmission alignment in relation to their properties</li> <li>• use specialised tools for retrieving information.</li> </ul>
Landowner consultation	Moderate to highly impacted visual receivers

### 3.4.2 Consultation with government departments and agencies and organisations during public exhibition

NSW government departments and agencies were briefed on the EIS via emails, phone calls, meetings and presentations to ensure they received the relevant information to make a submission. Ahead of the EIS exhibition, EnergyCo contacted councils to discuss resourcing and tools needed to support the exhibition.

Notification letters advising of EIS exhibition, where to access documentation and how to make a submission, were delivered to:

- NSW Aboriginal Land Council (ALC)
- Aboriginal Housing Office
- Department of Regional NSW
- DPI – Agriculture
- EPA
- Heritage NSW
- RFS
- Regional Development Australia (Orana)
- Crown Lands
- Orana Joint Organisation of Councils
- Dubbo Regional Council
- Liverpool Plains Shire Council
- Mid-Western Regional Council
- Warrumbungle Shire Council
- Coonamble Shire Council
- Gilgandra Shire Council
- Narromine Shire Council
- Upper Hunter Shire Council
- Coonabarabran Local Aboriginal Land Council
- Dubbo Local Aboriginal Land Council
- Gilgandra Local Aboriginal Land Council
- Mudgee Local Aboriginal Land Council
- Narromine Local Aboriginal Land Council
- Wellington Local Aboriginal Land Council
- Central Tablelands Local Land Services
- Central West Local Land Services.

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### 3.4.3 Landowner consultation

#### Place managers

EnergyCo's Place Managers act as a point of contact for community members and landowners for the Central-West Orana REZ. They also work closely with our team of Land Acquisition Managers to manage landowner relationships in the project area.

Place Managers attended each of our in-person community information sessions and pop-up displays during the EIS exhibition and provide a critical local point of contact for the community.

Community members, businesses, adjoining projects and community groups received an emailed letter to inform them of the exhibition. Place managers maintained regular contact with the community throughout the exhibition to answer questions and to encourage them to make a submission. They responded to questions, provided assistance in locating relevant information in the EIS and provided sections of the EIS on request.

Place managers will continue to play an important role in maintaining close and ongoing contact with local communities and stakeholders during the design and delivery of the project.

Place Managers can be contacted via our community information line (1800 032 101) or project email ([cwo@energyco.nsw.gov.au](mailto:cwo@energyco.nsw.gov.au)).

#### Landowner-specific consultation

Ongoing direct engagement has been carried out with landowners to inform the development of the project, including relevant mining companies.

EnergyCo has been in discussions with landowners along the alignment since early/mid 2022. This has included technical and planning specialists attending properties to discuss landowner concerns and work to develop and assess mitigation options where feasible.

The land acquisition process was initiated in February 2023 with opening letters issued for the energy hub and switching station sites. Meetings were held with landowners and neighbours impacted by the energy hubs. Opening letters were issued for transmission easements and associated transmission infrastructure in May 2023.

Meetings were offered and held with some neighbours to the proposed energy hubs and those considered to have high and medium visual impact ahead of the public exhibition of the EIS. Information was provided and meetings were offered to neighbours of the proposed Neeleys Lane workforce accommodation camp site.

Landowners have been provided with an acquisition support team to help them understand their rights and obligations together with any other aspect of the acquisition process.

EnergyCo has made every effort to minimise impacts to private landowners by locating transmission lines in land used for mining, adjacent to existing transmission lines, Government owned land as well as on land where owners have agreed to host wind and solar projects.

In October 2023, EnergyCo published a document outlining our commitment to delivering benefits for the community through the project. This was made available at all community information sessions. It can be found on EnergyCo’s community page at <https://www.energyco.nsw.gov.au/community>.

### 3.5 Engagement since EIS exhibition

Following the close of the exhibition period, consultation has continued with stakeholders including engagement with directly impacted landowners about acquisition, field investigations and follow up with key stakeholder groups relating to their submissions to the EIS. Further engagement was also undertaken with Government departments and agencies at outlined in Table 3-3.

Table 3-3 Stakeholder briefings undertaken since the EIS exhibition

Stakeholder	Activity	Purpose
DCCEEW-BCS and DPHI	Meeting (6 October 2023)	To discuss their preliminary assessment findings on the EIS.
Mid-West Regional Council	Meeting(4 December 2023)	To discuss the issues raised in the Council’s submission on the EIS.
Warrumbungle Shire Council	Meeting (5 December 2023)	To discuss the issues raised in the Council’s submission on the EIS.
DCCEEW-BCS and DPHI	Workshop (14 December 2023)	To discuss the submission received from BCS on the EIS and to agree a way forward with regards to the issues raised.
DCCEEW-BCS (20 December 2023)	Meeting	To discuss follow up actions from workshop held on 14 December 2023, and discuss outstanding matters.
Transport for NSW (21 December 2023)	Meeting	To discuss the issues raised in the submission on the EIS.

### 3.6 Ongoing engagement

Ongoing consultation with the community, landowners, government agencies and key stakeholders will continue throughout the development of the project, up to and during construction. The aims of ongoing consultation are to provide:

- opportunity for feedback
- awareness of activities and processes being undertaken for construction of the project
- updates on the construction program as they become available
- information and responses to issues and concerns raised through ongoing consultation.

The Network Operator will prepare a Community Engagement and Communication Plan which will outline the engagement approach to be undertaken for the project, how information is provided, and a feedback management procedure to manage communications with the community, such as enquiries, complaints and disputes. Any feedback provided by the community will be managed with respect and be responded to efficiently and in a timely manner, with each stakeholder interaction being treated as an opportunity for a positive experience.

EnergyCo will continue to work closely with our directly affected landowners, communities, industry, regional stakeholders, government partners and generators to coordinate the delivery of the REZ. We know that managing cumulative impacts from renewable energy projects is a key priority for REZ communities.



# 4 Response to public submissions

This chapter outlines the issues raised in submissions from the general public and provides responses.

Appendix A of this report contains a table identifying public submissions using a unique identifier (ID). The ID of each submission which raised a sub-issue is noted in the relevant section (s) to allow submitters to find the relevant response to their submission. The table in Appendix A of this report also presents a cross reference to where the issues have been addressed for each submission.

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## 4.1 Strategic context

### 4.1.1 Renewable Energy Zones

#### Submission ID numbers

29, 36, 44, 47, 52, 54, 56, 57, 58, 61, 62, 66, 67, 74, 80, 84, 89, 97, 98, 99, 100, 101, 103, 112, 115, 118, 119, 132, 133, 135, 137, 138, 140, 142, 144, 145, 156, 161, 162, 165, 172, 173, 177, 178, 179, 181, 183, 185, 186, 187, 188, 189, 190, 196, 198, 199, 201, 206, 213, 216, 227, 233, 234, 239, 241, 252, 262, 267, 269, 274, 276, 278, 279, 280, 286, 292, 296, 299, 301, 302, 305, 309, 310, 311, 319, 337, 344, 345, 346, 360, 361, 362, 363, 365, 366, 367, 371, 375, 377, 379, 381, 382, 386, 388, 392, 393, 395

#### Summary of issues

Comments and concerns about the establishment of the Central-West Orana REZ, the concept of a REZ and/or the benefits of renewable energy projects more generally were raised in 107 submissions. Submissions considered that:

- the Central-West Orana REZ or renewable energy projects generally will not provide cheap and reliable energy, meet the expected demand or deliver 'green energy' given the limitations of renewable energy technology and transmission, the costs and lifespan of renewable energy infrastructure and/or the location of the REZ relative to the east coast of Australia (and resulting transmission losses)
- the need for the Central-West Orana REZ (and therefore the project) was based on speculation that renewable projects are required to meet future demand, and that REZs (or this project) should not be developed further until this has been demonstrated given the impacts to agricultural land and rural communities
- the alternative approaches to the 'energy transformation' of the energy system have not been explored, or the costs or benefits of other alternatives to renewable energy considered (coal, gas or nuclear). This included comparison of the larger land take of a REZ compared to individual coal-powered power stations
- there are objections and concerns with the creation of the Central-West Orana REZ and its conflict with agricultural and rural land use (and the related social, economic and landscape impacts), food security, health risks, and biodiversity impacts
- the benefit to local communities from the creation of the Central-West Orana REZ has not been demonstrated.

Many submissions suggested alternatives to the project and Central-West Orana REZ, renewable energy projects or the REZ concept. This included:

- use of nuclear power as an alternative to fossil fuel and renewable energy projects
- investment in new coal-power technology
- avoiding the need for new transmission infrastructure by locating renewable projects close to existing transmission line infrastructure to enable a direct connection
- a more equitable spread of renewable energy projects or smaller renewable energy projects to avoid a concentration of projects and the scale of cumulative impacts within a region
- locating renewable energy projects, transmission infrastructure or REZs closer to or in population centres (such as Sydney), or in less populated areas (such as along the coastline, within the national parks estate), on existing energy generation sites, or within areas disturbed by mining, and outside areas of valuable agricultural land
- use of 'micro-grids', increased use of rooftop solar or battery storage in urban areas or initiatives for reducing energy consumption
- locating renewable energy projects in areas more suited for capturing wind and solar energy.

The submissions also questioned whether the NSW Government is intending to unlock additional REZs and engage with the community on the declaration of these REZs.

## Response

### Approach to the energy transition and need for REZs

In 2016, the former Council of Australian Governments (COAG) energy ministers agreed to an independent review of the National Electricity Market (NEM) to take stock of its current security and reliability and to provide advice to governments on a coordinated way forward. The independent review, referred to as the Finkel Review, noted that coal-fired generation is expected to continue to decline over the next three decades (Finkel, Moses, Munro, Effeney, & O'Kane, 2017). Since the publication of the review the Liddell Power Station has ceased operating and other power stations have brought forward plans for retirement. To ensure system security and future reliability of the NEM, the Finkel Review identified a range of recommendations including that the Australian Energy Market Operator (AEMO) develop a NEM-wide integrated system and a list of potential priority projects to enable efficient development of Renewable Energy Zones (REZs) across the NEM (Finkel, Moses, Munro, Effeney, & O'Kane, 2017).

In addition to the security and reliability of the NEM, the Australian Government has committed Australia to coordinated global action to reduce greenhouse gas emissions in line with the Paris Agreement and has set targets to reduce emissions by 43 per cent below 2005 levels by 2030, and to net-zero by 2050. Independently, the NSW Government has legislated targets to reduce NSW emissions by 50 per cent below 2005 levels by 2030, 70 per cent by 2035 and achieve net-zero emissions by 2050 (DPIE, 2020b). Meeting these legislated targets requires transformative low emissions technologies to be deployed at scale across all sectors of the economy, including electricity generation which is currently Australia and NSW's largest source of greenhouse gas emissions (accounting for 33 per cent of Australia's total annual emissions in 2020).

AEMO's published the first Integrated System Plan (ISP) in 2018. The ISP outlines the investments needed to make sure Australians have access to reliable, secure and affordable electricity while meeting Australia's emissions reduction targets. ISPs are developed every two years in consultation with industry, government and energy consumers and based on economic modelling and engineering analysis. The 2018 ISP notes the most cost-effective replacement of coal-fired energy generation, based on current cost estimates and projections, is a portfolio of utility-scale renewable generation, energy storage, distributed energy resources, flexible thermal capacity including gas-powered generation, and transmission (AEMO, 2018). In developing the ISP, modelling conducted by AEMO used projections of reductions in technology and fuel costs, which demonstrated that the least-cost (i.e. most affordable) replacement of energy currently produced by coal is projected to be

met through an efficient combination of renewable energy, energy storage, backup supply and peaking infrastructure and increased transmission.

The transformation of the NEM to a modern electricity system that includes new generation, storage and demand management is accepted at the State and Commonwealth government levels, supported by the current policies and legislation relating to electricity supply. REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources. The AEMO's ISP consultation paper (AEMO, 2017) identifies that some benefits of developing REZs may include:

- facilitating a reliable and secure energy supply at least possible cost to consumers, by:
  - capturing economies of scale in both generation and transmission development
  - capturing diverse weather patterns, across many REZs, to increase the aggregate controllability, firmness, and flexibility of renewable resources
  - capturing areas with higher quality resources than connected to existing grid
- facilitating timely development of new generation sources to provide optionality for a faster energy transformation if required in future
- managing asset stranding risk if development is coordinated at a national level.

Various government strategies, plans and policies such as AEMO's 2022 ISP (AEMO, 2022) the *NSW Transmission Infrastructure Strategy* (DPE, 2018), the *NSW Electricity Infrastructure Roadmap* (NSW Government, 2020) and the *NSW Network Infrastructure Strategy* (EnergyCo, 2023e), identify the important role for REZs to provide an effective and economical way to integrate new generation, storage and transmission development. The NSW Electricity Infrastructure Roadmap identifies five regions prioritised for the development of REZs: the Central-West Orana, South West, New England, Hunter-Central Coast and Illawarra regions of NSW, and the EII Act required the declaration of REZ's for these five areas.

### **Renewable energy costs and alternative approaches including coal, gas or nuclear**

The benefits of the *NSW Electricity Infrastructure Roadmap*, including REZs, are expected to far outweigh the costs, delivering value for money by putting downward pressure on household electricity bills, preventing price shocks and maintaining reliable supply across the economy. The *NSW Electricity Infrastructure Roadmap* is expected to reduce wholesale electricity prices for consumers over the next 10 years based on modelling for the 2023 Infrastructure Investment Objectives report, prepared by AEMO Services as the NSW Consumer Trustee.

Furthermore, each year, CSIRO and the AEMO engage with industry and key stakeholders to source and provide updated cost estimates for future new-build electricity generation in Australia in the annual GenCost consultation report (Graham, Hayward, & Foster, 2023).

A key finding of the 2023-24 GenCost consultation draft report is that variable renewables have the lowest cost range of any new-build technology, considering coal and gas options, both now and in 2030 (an assumed future year for forecasting purposes). The lifespan and operating costs of each type of technology, including variable renewable generation was factored into the cost analysis.

Nuclear small modular reactors emerged as the highest-cost technology explored in the report. This corresponds with new data from the most advanced small modular reactor project in the United States.

The delivered cost of energy from wind and solar in combination with storage from pumped hydro and batteries is anticipated to be lower than the cost of generation from new coal or natural gas when the existing coal generators retire.

Investment in new coal-powered technology is focused on carbon capture and storage, where high emitting industries that face inherent process difficulties in reducing emissions may benefit from. The commercialisation of any identified geosequestration sites in NSW could support new coal power industries to contribute to the NSW economy without compromising the state's emissions reduction goals.

### **Micro-grids and home and business based energy generation and storage devices**

AEMO published the 2023 Electricity Statement of Opportunities (ESOO), which provides technical and market data for the NEM over a 10-year period to inform the planning and decision-making of market participants, new investors, and jurisdictional bodies. This includes consideration of rooftop solar, home battery storage systems and micro grids (electricity networks that can be operated independently of the grid). While the 2023 ESOO Central scenario includes rapid uptake of home and business based energy generation and storage devices, AEMO does not forecast that sufficient coordination of these devices will be successfully enabled to meet electricity demands. Utility scale energy generation is needed meet peak demand forecasts.

In NSW, for example, electricity from home and business based energy generation and storage devices is projected to have the potential to offset maximum demand by 2,330 MW by 2032–33, approximately 14 per cent of the peak demand forecast. While this would be a reduction in peak demand, it would require the coordination of a significant number of consumer batteries, a process that has demonstrated value in trials, but not at significant scale to date in the NEM. Utility scale energy generation delivered earlier to meet energy demands is needed to supplement this reduction.

While there is some policy support and expectations of cost reductions in the long term, there remains a large degree of uptake and coordination uncertainty, relying on homeowners to both install battery storage systems and to sign up for these to provide grid services.

AEMO is collaborating with market bodies and industry on a range of initiatives aimed at encouraging and enabling home and business-based energy generation and storage devices over the forecast horizon, and efficiently, securely and reliably integrating these into the NEM. The Australian Government Renewable Energy Agency (ARENA) are also funding a Regional Microgrids Program.

### **The location, size and nature of renewable energy generation and storage projects**

The NSW Government initially identified potential locations for REZ's in NSW based upon independent analysis completed in 2018. The analysis overlaid 25 data layers to identify the best locations for potential REZs in NSW. Locations were nominated based the following key criteria:

- Energy resource and geography – the level of solar, wind and bioenergy resources available and other factors impacting generation capacity.
- Cost-effectiveness – proximity to existing transmission infrastructure to minimise the extent of new transmission infrastructure (noting due to the lack of capacity in the existing network new transmission infrastructure would be needed in any location).
- Environmental, heritage and land-use considerations – potential land-use conflict or presence of environmental and heritage constraints, including Biophysical Strategic Agricultural Land (BSAL).
- Contribution to a strong and diversified economy – alignment with regional development priorities, as well as local and state-wide economic growth goals.
- Investor and community support – proximity to where investors have demonstrated interest in developing renewable energy projects, and proximity to regions with community support for renewable energy projects, as identified through the NSW Regional Plans.

Three potential priority energy zones were identified, including the 'Central-West Energy Zone'. These zones were considered as providing the most cost-effective and strategic opportunities for REZ development in NSW. The strong solar and wind capacities of the 'Central-West Energy Zone' were particularly recognised (NSW Government, 2018).

AEMO conducted an independent process to identify priority REZ locations and separately identified a Potential Priority Energy Zone in Central-West NSW. In the 2018 ISP, three Potential Priority Energy Zones were identified as areas for consideration of utility-scale generator connections in the short and medium term, including the 'Central NSW Tablelands'.

The Central-West Orana REZ boundary was then identified based on consideration of the quality of the energy resource, economic considerations, investor and community support and considerations of environmental, heritage and land-use constraints.

As noted in section 2.1.2 of the EIS, current interest in new energy generation projects exceeds the existing transmission network capacity of the NEM in several locations. In addition, many areas with high quality renewable energy resources, such as in the Central-West Orana REZ, are not well serviced by the existing transmission network and require new infrastructure and increased capacity to transfer the energy back to the NEM.

### Future REZs

The NSW Electricity Infrastructure Roadmap and NSW Network Infrastructure Strategy outline the coordinated approach to deliver transformational change and meet the renewable energy generation targets across a 20 year horizon. The five declared REZ's and priority transmission infrastructure projects are the intended infrastructure to meet the legislated emission reduction targets.

EnergyCo collaborated with the Consumer Trustee (AEMO Services Ltd) in developing the NSW Network Infrastructure Strategy on the detailed modelling to forecast NSW's future network needs. The need for additional REZ's in NSW will be based upon future modelling scenarios, including the evolution of transport and heavy industry technologies.

The *Electricity Infrastructure Investment Act 2020* (NSW) sets out the procedure for the Minister for Energy before declaring REZs, including the requirement for public consultation on the draft REZ declarations for a period of a least 28 days.

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## 4.1.2 Engagement on the declaration of the Central-West Orana REZ

### Submission ID numbers

57, 81, 102, 119, 130, 138, 187, 193, 206, 211, 252, 256, 259, 262, 277, 279, 292, 294, 301, 345, 348, 363, 397

### Summary of issues

Concerns about the community engagement process undertaken prior to the declaration of the Central-West Orana REZ were raised in 23 submissions, with submissions stating that:

- engagement with the community did not occur or was insufficient, and that community participation did not occur in accordance with the DPE's *Community Participation Plan* (DPE, 2019))
- that the declaration of the Central-West Orana REZ did not occur in accordance with section 34 of the *Electricity Infrastructure Investment Act 2020* (NSW) as the views of the community had not been sought
- the declaration should be revoked given the lack of proper engagement
- the cumulative impacts and approaches to manage impacts of multiple developments, or delivery opportunities or compensation to communities within the REZ should have been considered at the time of declaring the Central-West Orana REZ.

Submissions also noted that the EIS identified a proposed change to the intended network capacity of the Central-West Orana REZ from three to six gigawatts, and questioned the timing of this relative to the project and what notification or engagement with the community would occur on this change.

## Response

The EII Act sets out the procedure to be followed prior to declaring a REZ, including the requirement for public consultation on the draft REZ declaration for a period of at least 28 days. The declaration for the Central-West Orana REZ followed an assessment of feedback received during the draft declaration exhibition period from 17 September to 15 October 2021. As all points raised were addressed, no changes were made between the draft and (final) declaration order. On 5 November 2021, the Central-West Orana REZ was declared by the Minister for Energy.

The NSW Network Infrastructure Strategy released by EnergyCo in May 2023 identified a need to increase network capacity in REZs across the state in response to increasing demand for electricity. The strategy outlines options to increase the network capacity of the Central-West Orana REZ from 3 GW up to 4.5 GW initially under Stage 1, and around 6 GW by 2038 under Stage 2. This supports modelling showing more network capacity will be needed to meet NSW's future energy needs as coal-fired power stations progressively retire.

To align with this, the NSW Government proposed to amend the Central-West Orana REZ declaration to increase the intended network capacity from 3GW to 6GW. In August 2023, EnergyCo invited feedback on a proposed amendment to the Central-West Orana REZ declaration which would increase the intended network capacity of the REZ to meet future energy needs. The draft amendment to the Central-West Orana REZ Declaration was put on public exhibition for 28 days on EnergyCo's website to seek stakeholder feedback (close date 4 September 2023).

The consultation period for the proposed Central-West Orana REZ declaration amendment was supported by a community consultation plan to keep stakeholders appropriately informed of the proposed change and how to provide feedback to EnergyCo.

Communications materials provided to the public to encourage stakeholder feedback included a media release, website updates, newsletter articles, emails, presentations and information packs for members of Parliament (MPs) and councils. Multiple EnergyCo newsletters were used to encourage stakeholders to provide feedback during consultation. A Central-West Orana specific newsletter was distributed to more than 600 subscribers and a hardcopy version of this newsletter was also distributed to 5,500 letterboxes in the Central-West Orana REZ. Additionally, an article on the consultation published in EnergyCo's broader newsletter was sent to more than 2,600 subscribers.

EnergyCo also engaged key stakeholder groups to explain the proposed changes to address any specific concerns. In July 2023, EnergyCo presented to the Central-West Orana REZ Steering Committee on the proposed amendment. Members of Dubbo Regional Council, Mid-Western Regional Council, and Warrumbungle Shire Council were present, and flagged a general level of comfort with the proposal. Separate meetings were organised with Gilgandra and Narromine Shire councils.

EnergyCo also consulted Central-West Orana REZ State MPs, First Nations groups, local environmental groups, market bodies, and the Roadmap Consumer Reference Group. Targeted consultation raised no material issues with the proposal. Some Steering Committee members were concerned over how frequently the NSW Government was planning to incrementally increase the REZ, suggesting value in increasing the amendment now to incorporate future capacity rather than returning multiple times. Narromine Shire Council sought further engagement to understand increased developer impacts, and Mid-Western Regional Council General Manager supported right sizing the REZ now to enable future network expansion without further lines or towers.

In December 2023, the NSW Government amended the Central-West Orana REZ declaration, increasing the intended network capacity to 6 GW. This does not change the transmission infrastructure proposed to be delivered under this project. Any future expansion would be subject to separate planning and regulatory approvals processes as required under the NSW planning system.

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## 4.1.3 Governance and management of the Central-West Orana REZ

### Submission ID numbers

31, 49, 54, 57, 76, 138, 177, 185, 286, 334, 348, 364, 381

### Summary of issues

Submissions identified a range of issues concerning the governance and management of the Central-West Orana REZ by the NSW Government, EnergyCo and/or a request for independent oversight. Specifically, submissions:

- questioned if EnergyCo is delivering on its key responsibilities or delivering on the objects of the (NSW) *Electricity Infrastructure Investment Act 2020* (namely, improving affordability, reliability, security and sustainability of electricity supply)
- expressed concern that EnergyCo have not delivered on the framework or the policies required to manage cumulative impacts and to deliver community benefits in the REZ. As a result, these issues are not being sufficiently addressed by EnergyCo or at an individual project level
- requested that EnergyCo and private developers within the REZ are mandated to improve the notification to non-hosting landowners, including notification over a much greater area around the proposed infrastructure
- requested improvements in the oversight and transparency in actions taken by those responsible for the delivery of the REZ (and individual projects within it), as well as a requirement for genuine engagement with communities and provision of independent government-funded advocacy support services or legal support for communities and landowners. This includes improvements to engagement practices, transparency of interactions with communities and landowners, complaint mechanisms and improvements in communications from proponents
- requested the oversight of the Independent Planning Commission to the delivery of the Central-West Orana REZ to ensure the NSW Government is held accountable, or that a Royal Commission is held into the creation of REZs
- questioned the robustness of the costing for the Central-West Orana REZ, given the Network Infrastructure Strategy has reported a five-fold cost for the REZ
- stated that a feasibility and cost-benefit analysis of the Central-West Orana REZ should be completed
- queried what would occur to the REZ once the renewable energy projects exceeded the lifespan of the technology, specifically if infrastructure be replaced or removed, and the management of this waste.

### Response

#### EnergyCo's role and functions under the *Electricity Infrastructure Investment Act 2020* (EII Act)

The NSW Government released the NSW Electricity Infrastructure Roadmap in November 2020, supported by the EII Act in December 2020 and re-committed to as a Strategic priority for the current government in 2023. The NSW Electricity Infrastructure Roadmap is an integrated policy framework that sets renewable energy generation targets in NSW over 20 years and requires multiple entities to work together to deliver upon this important Government policy (NSW Government, 2020).

EnergyCo, as the Infrastructure Planner under the EII Act is responsible for planning, designing and coordinating the delivery and operation of the five declared REZ's and two priority transmission infrastructure projects in NSW.

In this role, EnergyCo is required to assess and make recommendations to the Consumer Trustee on the network infrastructure projects that provide the intended network capacity for each REZ. It is required to do this, in consultation with AEMO, local councils and relevant operators in the REZ.

EnergyCo has prepared two annual reports on its function as the Infrastructure Planner under the EII Act since its enactment, including how it is delivering on its responsibilities. The reports were provided to Independent Pricing and Regulatory Tribunal (IPART) in accordance with the EII Act and published on IPART's website.

In terms of delivering on the objects of the EII Act for improving the affordability, reliability, security, and sustainability of electrical supply, the Consumer Trustee is an independent role appointed by the energy minister under the EII Act to act independently and in the long term financial interests of NSW electricity consumers.

## Cumulative impacts

The project assessed cumulative impacts using the approach set out in the NSW *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). This approach requires a project to consider publicly available information from other projects in the region and to assess the potential for cumulative impacts. The assessment found the contribution of the project's impacts can be managed adequately through the implementation of mitigation measures. However, as noted in the EIS, it is recognised that not all REZ related cumulative impacts can be addressed through a project-level approach alone, instead requiring a strategic and collaborative approach between EnergyCo, renewable energy developers, council and government agencies.

As the Infrastructure Planner under the EII Act for the Central-West Orana REZ, EnergyCo is responsible for coordinating the delivery of the REZ, working with Candidate Foundation Generators (CFGs) on initiatives to minimise cumulative impacts and delivering community and employment benefits in the REZ.

These initiatives are being coordinated by EnergyCo within an overall framework involving the following components:

- identify priority areas for funding measures to minimise cumulative impacts and deliver community and employment benefits through a program of engagement with community and other stakeholders
- establishment of a Central-West Orana REZ SteerCo to develop action plans and initiatives within priority areas
- establishment of a Community Employment and Benefit Program to administer the allocation of funding to initiatives.

EnergyCo has been investigating how potential cumulative impacts will be mitigated within the REZ while also providing long-term community and employment benefits. These investigations include engagement with communities, local councils, government agencies and other key stakeholders to understand key local issues and priorities in the REZ in addition to data gathering and research to inform decision making.

Based on community and stakeholder feedback, the following areas have been identified as priorities for further investigation:

- transport and logistics including road upgrades
- economic participation and development including skills and training
- housing and accommodation
- environmental delivery including waste management, wastewater management and water supply
- social services such as health and education.



A Community Feedback Report was published in June 2023 which summarised the priority areas identified through the consultation (EnergyCo, 2023c). The feedback identified health services or infrastructure as the highest priority for community benefit funding, with nearly half of participants including it in their top three priorities. Other priorities included education services, public or community services or infrastructure, and accommodation and housing. Further consultation is being undertaken in February 2024 to obtain additional community feedback and input to the types of initiatives that should be funded.

The Central-West Orana REZ Steering Committee (the committee) was established in July 2023 to ensure whole of government REZ coordination and accountability for delivery of actions to mitigate cumulative impacts and provide community benefits in the Central-West Orana REZ.

Membership of the committee includes representatives from:

- Dubbo Regional Council
- Mid-Western Regional Council
- Warrumbungle Shire Council
- EnergyCo
- NSW Department of Planning, Housing & Infrastructure (DPHI)
- NSW Department of Regional Development.

The committee comprises five working groups aligned to the community and stakeholder priorities identified through the engagement described earlier. Throughout the second half of 2023, the working groups developed draft action plans which identified a range of initiatives aimed at addressing cumulative impacts and delivering community and employment benefits for the REZ. The action plans were developed taking into consideration the priorities identified through community and stakeholder engagement and data gathered by EnergyCo on existing levels of service and infrastructure provision in the REZ and the estimated additional demand on these services/ infrastructure created by the REZ.

EnergyCo is working with councils and other government agencies to review the action plans, prioritise initiatives and undertake background work to develop initiatives to a stage where they can be funded through the Community and Employment Benefit Program (CEBP) (see Section 4.1.9 of this report).

### **Costing and cost benefit analysis**

Over 55 potential options for upgrading the network in NSW were considered in developing a NSW Network Infrastructure Strategy that balances the needs for flexibility and for investor and community certainty. In brief, the process was to draw on economic analysis by the Consumer Trustee to optimise the timing of network infrastructure build with generation and storage build.

The network investment, together with the other NSW Electricity Infrastructure Roadmap mechanisms, is expected to deliver substantial net consumer benefits with a present value of \$10.6 billion of 20 years. This has been calculated by comparing:

- the Consumer Trustees modelling of the forecast generation, long-duration storage, firming and network investment required to achieve the legislated targets, across the three modelled scenarios and
- preliminary Roadmap modelling, where the proposed Roadmap network infrastructure are delayed and scaled down, developed independently by the Office of Energy and Climate Change.

The calculated impacts incorporate changes in wholesale electricity costs, top-up payments to firming providers, Long-Term Energy Service Agreements (LTESA) costs and transmission investment. The wholesale costs are the costs paid in the market for the electricity provided to customers by utility-scale generation, storage, and firming infrastructure.

The final design for the Central-West Orana REZ will be subject to rigorous cost benefit analysis as part of the authorisation process by the Consumer Trustee to determine financial value for consumers

### **Engagement for renewable energy projects**

The development of renewable energy generation projects in the Central-West Orana REZ is the responsibility of private generators and subject to separate planning and environmental approvals. Each proponent is accountable for developing and implementing an engagement plan that encompasses neighbouring landowners. Engagement would also need to be conducted to the satisfaction of the consent authority for the projects which is primarily DPHI for large-scale renewable energy projects in NSW.

### **Inquiry into delivery of the REZ**

The Independent Planning Commission has been established for State significant development applications (DAs) only, and not SSI (including Critical State Significant Infrastructure (CSSI)) and as such, are not applicable to this project.

A Royal Commission is the highest form of inquiry on matters of public importance, established in rare and exceptional circumstances. Commonwealth royal commissions can only inquire into matters that relate to the Commonwealth's responsibilities.

### **End-of-life of renewable energy projects**

Renewable energy developments would have a decommissioning and rehabilitation phase, which includes requirements for waste removal and ensuring the site is restored to a safe, stable and non-polluting condition. Typically renewable energy developments also include measures to recycle dismantled and decommissioned infrastructure and equipment where possible.

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## **4.1.4 Project development**

### **Submission ID numbers**

60, 101, 124, 250, 269

### **Summary of issues**

Five submissions commented on the development of the project including:

- the lack of transparency in how the project has been developed over time particularly with regard to the options assessment when other options have not been presented
- that the project was not developed with consideration to community concerns as EnergyCo had not sufficiently engaged with the community during this stage
- the project is still subject to detailed design, and that changes to the easement during detailed design would not be made available to the general public
- the use of High-Voltage Direct Current (HVDC) technologies was suggested as an alternative to High-Voltage Alternating Current (HVAC).

## Response

### Transparency of the options assessment

The project development process described in section 2.5 to section 2.11 of the EIS accurately reflects the methodology used to select the energy hub locations and the approach taken to iteratively refine the revised study corridor down to a project corridor, including reasons why sections of the corridor was realigned. The outcomes of key development stages were published and replicated in the EIS.

### Engagement during project development

Community and stakeholder feedback has been an essential part of the project development process to make sure the best outcomes for local communities and energy consumers are delivered.

In 2020, the NSW Government engaged Transgrid, as NSW's jurisdictional transmission planner, to carry out early development work to guide the planning of new transmission infrastructure for the Central-West Orana REZ. In December 2020, Transgrid released a preliminary study corridor for the project that ran northwest from the existing network near Merriwa, passing south of Dunedoo before connecting to the existing network east of Wellington. In November 2021, the Central-West Orana REZ was formally declared by the Minister for Energy and Environment and EnergyCo was appointed as the Infrastructure Planner to lead the delivery of REZs. At this time, EnergyCo assumed responsibility for planning and design of the transmission corridor and engaging local communities and stakeholders to inform the development of new transmission network infrastructure within the REZ.

In February 2022, EnergyCo released, and sought feedback on a revised study corridor for the project which was based on the most appropriate location for a connection to the NSW transmission network, indicative locations for energy hubs and proximity to eligible renewable energy generators. The location and configuration of the revised study corridor was largely developed in response to community feedback Transgrid received on their December 2020 preliminary study corridor, in addition to technical and environmental constraints. Issues raised through community feedback included a preference to locate the alignment on previously disturbed land and avoid high value agricultural land to the extent possible, leading to a revised corridor through mining lands north of Wollar. In direct response to this feedback, the project located one major substation and over 60 per cent of the line between the New Wollar Switching Station and Merotherie Energy Hub on mining land. This represents approximately 40 per cent of the 500 kV transmission lines proposed as part of the project.

A community feedback report was released in June 2022 which outlined the consultation outcomes and next steps in the project development process. Where practicable, this feedback was considered in the development of the one kilometre preliminary project corridor presented in the Scoping Report. The one kilometre wide preliminary project corridor was refined from the revised study corridor and was developed taking into consideration the outcomes of consultation with landowners, the community and government agencies (including local councils) as well as the results of preliminary site investigations and field survey.

Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

The transmission line alignment was further developed with consideration of landowner feedback, noting not all requested changes have been adopted. Alignment changes have been made in response to landowner feedback on the EIS and are described in Chapter 3 of the Amendment Report. Changes to the mitigation measures for the project as shown in Appendix B of this report been adopted in response to community feedback on the EIS.

### **Detailed design**

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

Refinements to the reference design of the project would be conducted during detailed design. These refinements would be generally consistent with the project as described in the EIS and Amendment Report. If a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. If modifications are considered by DPHI, to result in material environmental impact beyond the approved project, they are published (and available for public comment). As such approval for any modifications would be sought in accordance with the requirements of Division 5.2 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

### **Use of High-Voltage Direct Current technologies**

The application of HVDC technologies is not considered a viable alternative to HVAC for the project. When considering High-Voltage Direct Current transmission systems (overhead or underground), there is a requirement for an alternating current (AC) to direct current (DC) converter station at each end of the line. The main benefit of HVDC is the low losses over very long distances, but the cost and complexity of converter stations, make the implementation of HVDC less attractive for shorter distances. At a specific distance, the cost of HVDC transmission becomes equal to the cost of HVAC system, that point is called breakeven distance. HVDC transmission is economical only for long-distance overhead transmission lines having a length more than 600 kilometres and for underground cables of length more than 50 kilometres.

The longest transmission line for Central West Orana is 60 kilometres, being the line from Barigan Creek Switching Station to Merotherie Energy Hub. This means that HVDC overhead system is not economically viable, given the break-even point is more than 600 kilometres in length.

HVAC transmission networks are designed to collect and transfer large amounts of generation across their routes rather than a point-to-point delivery over a long distance. A HVAC transmission line has an advantage of enabling direct connection of renewable generation projects along the transmission line route with relatively low impact and cost of each connection point compared to the impact and expense of additional transition and converter stations required to be installed for the connection of HVAC generators into a HVDC transmission system.

The Central-West Orana REZ has many renewable generation projects with less than 60 km line lengths between each of them and to the existing NSW transmission network, and as such Central-West Orana REZ requires a HVAC transmission network.

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## 4.1.5 Selection of the project corridor process

### Submission ID numbers

39, 47, 69, 73, 130, 148, 166, 169, 208, 264, 348, 360, 375, 394

### Summary of issues

Fourteen submissions commented on the process for selecting the project corridor. This included:

- queried why 330 kV transmission lines have been included in the project corridor, noting the different acquisition powers of EnergyCo and expressed concern that the 330 kV connections were being proposed to renewable energy projects that have not yet been approved
- the selection of the project corridor should have given higher priority to the use of Crown Land and Travelling Stock Reserves (TSRs)
- disputed that the project design has been guided by landowner feedback or the willingness of the landowner to host the infrastructure. Also concerned that the project continues to be located on a property despite expressing their objection during the development of the project and request for an alternative route to be taken
- commented that the project has not been designed to maximise the use of already disturbed land, such as mining land and industrial land, along property boundaries, next to transmission easements, or areas that align with current land use activities
- expressed concerns or objections to the selection of the project corridor due to proximity to residences and agricultural infrastructure
- expressed the view that avoiding impacts to biodiversity was given higher priority to avoiding impacts to valuable agricultural land
- queried why the proposed transmission lines, energy hubs and switching stations have not been located with frontages to highways to enable access during emergencies
- questioned the identification of 'high valued environmental land' to justify the location of proposed transmission lines within a property
- stated that the justification provided by EnergyCo for changes to the alignment that resulted in impacts to a different property has not been satisfactory.

### Response

#### Approach to selecting the project corridor

The framework for developing and refining the project corridor was based upon three tiers of environmental, community and engineering constraints. These constraints were used in combination with the project objectives (as detailed in section 2.4 of the EIS) and community and stakeholder feedback (refer to Section 4.1.5 of this report), to develop the study corridor for the project and the basis for study corridor refinement.

It is acknowledged that in some locations along the project alignment the transmission line easement is subject to competing community, environmental and technical constraints. Where this occurs EnergyCo has adopted a balanced approach to corridor planning to determine the most appropriate project alignment.

EIS Chapter 2 (Strategic context) provides a detailed description of the approaching to developing the project corridor and the approach taken.

## The 330 kV network

EnergyCo has included the 330 kV network in the project to ensure the network required to connect generation is planned and delivered as efficiently as possible. This coordinated approach results in a streamlined 330 kV network with some lines being designed as shared assets. This reduces the number of lines being built, which in turn reduces impacts on landowners, the environment, and the overall cost of delivering the required transmission assets. This approach also provides greater transparency for landowners and surrounding communities by not only presenting the proposed substations, but also including the expected 330 kV connections.

The 330 kV network connects to renewable energy developments that were identified through an expression of interest process. It is noted that each renewable energy development is subject to a separate planning approval process and the Consumer Trustee's competitive tender process to secure access rights to the project. In the event a development does not obtain a planning approval, and/or is not successful in securing access rights via the Consumer Trustee's tender process, and there are no other developments connecting to the same 330 kV network then EnergyCo may not construct that portion of the 330 kV network.

In relation to land being acquired for the construction and permanent easements for the 330 kV lines, land owners would be compensated for the full value of the construction easement, and 80 per cent of the value of the permanent easement, which would be paid upfront, ahead of construction commencement. EnergyCo would not proceed with the acquisition of the permanent easement if the relevant 330 kV line was not constructed.

## Crown land and Travelling Stock Routes

In developing the alignment, EnergyCo has considered the suitability Crown land and other Government landholdings for hosting infrastructure. The fragmented and isolated presence of Crown Land, and particularly TSR's, does not lend itself to beneficial utilisation for a transmission line projects that connects renewable energy developments to the NEM.

## Landowner willingness

The transmission line alignment was guided by landowner feedback. It is acknowledged that the location and position of the transmission line alignment is not accepted by all landowners but was selected when balancing other constraints such as biodiversity values, challenging terrain or line length. Of the approximately 250 kilometres of the project transmission alignment, around 70 kilometres is located on land where the owner has entered into agreements with proposed renewable energy developers or has expressed willingness to host renewable generation. Additionally, around 35 kilometres of the 500 kV transmission line is to be located within mining land. Furthermore, all land required to host the Elong Elong and Merotherie Energy Hubs as well as New Wollar Switching Station was obtained via negotiated agreement.

## Previously disturbed land

Corridor planning considered opportunities to avoid impacts by routing the corridor through previously disturbed land such as mining areas and existing transmission easements, as well as coordinating transmission connections to renewable energy generation and storage projects to minimise the overall length of generator connections. Around 35 kilometres of the transmission line alignment is co-located within mining land or land owned by mining companies, around 35 kilometres is adjacent to an existing transmission line easement, and around 70 kilometres is located on land where the owner has entered into agreements with proposed renewable energy developers or has expressed willingness to host renewable generation.

The predominant land use impacted by the project is agriculture, with livestock grazing being the most predominant. This type of activity can continue, noting any potential impacts to farm infrastructure within the transmission line easement such as fences and sheds would be relocated as needed at the cost of the project. For agricultural land uses such as cropping, the activity can continue with some restrictions as per the easement conditions. The nature of these restrictions on the landowner are considered by the parties when assessing compensation.

During the corridor development phase, mapped areas of BSAL, residences, and vegetated areas of threatened ecological communities such as Box Gum Woodland, were considered to be key avoidance areas. The alignment also sought to balance impacts to competing constraints associated with dwellings, renewable energy developments, flooding, topography, infrastructure such as roads and active mining areas, and impacts to farming operations.

### High value agricultural lands

As described in section 5.3.3 of the Amendment Report, the construction area comprises around 3,755 hectares of land currently used for agricultural purposes including around 170 hectares of land mapped as BSAL. The permanent loss of agricultural land from the project is equivalent to about 0.04 per cent of the total area of agricultural land use in the four impacted LGAs.

During project development, consultation with the community indicated a strong preference for the project to be located off the Merriwa Cassilis plateau, in part to avoid large contiguous areas of BSAL. The current project alignment reflects this avoidance. The presence of BSAL was also considered in a number of project options including the location of energy hubs (refer to section 2.7.2 of the EIS).

The main areas of BSAL which would be intersected by the project include:

- a small portion of land at the northern end of the Cassilis Connection
- along the Coolah and Leadville Connections where the transmission alignment crosses the Talbragar River and Cainbill creek floodplains
- the Merotherie – Elong Elong Transmission Line to the west of the Castlereagh Highway, and
- areas to the west of the Elong Elong Energy Hub, along the Goolma Connection around Spring Creek.

### Avoiding impacts to biodiversity

In terms of avoiding biodiversity values, this is a clear legislated requirement for proponents under the *Biodiversity Conservation Act 2016*. Where avoidance or minimisation of impacts is not possible, proponents are required to offset unavoidable impacts in line with the NSW Biodiversity Offset Scheme. Impacts to high value biodiversity areas have been avoided or minimised along the project corridor where practicable. Actions taken to minimise and avoid impacts to biodiversity during project development include:

- locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines
- avoiding areas of dense vegetation associated with the Goulburn River National Park
- locating energy hubs on land mostly devoid of Threatened Ecological Communities and with little to no native vegetation
- revising the alignment through Moolarben to minimise the extent of Regent Honeyeater habitat impacted by the project
- avoiding populations of *Zieria Ingramii*, *Diuris tricolor* and *Homoranthus darwinioides* identified during field surveys near Spring Ridge Road and Sandy Creek Road at Cobbora
- using large areas of cleared land to enable development of a transmission line alignment that avoids or minimises impacts to high-quality ecological values, where practicable
- employing avoidance measures for the identified Little Eagle breeding habitat at the Merotherie Energy Hub
- including the 330 kV transmission line connections to provide an optimised transmission network solution that would reduce both the number and length of transmission lines in the network thereby minimising potential environmental impacts associated with this infrastructure.

Whilst the avoidance of biodiversity values is a recognised requirement, complete avoidance is not possible for this project when considering other important factors such as offset distances to dwellings, avoiding mapped BSAL. It is also noted that at the time of developing an alignment, ecological surveys were not readily available, and the best available mapping and aerial imagery was used to inform project decisions.

### **Proximity to residences**

The development of the transmission line alignment applied a 500 metre buffer to dwellings to minimise potential impacts. Whilst this was the preferred outcome it could not always be achieved when considering other nearby constraints. In the limited number of cases where this has not been achieved, EnergyCo is working with impacted landowners to provide suitable compensation and mitigate impacts.

### **Location of the project in relation to the road network**

As outlined in section 2.7.2 of the EIS, locating energy hubs in proximity to the existing road network was one of the selection criteria used to assess different options. However, it was not the overriding factor in the selection of the proposed locations, which also required consideration of many other factors including but not limited to flood immunity, topography, constructability, landholder and environmental impacts and overall constructability. The options selected best balance all the selection criteria. The location of switching stations was based on the location and internal layout of connecting renewable energy developments meaning placing them adjacent to highways is not achievable.

There are no identified difficulties in accessing the project. Emergency response protocols would be implemented in accordance with the Bushfire Emergency Management and Evacuation Plan that will be developed by the Network Operator .

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## **4.1.6 Transmission line design – underground transmission lines**

### **Submission ID numbers**

25, 31, 39, 46, 47, 55, 61, 65, 68, 69, 73, 78, 83, 84, 91, 102, 116, 124, 127, 136, 138, 160, 162, 232, 256, 265, 269, 289, 298, 301, 334, 344, 345, 348, 360, 366, 367, 371, 374, 381, 386, 388, 389, 397

### **Summary of issues**

Forty-four submissions expressed the view that transmission lines must be placed underground or that a feasibility study for undergrounding the project should be completed for the project. Reasons for considering undergrounding transmission lines included:

- the benefits to biodiversity, such as the protection of biodiversity and remnant bushland, and removal of wildlife strike risk
- the visual and landscape impacts of overhead transmission lines
- bushfire risks, either from or to overhead transmission lines, with some submissions referencing previous large scale fire events in the region
- benefits to land use and agriculture, such as enabling existing agricultural production or at least grazing to continue, removing height restrictions on agricultural activities or conflicts with aerial agricultural activities, and reduces the width of the easement
- addresses Electric and Magnetic Fields (EMF) concerns
- addresses operational noise impacts.



Other submissions relating to the placement of transmission lines underground included:

- the placement of transmission lines underground (in full or in part) has not been covered or sufficiently addressed as an option in the EIS. This included use of under-boring, or the adoption of an underground solution in sensitive locations (e.g. areas of high biodiversity value or high bushfire risk)
- the costs of the underground transmission lines need to be re-examined, with some submissions referencing reports completed by Amplitude Consultants and Transgrid in 2023. Comments suggested:
  - the cost of placing transmission lines underground has been overstated on other transmission line projects (Humelink)
  - the costs would reduce if the undergrounding of transmission lines occurs on a large scale across the transmission grid
  - the topography and length of the transmission lines proposed by the project suggests undergrounding should be considered based on TransGrid's 2023 report to the Standing Committee on State Development
  - the costs of overhead transmission lines would increase if it accounted for the fair compensation to landowners, the environmental impacts and social costs
  - long term benefits of underground transmission lines have not considered the elimination of operating constraints within the easements when compared to overhead transmission lines, and the cost of undergrounding transmission lines is decreasing and should be a requirement for any future developments.

Submissions also queried the timing of any decision on the project prior to the outcomes of the NSW Upper House Committee's inquiry into underground transmission lines (expected in March 2024), and the project should not be determined until the inquiry is complete and the findings considered.

## Response

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. Based on the factors outlined in section 2.7.3 of the EIS, locating high voltage transmission lines underground is not considered to be a viable option for this project.

Undergrounding the transmission lines would involve excavation of a trench, or multiple parallel trenches where more than one high voltage transmission circuit is required, over the entire length of the alignment. Reactor switching stations the size of New Wollar Switching Station would be required around every 40 kilometres along the underground transmission alignment. A reactor switching station is a facility where underground cables emerge from the ground and are connected to an above ground structure and terminated. They are used to ensure safe voltages and operating conditions are maintained. These have the potential for significant disturbance to agricultural activities, biodiversity and heritage as well as increasing project costs for construction and maintenance, compared to overhead transmission lines.

An underground transmission line would have a more favourable impact in terms of visual amenity (as most of the transmission line infrastructure would be placed underground), aerial operations, easement width and avoidance of bird and bat strikes (and associated biodiversity impacts). However, it would have a number of greater negative impacts relative to the project as proposed. Environmental and engineering constraints associated with undergrounding of project transmission infrastructure include:

- 500 kV or 330 kV transmission lines underground requiring more extensive clearing of vegetation associated with trench excavation. As a result, underground transmission lines would have a significantly greater impact on biodiversity than overhead transmission infrastructure with additional cost to offset impacts

- significant visual impacts associated with vegetation removal and the presence of the large reactor switching stations
- an easement where land use is more restricted when compared to overhead transmission lines, as there would be restrictions on vehicles mass, depths of excavation or ploughing, depths of planted material, placement of fill material. Agricultural impacts would be further exacerbated by vegetation growth in the easement being restricted by the shallow depth of soil and heat emanating from the underground transmission lines
- repairing a cable fault can be challenging and time-consuming compared to an overhead line resulting in increased time required to restore the power supply
- noise levels associated with above ground reactor switching stations would introduce a new noise source. It is important to note that the noise and vibration assessment for the project as proposed identified one dwelling as experiencing a negligible level of exceedance during the night time period for corona noise. There were no exceedances of operational noise levels for switching stations or energy hubs.

The Legislative Council's Standing Committee on State Development conducted an inquiry into the feasibility of undergrounding transmission infrastructure for renewable energy projects due to the rapid transformation of the NSW electricity system. A report from the inquiry was published in August 2023. The findings included that undergrounding transmission infrastructure would involve higher costs and a longer construction period (Legislative Council, 2023).

The Select Committee on the Feasibility of Undergrounding Transmission Infrastructure for Renewable Energy Projects was established in September 2023 to inquire and report on the feasibility of undergrounding. EnergyCo's submission to the Select Committee set out the physical challenges, operational reliability, maintenance requirements, environmental and economic impacts associated with placing transmission infrastructure underground (EnergyCo, 2023f).

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## 4.1.7 Transmission line design – alignment alternatives

### Submission ID numbers

39, 43, 45, 48, 50, 149, 208, 213, 256, 282, 289, 298, 331, 332, 367, 368

### Summary of issues

Sixteen submissions requested EnergyCo consider alternative alignments for the 500 kV or 330 kV transmission lines. This included requests that:

- project infrastructure should be located on land that is proposed to host solar and wind farms to avoid other private property holdings
- a straighter and cheaper design should be considered that uses NSW Government owned land
- alternative routes which reduce the impact to biodiversity should be considered, with specific mention of critically endangered species and communities.

Submissions also requested alignment changes for sections of the project, specifically:

- alternative route(s) that do not pass through the centre of agricultural properties, primarily due to the impact to agricultural land and practices, farming infrastructure and property improvements
- alternative route(s) for the 330 kV Cassilis connection:
  - within a property between Turill Bus Route and Ulan Road, Turill, to minimise impacts on the property
  - within a property south of the Golden Highway to minimise impacts on two residential dwellings
  - within a property near Rotherwood Road, Cassilis to avoid an area requested by the landowner and to avoid a stand of trees
- alternative route(s) for the 330 kV Coolah connection:
  - that uses Tongy Lane, Uarbry, which is geographically flatter compared to the terrain of the proposed alignment, and therefore would lead to lower costs
  - within a property in Uarbry to avoid a newly constructed residential dwelling
- alternative route(s) for the 500 kV New Wollar Switching Station – Merotherie Energy Hub connection:
  - within a property in Stubbo/Cope to minimise the high visual impact identified at the private residence
  - within a property in Cope that moves the alignment to the north to minimise impacts on a residential dwelling, threatened species, a farm dam, farming and quarry land uses and a proposed renewable project within the property
- alternative route(s) for the 500 kV Merotherie Energy Hub – Elong Elong Energy Hub connection in Tallawang and Dunedoo, which would position the alignment further south to avoid more productive agricultural land and areas of ecological value within a property, and to avoid impacts to Spir Road Cottage (CWO-22-HH08) and a graveyard
- alternative route for the 330 kV Goolma connection from Elong Elong Energy Hub so that it crosses Dapper Road further west to the proposed alignment.

## Response

### General alignment alternatives

In developing the transmission line alignment EnergyCo has sought to occupy the same land as renewable energy development to avoid placing transmission lines in adjacent properties where possible. As noted in Section 4.1.2 of this report, around 70 kilometres of the project transmission alignment is co-located within renewable energy developments where there is a willing host landowner, or where the transmission line follows an alignment with pre-existing agreements in place.

A straighter and cheaper design that uses Government owned land is not always possible for the following reasons:

- the presence of Government owned land is fragmented and isolated and does not lend itself to beneficial utilisation for a transmission line project that connects renewable energy developments and energy hubs to the NEM
- National Park estate such as Goulburn River National Park and Durridgere State Conservation Area (SCA) are Tier 1 constraints due to their conservation status. However, a portion of the project was realigned to traverse the SCA to align with the approved Liverpool Range alignment and in line with existing landowner agreements.

As noted in section 2.7 of the EIS, EnergyCo moved the study corridor into mining areas south of Goulburn River National Park in response to strong community preference to move the corridor off the Merriwa Cassilis plateau into public/disturbed lands to avoid large, contiguous areas of BSAL.

In terms of avoiding biodiversity values, this is a clear legislated requirement for proponents under the *Biodiversity Conservation Act 2016*. Where avoidance or minimization of impacts is not possible, proponents are required to offset unavoidable impacts in line with the NSW Biodiversity Offset Scheme. Whilst the avoidance of biodiversity values is a recognised requirement, complete avoidance is not possible for this project when considering other important factors such as offset distances to dwellings, avoiding mapped BSAL, and co-locating with renewable energy developments. It is also noted, at the time of developing an alignment, ecological surveys were not readily available, and the best available mapping and aerial imagery was used to inform project decisions.

The transmission line alignment has been located to avoid BSAL, high value biodiversity areas and Aboriginal heritage, and avoid encroaching within offset distances (500 metres) from dwellings where possible. Where the transmission line traverses grazing land, the activity can continue, noting any potential impacts to farm infrastructure within the transmission line easement such as fences, sheds or dams would be relocated as needed, at the cost of the project. Where the transmission line traverses land used for cropping, the activity can continue subject to some restrictions as per the easement conditions. The nature of these restrictions on the landowner are considered by the parties when assessing compensation.

### **Specific alignment adjustments – 330 kV Cassilis connection**

The 330 kV Cassilis connection south of the Golden Highway follows the approved Liverpool Range transmission alignment, however the alignment has been adjusted following consultation with the landowner to minimise impacts on two dwellings located within the property holding. The proposed transmission line adjustment is described and shown in Chapter 3 of the Amendment Report.

Additional amendments have been made to the Cassilis connection to minimise the impacts on nearby dwellings, this includes alignment adjustments near Rotherwood Road, and between Turill Bus Route and Ulan Road. Both adjustments have been made in consultation with landowners to minimise impacts on dwellings and are described and shown in section 3.2.1 of the Amendment Report.

### **Specific alignment adjustments – 330 kV Coolah connection**

The 330 kV Coolah connection aligns with the Valley of the Winds development layout and with existing agreements between affected land owners and the developer. However the alignment has been adjusted following consultation with the landowner to minimise impacts on a new dwelling in Uarbry. The proposed amendment is described and shown in Chapter 3 of the Amendment Report.

An alternative alignment that uses Tongy Lane further to the east would require additional crossings of the Talbragar River, and an increase in transmission line length, and has therefore not been proposed.

### **Specific alignment adjustments – 500 kV Merotherie Energy Hub – Elong Elong Energy Connection**

Realigning the 500 kV Merotherie Energy Hub – Elong Elong Energy Hub connection is not proposed. A review of the alignment presented in the EIS, between Tuckland road and the Tuckland State Forest was investigated, both to the north and south. Based on a number of factors including the location of proposed renewable energy projects, property boundaries, the proximity to sensitive receivers, biodiversity values, and the overall line length, the most efficient alignment, with the least impacts was considered to be that presented in the EIS.

## Specific alignment adjustments – 330 kV Goolma connection

The 330 kV Goolma connection has been adjusted to cross Dapper Road further west of the Elong Elong Energy Hub to minimise impacts on a dwelling previously located close to the easement following consultation with a landowner. The proposed amendment is described and shown in Chapter 3 of the Amendment Report.

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## 4.1.8 Future extensions to the project

### Submission ID numbers

54, 363

### Summary of issues

A submission questioned what future extensions are being considered, including extensions to Burrendong, extensions towards Gilgandra and Tooraweenah, or an extension from Wollar to a new energy hub at Stubbo. The submission requested that EnergyCo release any information on these routes so this can be considered alongside this project, and that engagement with those communities should commence.

Another submission questioned if the EIS is considered invalid if EnergyCo does not release information on planned future extensions.

### Response

The NSW Electricity Infrastructure Roadmap and NSW Network Infrastructure Strategy outline the coordinated approach to deliver transformational change and meet the renewable energy generation targets across a 20-year horizon. The NSW Network Infrastructure Strategy includes further options for each REZ under the Secure Now and Plan for the Future categories. The options identified for the Central-West Orana REZ include:

- an additional 2.3 GW capacity by 2038, delivered by upgrading the Merotherie-Elong Elong lines to 500 kV, with an extension to Burrendong and upgrade in the Mt Piper area (anticipated delivery in the 2030's)
- an additional 3.5 GW capacity if needed, delivered by utilising the Merotherie-Elong Elong line to its full capacity, with extensions to the Gilgandra-Tooraweenah area and Stubbo (anticipated delivery in the 2040's).

These extensions to the project are not currently being scoped and developed. Any planned extensions to the transmission network would be further investigated developed in accordance with the NSW Network Infrastructure Strategy. As Infrastructure Planner, EnergyCo will develop the design of each option, with detailed stakeholder engagement, before recommending a network solution to the Consumer Trustee for authorisation.

The preliminary study corridor developed by Transgrid and released in 2020 included an option to extend the new transmission infrastructure for the Central-West Orana REZ south of Wellington to Lake Burrendong. Extension of the transmission network further south from Elong Elong towards Burrendong may be investigated in the future and would subject to a separate assessment and approval.

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## 4.1.9 Community benefits scheme

### Submission ID numbers

138, 248, 353

### Summary of issues

Submissions raised concern that that Community Benefits Fund will be spent in larger population centres (such as Dubbo and Mudgee) and not equitably directed to compensate landowners or communities that are adversely impacted by the project or renewable energy projects in the Central-West Orana REZ.

One submission stated that the lack of community involvement in the development of the framework for the Community Benefit Fund means that the community is unlikely to be successfully empowered.

One submission requested that guidelines should be developed to ensure that projects funded by the Community Benefits Fund deliver community benefits and financial long-term benefits, and that the projects selected are informed by community engagement to ascertain community wants and needs.

### Response

A Community and Employment Benefits Program is being developed by EnergyCo to deliver tangible benefits to regional communities hosting new energy infrastructure. It sets out the framework through which funding is allocated to initiatives to minimise REZ cumulative impacts and to achieve a community or employment outcome in the REZ. The Program represents the NSW Government's commitment to share the benefits of the renewable energy transition with regional communities.

The Program will be funded by a mix of access fees payable by renewable energy generators connecting to a REZ and/or fees payable by network operators that develop transmission infrastructure as part of a REZ. The NSW Government is forward funding the investment upfront and will recoup these costs once access fees are paid in the future.

In October 2023, the NSW Government announced communities in the Central-West Orana Renewable Energy Zone will receive \$128 million over the next four years to deliver community projects and employment opportunities with additional funding to be provided over the life of the REZ.

Projects that can be funded under the Program must align with the "community purpose" and "employment purpose" definitions prescribed in the Electricity Infrastructure Investment Regulation 2021. The NSW Government is working closely with local councils, community and First Nations organisations, renewable energy companies and other stakeholders to identify and fund community priorities and long-term legacy programs in the region. The Program is scheduled to commence in April 2024.

The types of projects that could be funded include:

- public infrastructure upgrades
- housing and accommodation
- training and employment programs
- health and education programs
- support for energy efficiency and local rooftop solar, and
- initiatives for First Nations people.

Initiatives funded under the program will be delivered through three streams:

- grants to targeted groups (e.g. local community groups, First Nations organisations, employment and training providers, councils)
- partnerships with agencies (e.g. NSW Government agencies that can deliver a community or employment outcome for the REZ)
- direct investment by EnergyCo (procurement or commissioning).

All information will be published on Energy Co's website ([www.energyco.nsw.gov.au](http://www.energyco.nsw.gov.au)), including:

- guidelines setting out eligibility and assessment criteria for grant rounds
- information describing community and employment benefit opportunities identified during consultation and engagement
- information on the timing and availability of funds
- list of funded programs, services or infrastructure including the delivery partner and other relevant information.

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## 4.2 Project description – operation

### 4.2.1 500 kV transmission lines – New Wollar Switching Station – Merotherie Energy Hub connection

#### Submission ID numbers

264

#### Summary of issues

One submission raised concerns that the New Wollar – Merotherie Energy Hub connection would be approximately 240 metres from their dwelling in Stubbo. However, the EIS states that transmission lines should be located at least 500 metres from existing dwellings to minimise visual impacts.

#### Response

The design development of the project from the identification of the revised study corridor through to the amended project has aimed to avoid or minimise potential impacts. Where practicable, the alignment has been located at least 500 metres from existing dwellings to minimise impacts to visual amenity. It is acknowledged that in some locations along the project alignment the transmission line easement is within 300 metres of dwellings due to competing environmental and technical constraints. Based on a number of factors including the location of proposed renewable energy projects, property boundaries, the proximity to sensitive receivers, biodiversity values, and the overall line length, the most efficient alignment, with the least impacts was considered to be that presented in the EIS. Where this occurs EnergyCo have adopted a balanced approach to corridor planning to determine the most appropriate project alignment.

At the location referenced in the submission, consultation with the landowner has continued since the exhibition of the EIS, and as such the transmission line alignment has been refined to provide additional clearance between the dwelling and the transmission line alignment (to around 320 metres).

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## 4.2.2 Transmission line tower heights

### Submission ID numbers

282, 292

### Summary of issues

Two submissions raised questions about the height of the transmission line towers.

It was questioned whether the height of transmission line towers was designed to allow for existing agricultural machinery and practices, and whether the transmission line towers could increase in height to accommodate this. The submission suggested that if not, EnergyCo should replace any existing agricultural machinery that is too tall to fit under the transmission lines.

### Response

The minimum clearance from ground to transmission lines is set out in *Australian Standards 7000 Overhead Line Design (AS/NZS 7000:2016)*. The project has adopted additional clearance from these minimum levels with the minimum ground clearance for 330 kV lines being nine metres and minimum ground clearance for 500 kV lines being 11 metres.

Vehicles and machinery can pass underneath transmission lines if they meet the height restrictions outlined in the transmission line easement conditions. In most cases, the height limit for vehicles and machinery travelling under transmission lines would be 4.3 metres, unless otherwise agreed with EnergyCo. This limit is imposed to provide safe electrical clearance from the transmission line at its lowest ground clearance permitted as defined in Australian Standards.

Where landowners require machinery over 4.3 metres in height to be used within a transmission line easement or need to traverse vehicles and machinery through a transmission line easement, the network operator would consider arrangements for crossing the transmission lines on a case-by-case basis. Where issues are identified in this regard, the issue would be considered in the negotiations for the acquisition of the easement.

EnergyCo have published a fact sheet on living and working near transmission line easements, which provides additional information (<https://www.energyco.nsw.gov.au/sites/default/files/2022-09/cwo-rez-fact-sheet-living-working-transmission.pdf>).

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## 4.2.3 Consideration of network losses

### Submission ID numbers

269

### Summary of the issue

One submission raised concerns that the scale of existing transmission losses was not assessed in the EIS, specifically the energy losses or the additional generation required to make up the shortfall.

### Response

#### How network losses occur

Network losses occur as power flows through transmission lines and transformers. Historically, the electricity system has relied on large generators for its electricity. However, the requirements of the transmission network are changing with renewable energy generation and storage projects often best located at the remote edges of the existing grid where the better wind and solar resources are located and where new transmission needs to be built to connect these generators into the system.



As more generator projects connect to the grid, congestion on the network impacts generator dispatch and results in an inefficient market and ultimately higher wholesale energy prices. The amount of efficient generation dispatched into the market is calculated by taking into account Marginal Loss Factors (MLF). The MLF calculates the losses through the power system for a certain generator versus a different generator dispatching the same energy from a different location.

Central-West Orana REZ is designed to improve the MLF outlook for large scale generation by connecting to a more substantial part of the NSW shared transmission network through a 500 kV connection. The use of 500 kV means more power with lower losses due to the higher voltage.

MLF is calculated by AEMO for the entire network in NSW and AEMO will also calculate the MLF for Central-West REZ once it is constructed as part of the integrated NSW power system.

### **The roles of the REZ Access Scheme**

The coordinated planning of generation, storage and network investment that underpins the Central-West Orana REZ, including the active coordination of the technology mix within the REZ, is expected to reduce the amount of network losses experienced by energy generators by providing more certainty on the capacity of the transmission network in future years within the boundary points of the REZ.

Access schemes are a key part of the NSW Governments plan to coordinate and encourage renewable energy and storage investment in REZs and realise the objectives of the NSW Electricity Infrastructure Roadmap and the *Electricity Infrastructure Investment Act 2020*. An access scheme is intended to enable efficient investment in generation, storage and transmission infrastructure in the long-term interest of consumers.

Generation and storage projects that wish to connect to network infrastructure which is subject to an access scheme will need to apply for an access right through a competitive tender. Access right holders will be charged access fees that include components to fund community benefit and employment programs. REZ access schemes will:

- govern the volume of projects that may be granted access rights to connect to REZ network infrastructure and define the terms and conditions of the access rights
- enable investment in new, low-cost generation and storage projects by providing increased certainty of curtailment risks for access right holders while maintaining an efficient level of utilisation of the REZ scheme infrastructure
- create a streamlined connection process for projects that will improve connection timeframes, provide greater certainty and reduce re-work and costs compared to the open-access connection process.

The proposed transmission infrastructure would be designed and constructed to minimise transmission losses across the network, however transmission losses are not an issue that pertain to planning approvals (and as such are not addressed in the EIS). Transmission losses are regulated by the Australian Energy Market Commission (AEMC) under the National Electricity Rules, and subject to detailed design.

Approaches to minimise energy loss include:

- optimising transmission line design to minimise resistance, and/or using conductors with low resistivity and advanced technology to regulate voltage and optimise energy transfer
- using high quality transformer materials, optimising transformer design and implementing efficient cooling mechanisms.

A detailed assessment of the efficiency of the proposed infrastructure is not included in the EIS and would be subject to detailed design.

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## 4.2.4 Decommissioning

### Submission ID numbers

30, 97, 116, 177, 217, 254, 283, 379, 381

### Summary of issues

Nine submissions queried the decommissioning of the project including transmission line towers, energy hubs and switching stations. The following questions were raised:

- what would happen to the infrastructure during decommissioning
- where would waste be disposed of during decommissioning of project infrastructure
- would the government commit to decommissioning infrastructure, as required in the petroleum industry
- how does the EIS ensure that decommissioning of infrastructure would follow the correct procedure for removal and rehabilitation of land.

### Response

The project has been designed and developed with the intention that it would be operational over a long period of time (at least 35 years as a minimum). As such, the nature and timing of any potential decommissioning of the project is difficult to predict. Should decommissioning of project infrastructure required in the future, it would be conducted in accordance with the conditions of the project approval.

The project infrastructure would be removed, and the operation area would be stabilised and appropriately rehabilitated in consultation with the landowner. Waste generated during decommissioning would be handled based on its potential for reuse, recycling or disposal, in accordance with legislation, policy and guidelines at the time of decommissioning.

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## 4.3 Project description – construction

### 4.3.1 Construction-phase rehabilitation

#### Submission ID numbers

39

#### Summary of issues

One submission queried what rehabilitation would occur within the construction area during and after construction.

## Response

### Rehabilitation

The demobilisation and rehabilitation of land used during construction would be carried out progressively as construction activities are completed. EnergyCo has provided each affected landowner with an overview Property Management Plan through the acquisition process. The overview Property Management Plan outlines the actions the Network Operator will take in negotiating access, mitigating impacts, managing biosecurity and rehabilitation of impacted areas.

Further to the overview Property Management Plan provided to each impacted landowner, the Network Operator will prepare specific Property Management Plans for each impacted property. Mitigation measure LP3 commits to the undertaking of pre-condition assessments of the construction area to determine the existing condition of assets, infrastructure, utilities and the general condition of the land. The pre-condition assessments would inform the requirements for rehabilitation by the Network Operator. Areas disturbed by construction will be stabilised and appropriately rehabilitated in consultation with the relevant landowner as per any relevant requirements in Property Management Plans (mitigation measure LP9).

As described in Section 3.5.4 of the EIS, rehabilitation activities would typically involve:

- removal of all construction plant and equipment, and all materials not required during operation, including any remaining waste material
- removal and/or handover of construction compounds and workforce accommodation camp sites to EnergyCo
- removal of any temporary site buildings and temporary environmental controls
- rehabilitation works, including rehabilitation of construction areas, compounds and workforce accommodation camps, water infrastructure facilities, natural drainage in areas where temporary facilities were provided, fences, gates and other agricultural infrastructure which may have been damaged during construction. Land subject to a temporary lease agreement would be rehabilitated to its pre-existing condition where feasible and reasonable
- in other non-operational locations, site restoration would be undertaken to make good any disturbances caused during project activities.

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### 4.3.2 Workforce accommodation camps

#### Submission ID numbers

31, 53, 59, 64, 230, 233, 284, 285, 287, 289, 319, 343, 363, 375, 381

#### Summary of issues

There were 15 submissions that raised queries about the workforce accommodation camps, requesting additional details, including:

- building details for the workforce accommodation camps
- information on the management of the workforce accommodation camps
- if additional medical practitioners would be stationed at the workforce accommodation camps
- decommission details and what would happen to the workforce accommodation camps when construction is completed.

Concerns were raised that the workforce accommodation camps would be upgraded during construction to accommodate additional workers without consent, and it was also raised that the workforce accommodation camps will be made available for use by other projects in the

Central-West Orana REZ. It was suggested that the power supply required for the workforce accommodation camps should be 100 per cent renewable energy.

One submission also suggested that given the size of the workforce accommodation camp at the Merotherie Energy Hub, it should not be described and assessed as an ancillary development for this project.

## **Response**

The indicative size and layout of workforce accommodation camps would be finalised during detailed construction planning. However, the indicative location of the workforce accommodation camps is included in Figure B-1 of Appendix B of the Amendment Report.

The workforce accommodation camps would be managed by the Network Operator in accordance with the project approval and the mitigation measures identified in the EIS. Each of the workforce accommodation camps would include first aid facilities and medical practitioners, to minimise impacts of the construction workforce on local and regional health services.

Electricity supply to the workforce accommodation camps and construction compounds would be required throughout construction and would likely be provided by a connection to the Essential Energy distribution network. Generators would be used where it is not practicable to obtain power from the local grid or using solar panels. The final source of electricity supply to all temporary construction facilities would be confirmed through detailed construction planning.

The workforce accommodation camps have been designed to provide adequate provisions for the peak construction workforce of the project and are not expected to be upgraded. Any future upgrades or augmentation to the workforce accommodation camps to facilitate additional workers that are not consistent with the planning approval would be considered a project modification. Approval for any modification would be sought in accordance with the requirements of Division 5.2 of the EP&A Act.

The workforce accommodation camps are expected to operate for the duration of construction. At the end of construction, the workforce accommodation camps would be demobilised, and the sites would be cleared of any temporary infrastructure and equipment, and then rehabilitated.

Both of the workforce accommodation camps are defined as ancillary development, as their primary purpose is to provide construction support for the project, being the construction and operation of new electricity transmission infrastructure, energy hubs and switching stations within the Central-West Orana REZ.

Although the workforce accommodation camps are considered an ancillary component of the project, this does not change the approach to the assessment of potential impacts associated with the workforce accommodation camp at this location. The construction and operation of the Merotherie workforce accommodation camp has been assessed as part of the project in the EIS. Where required, mitigation measures relevant to the establishment and use of this ancillary facility have been provided.

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### **4.3.3 Vegetation clearing regimes**

#### **Submission ID numbers**

47

#### **Summary of issues**

One submission queried if vegetation would be cleared by machinery or chemically by sterilising the soil.

## Response

Vegetation clearing would be completed using machinery. Mechanical and chemical weed control will be completed in consultation with landowners (as outlined in mitigation measure B7).

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### 4.3.4 Construction workforce

#### Submission ID numbers

381

#### Summary of issues

One submission queried if overseas workers would be employed for the project.

#### Response

The workforce for the project would consist of persons who can legally work in Australia.

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### 4.3.5 Resource use and materials

#### Submission ID numbers

165, 347, 362, 392

#### Summary of issues

Four submissions raised queries regarding resource use and the materials associated with construction of the project. Submissions generally objected to the large number of resources required for this project, with one submission noting the production of high voltage transmission lines are dependent on coal fired generation. Specifically, further information was requested, including:

- details on the sourcing of material for the project
- details on the true financial cost of the materials, inclusive of mining and shipping of raw materials, manufacturing and shipping manufactured materials to site, and access preparation, installation and commissioning, rehabilitation of the site, maintenance, disposal and recovery of land during decommissioning.

#### Response

It is recognised that the construction of the infrastructure would involve significant resources.

In terms of the need for coal fired electricity generation, as noted by Section 4.3.2, energy supply during construction would primarily be through a connection of the construction site offices and workforce accommodation camps to the Essential Energy distribution network., which would incorporate a mixture of coal, renewable and other sources. A detailed summary of resources and materials required for the construction of the project is provided in section 5.9.3 of the EIS. Construction material and supplies would be locally sourced in consultation with resource providers, where practicable, to benefit the local economy. Materials that are not available locally or are not available at the required quantity would be sourced from other locations within NSW, or within Australia if not available in NSW.

Some project components are not produced in Australia and would be sourced from overseas, such as steel and specialist equipment including synchronous condensers and electrical switchgear and some project components. Table 3-8 in section 3.5.9 of the EIS, provides additional details on the anticipated source or origin of the material. All quantities in the EIS have been estimated based on

the current project design and would be subject to further refinement during further design development and detailed construction planning.

Consistent with the principles of the circular economy, opportunities for reuse and the use of recycled and sustainable materials would be identified during the subsequent phases of the project design and construction, for example, supplementary cementitious material content in concrete, recycled aggregate products and recycled steel. Material selection would be undertaken with consideration to optimising durability (thus reducing the frequency or need for replacement) and minimising embodied energy and carbon footprint.

The total financial cost of materials for the project would be subject to detailed design and construction planning.

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## 4.3.6 Property adjustments

### Submission ID numbers

206

### Summary of issues

One submission queried the description of ‘property adjustment works’ in the EIS and questioned if this refers to private properties. The submission also requested an example of property adjustment works be provided.

### Response

Property adjustment works would occur on private properties in consultation with the affected landowner and in accordance with the overview Property Management Plan and individual Property Management Plans for individual properties. An example of property adjustment works might include the relocation of existing infrastructure on properties, such as fencing or tanks, as required. The Network Operator would work with landholders to document any specific property adjustment works in the individual Property Management Plan.

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## 4.3.7 Water supply and resources

### Submission ID numbers

47

### Summary of issues

One submission queried where the water required during construction would come from, specifically where the water would come from for the wastewater treatment plants.

### Response

EnergyCo recognises the concerns raised in public submissions regarding the project’s water demand, and the impact it may have on an important resource for the community. EnergyCo also recognises water availability is a critical matter for the community having experienced drought and bushfires in recent history.

The analysis undertaken for the EIS estimated the peak construction phase water need for the project is 700 megalitres of water per year during construction. Of this total quantity, approximately 450 megalitres would be potable water, with the remaining 250 megalitres being non-potable.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres

of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

The actual water usage is expected to vary during the construction period depending on the nature and extent of construction activities taking place. Water would be required for maintenance activities, but the operational water demand would be minor.

Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater from the treatment plant at each of the workforce accommodation camps (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under water access licences for the project
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (non-potable water)
- reuse of treated mine water (non-potable water), where it meets reuse requirements.

Since exhibition of the EIS, EnergyCo has been in consultation with a water broker to identify available surface and groundwater sources that can meet the project's water supply requirements. Based on a review of the water trading market, it was found there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard, EnergyCo has been advised sourcing water from existing entitlements is a feasible and realistic option for the project. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

To supply the potable water demands of the project (associated with workforce personnel) would be purchased from council-owned potable water supplies in Dunedoo and Coolah (in the Warrumbungle LGA) and Gulgong (in the Mid-Western Regional LGA) where possible. Other sources would be investigated if these council owned supplies are not able to supply water to the project.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the CWO REZ by improving access to safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

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## 4.3.8 Utilities

### Submission ID numbers

363

### Summary of issues

One submission raised concerns about the telecommunications network and whether upgrades to the network should be completed prior to the commencement of construction, as network connections are already poor and may get worse due to the increased population.

### Response

A survey of existing coverage of the telecommunications network was completed for the project, in addition to consultation with the telco authority in relation to the impacts of the project on the telecommunication network.

Several telecommunication solutions are being investigated by the Network Operator to provide both the coverage required for the project and reduce the risk of network congestion and capacity, due to the increased workforce associated with the project.

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## 4.4 Statutory context

### 4.4.1 Planning approval process

#### Submission ID numbers

27, 57, 58, 62, 63, 64, 66, 74, 78, 102, 138, 206, 250, 251, 257, 269, 277, 286, 292, 299, 301, 334, 348, 360, 361 363, 364, 375

#### Summary of issues

Twenty-eight submissions raised concerns about the planning approval process in NSW, with particular focus on the duration of the public exhibition period of the EIS and the time allocated for the community to submit their submissions. Many of these submissions highlighted the time constraints experienced by the community to be able to complete a thorough review of the EIS and supporting technical studies. Specifically, the submissions expressed concerns regarding:

- the limited duration of the EIS's public exhibition period of twenty-eight days (as stated in the submission), which did not allow sufficient time for the community to review and make a submission on the project, particularly due to the size and complexity of the EIS and supporting technical papers
- one submission requested the extension of the submissions period and sought further clarification as to why the compulsory acquisition letters were distributed to property owners prior to the approval of the project
- the accessibility of the EIS on the DPHI website and the navigation challenges experienced by the general public when submitting submissions online through the NSW planning portal
- a lack of transparency on the planning process and approval pathway of the project and detailed information provided by EnergyCo and DPHI, impeding the community to make informed submissions.



One submission expressed concern regarding the statutory context under which the EIS was prepared. The submission commented that if approved, the project would discard appropriate planning principles and negatively impact regional communities, as the EIS:

- did not provide proper outline of the statutory context of the Central-West Orana REZ, in particular the electricity system in NSW which is governed by the National Electricity Law and Rules
- did not align with the objectives of the *Energy and Utilities Administration Act 1987*.

The timing of the EIS being made public was questioned, considering that the landowner agreements and discussions were still in process, and not yet finalised with the impacted landowners. The submission stressed that the EIS was misleading and made assumptions on landowner's alignment with the project.

## Response

### EIS public exhibition

The exhibited EIS has been developed in accordance with the established planning process requirements under the NSW EP&A Act (specifically, the project was declared CSSI under section 5.13 of the Act) and the Commonwealth EPBC Act due to its impact on 'Matters of National Environmental Significance' (MNES) associated with biodiversity).

As CSSI, the project is subject to a statutory requirement for an exhibition period of 28 days. The EIS and accompanying technical papers were placed on exhibition from Thursday 28 September 2023. As a result of community feedback early in the 28-day exhibition period, the exhibition period was extended by an additional two weeks until Wednesday 8 November 2023, to allow more time for the community and stakeholders to review the EIS and make a submission.

### Accessibility of the EIS

The process and guidance for making submissions, and the operation of the Major Projects website, are managed by DPHI.

The details on how to make the submission were included in the EIS as per the DPHI's regulatory guidelines. Additional details were provided by EnergyCo via notifications, project updates, and fact sheets (including how to make a submission). Community sessions were also facilitated during the EIS public exhibition to ensure the public had a chance to ask questions, state any concerns etc. These public sessions included information boards, project team members and printed fact sheets to help with the understanding of the project and EIS. A 'digital EIS' which allowed easy navigation of the documents and effective mapping and summary information was also placed online at the same time as the EIS went on public exhibition.

### Transparency of the planning process

Any additional details sought by the public and agencies have been addressed in this Submissions Report, drafted in accordance with the guidelines for preparing submissions reports for State Significant Infrastructure (SSI). This Submissions Report, along with the accompanying Amendment Report, ensures transparency and accountability in addressing community and agency feedback.

### Statutory context

The project's alignment with the *Energy and Utilities Administration Act 1987* has been outlined in Table C-1 in Appendix C of the EIS. The details provided in this table offer an overview of how the project aligns with the relevant provisions of the Act.

The distribution of opening letters for property acquisitions was initiated to align with the *Land Acquisition (Just Terms Compensation) Act 1991* (the Just Terms Act), considering the lengthy nature of the acquisition process. The approach is similar that that adopted on other large scale

infrastructure projects in NSW, and it ensures that land is available for construction in a timely manner, if the project is approved. The acquisitions are proceeding independently, and the EIS has not made any assumptions about landowner agreements.

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## 4.4.2 Detail provided in the EIS

### Submission ID numbers

42, 57, 58, 62, 63, 64, 71, 74, 83, 97, 116, 136, 147, 154, 171, 184, 185, 213, 217, 220, 221, 250, 258, 265, 280, 283, 286, 292, 301, 360, 363, 364, 373, 395, 396

### Summary of issues

Thirty-five submissions expressed concerns regarding the level of detail in the EIS, specifically related to:

- the complexity and size of the EIS was raised as being a challenge for the public to read and understand, along with difficulty in interpreting the details shown on the maps included in the EIS
- the EIS was not definitive and too many project details, and predicted impacts remained unconfirmed or uncertain
- the absence of detail of management plans and detailed mitigation strategies. The submissions emphasised the need to submit detailed management plans alongside the EIS for community review and feedback, and voiced concerns that the failure to provide such plans hindered compliance with the requirements of social licence and increased uncertainty for the general public
- concern regarding a lack of details on the Network Operator and lack of detail about the financial costs of the project
- the omission of a sensitive receiver on Ulan Road.

## Response

### Complexity of the EIS

The concerns of the community regarding the scale and complexity of the EIS are noted. The level of information contained in the documentation is necessary to meet the Secretary's Environmental Assessment Requirements (SEARs) for the project and relevant guidelines outlined within specialist technical reports. This includes a description of the project, and all components and activities required for construction and operation, along with a level of assessment of the likely impacts in sufficient detail to ensure that the community and stakeholders can understand and assess its impacts.

To facilitate the community's understanding of the information contained, the EIS summarised all specialist technical reports. In addition, a summary document containing a succinct overview of the key findings was included as part of the document, and a 'digital EIS' (which allowed easy navigation of the documents and effective mapping and summary information) was placed online for a three month period from the start of the EIS exhibition period. Community events were also held during the EIS exhibition period to allow members of the community to seek information and raise questions with the project team.

Due to the geographical spread of the project, maps were produced at a range of scales depending on the information intended to be displayed. The mapping included in the EIS comprised both overview (single page) and detailed mapping, with the latter typically spanning between five and ten pages. This was dependant on the complexity of the information being presented. The mapping

content was deemed sufficient to effectively identify and communicate impacts associated with the project.

### **Predicted impacts**

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. These refinements would be generally consistent with the project as described in the EIS and Amendment Report.

If refinements are considered consistent with the planning approval (for example the detailed design is simply refining the location of project elements within the area previously assessed in the EIS and Amendment Report)), no change to the planning approval would be required, and the project construction and operation would be managed under the terms of the project's conditions of approval.

If a proposed change to the project is not consistent with the planning approval, it may be considered a project modification, requiring further environmental assessment, submission to DPHI, and the approval of the Minister for Planning and Public Spaces as a modification to the project approval in accordance with the requirements of Division 5.2 of the EP&A Act.

### **Management plans**

Consistent with industry best practice, management plans for the project are developed in consultation with relevant stakeholders following planning approval. This ensures appropriate management processes and strategies can be tailored to the project, incorporate necessary mitigation measures detailed in Appendix B, to minimise impacts identified in the EIS, and prepared in accordance with the project's conditions of approval. This industry best practice approach is known to be effective in best mitigating impacts of a project.

Management plans approved by DPHI will be made publicly available on EnergyCo's website and the Major Projects portal prior to construction, where required.

### **Network Operator**

EnergyCo has identified the first ranked Network Operator proponent for the project (ACEREZ), who is working with EnergyCo in the next phase of project. EnergyCo will continue to be involved in the delivery of the project.

### **Financial costs of the project**

The total financial cost of materials for the project would be subject to detailed design and construction planning.

### **Omission of a sensitive receiver**

The identification of sensitive receivers has been reviewed and updated for the purpose of further assessment in the Amendment Report. The dwelling on Ulan Road is identified as sensitive receiver ID 1139 and assessed in the Amendment Report.

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### 4.4.3 Adequacy of the EIS

#### Submission ID numbers

30, 31, 53, 58, 69, 71, 101, 148, 150, 166, 184, 206, 221, 230, 250, 251, 269, 279, 292, 312, 334, 348, 360, 361, 363, 375, 386, 395

#### Summary of issues

Twenty- eight submissions raised concerns regarding the adequacy of the EIS and supporting technical papers. Specifically, the following concerns were raised:

- the assessment undertaken and described in the EIS was inadequate and underestimated potential impacts. It was raised that the EIS was not compliant with SEARs and relevant Government guidelines. The validity of technical assessments and the practicality of the proposed mitigation measures was questioned
- the EIS was prepared by urban based professionals who had not been to the local area
- the EIS did not include detailed impact assessment of the project in the neighbourhoods of the Merotherie Energy Hub and impacts from the workers accommodation camp.

#### Response

##### EIS adequacy

This EIS has been prepared to address the requirements of both the State and the Commonwealth as set out in the SEARs issued by DPHI. The EIS has been prepared with regard to the *State significant infrastructure guidelines* (DPE, 2022a) (in particular *State significant infrastructure guidelines – preparing an environmental impact statement*). The technical papers prepared to support the EIS were completed considering all relevant procedures and guidelines required by government agencies.

The assessments undertaken and documented in the EIS and technical papers are consistent with accepted scientific and assessment methodologies and have considered relevant statutory and agency requirements and guidelines. A range of proposed management and mitigation measures were identified to address to reduce potential impacts associated with the construction and operation of the project, should it be approved.

##### Technical specialists

The assessments included in the EIS was prepared, reviewed, and validated by specialists in their field, and where relevant are based on data gathered from field investigations throughout the EIS preparation. Locally based specialists (such as the agricultural specialist) and those with local knowledge were engaged where available. Where required by legislation or guidelines, the relevant qualifications of specialists are included in the EIS technical papers.

##### Merotherie Energy Hub/accommodation camps

The Merotherie Energy Hub and the workforce accommodation camps were fully considered in the assessments undertaken for the EIS and Amendment Report. Consideration of the impacts on sensitive receivers nearby, comprising of residential dwellings, was undertaken, specifically in the noise, visual and air quality technical assessments. In addition, in relation to the accommodation camps proposed at Merotherie and Neeleys Lane, the traffic generated both during construction of the camps and their use was assessed as part of the project construction traffic assessment. Further to this, the Social Impact Assessment (SIA) undertaken as part of the EIS (Technical paper 7 – Social) considered the broader implications of introducing a construction workforce at the camps. Mitigation measures have been identified to minimise the impacts associated with the hubs and the camps.

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## 4.4.4 Related development

### Submission ID numbers

206

### Summary of issues

A submission raised an issue with the language within the EIS concerning the status of the planning and approvals of the project and related development, specifically:

- concern that related development would be approved without community consultation or impact assessment
- the EIS pre-empts the approval of the project and related development
- expressed that related development, particularly major road upgrades that replace road bridges (with reference to a heavy vehicle bypass) must be subject to separate assessments and approval
- that the EIS must describe the separate assessment and approvals process for related development.

### Response

Related development is development that responds to the opportunities created by the project, or which is required as a result of the project, such as generation projects. All related development projects are subject to separate planning and approval processes. This project is also subject to assessment and approval under NSW and Commonwealth legislation. This report forms part of the application for approval of the project, alongside the EIS and Amendment Report.

Each related development would be subject to impact assessment and consultation requirements in accordance with NSW Planning Framework administered by DPHI. The extent of assessment and consultation would be subject to the scale of the project. A majority of large-scale renewable energy project would be considered SSD and therefore be required to prepare an EIS, which would be publicly exhibited, and undertake consultation with the community.

The project has been amended since exhibition of the EIS to include road upgrades as described in Chapter 3 of the Amendment Report. These road upgrades have been assessed and would now be subject to approval of this project.

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## 4.5 Community and stakeholder engagement

### 4.5.1 Consultation on the project – general

#### Submission ID numbers

25, 32, 36, 38, 51, 53, 57, 63, 72, 73, 74, 95, 100, 102, 116, 138, 139, 147, 160, 177, 185, 187, 193, 197, 220, 233, 234, 245, 251, 252, 257, 258, 263, 268, 269, 274, 278, 279, 283, 312, 335, 344, 345, 348, 360, 361, 363, 385, 390

#### Summary of issue

Fifty one submissions raised concerns about the consultation process carried out for the project. Most of these submissions cited limited and inadequate consultation on the project and believed the project had not earned a social licence. There was the perception that EnergyCo's approach to engagement on the project was more of a tick box exercise, which focused on providing information rather than creating meaningful open communication with the community. Opportunities to provide

feedback on the project were considered limited and a response from EnergyCo was not forthcoming or was inadequate.

Other issues with engagement on the project generally were:

- the lack of transparency and open communication
- perception that information was incorrect or misleading
- limited consultation in Wollar and Cassilis areas
- the approach was insensitive to the well-being of the community and lacked consideration of consultation fatigue
- not enough focus on local businesses, landowners and local environmental groups, such as Dunedoo Coolah Landcare
- insufficient personal contact with neighbouring landowners and the broader landowners in the region
- insufficient engagement coverage in the region
- inconsistent information being provided by EnergyCo and developers in the REZ.

## Response

In 2020, the NSW Government engaged Transgrid, as the operator of NSW's existing transmission network, to carry out early development work to guide the planning of new transmission infrastructure for the Central-West Orana REZ.

Engagement with the community regarding the project commenced in December 2020, with the release of a preliminary study corridor in the *Study Corridor Identification Report* (Transgrid, 2021). Since that time the community has been kept informed of the project's development and invited to provide feedback. EnergyCo assumed responsibility for planning and design of the transmission corridor from November 2021.

EnergyCo has been engaging with the local community since early 2022 about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. Community and stakeholder feedback is an essential part of the development process to make sure the best outcomes for communities, energy consumers and the REZ is delivered as discussed in further detail in Section 4.5.2 of this report.

Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Over the course of the EIS exhibition 12 pop-up events and eight community drop-in sessions were held in the Central-West Orana REZ. In response to calls for more consultation with the community in Cassilis, EnergyCo held a pop-up outside the Community Hall on 17 October 2023. No in-person engagement sessions were held in Wollar during EIS exhibition. However broader notification methods such as letterbox drops and print advertisements targeted the Wollar area.

The approach to undertaking consultation balanced consideration of consultation fatigue in the region and the need to ensure the community is adequately engaged with. Consultation initially targeted community members residing in the vicinity of the project corridor and became more targeted as the project was developed. Local businesses and community groups have been notified of the project. Dunedoo Coolah Landcare was sent a notification letter advising of the EIS exhibition.

Project updates factsheets have been regularly published on the EnergyCo website since 2022. As the project has been developed, previous information on the project has been updated in line with the latest information available.

EnergyCo has been in discussion with renewable energy developers. However, the information provided by private developers is not subject to EnergyCo oversight.

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## 4.5.2 Consultation during project development

### Submission ID numbers

50, 60, 71, 138, 148, 250, 292, 348, 363

### Summary of issue

Nine submissions raised concerns that the consultation with the community during development of the project was inadequate. There is the perception that the community, including neighbouring landowners, was not given the opportunity to provide input during development of the project.

There is also the perception that EnergyCo did not give due consideration to the feedback provided during project development. Two of these submissions commented that the Community Reference Group was exclusive and ineffective, and it was perceived that the feedback provided by the group on project planning was not fully considered and responded to by EnergyCo.

It was commented that the selection of the site for the Neeleys Lane workforce accommodation camp was not completed in consultation with the Upper Hunter Shire Council and the local community, in particular the Cassilis community. Submissions were concerned the process for selecting this site was not transparent.

### Response

As further described in Section 4.1.2 of this report (and in Section 2.6 of the exhibited EIS), engagement with the community regarding the project initially commenced as part of TransGrid's study corridor development process between December 2020 and September 2021. Since that time the community has been kept informed of the project's development and invited to provide feedback at key decision points.

In November 2021, EnergyCo assumed responsibility for planning and design of the transmission corridor and engaging local communities and stakeholders to inform the development of new transmission network infrastructure within the REZ. Since January 2022, across the Central-West Orana REZ, EnergyCo has completed around 5,100 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Strong community feedback on the study corridor presented to the community by Transgrid was a critical aspect of the NSW Government's decision to relocate the corridor from the Merriwa Cassilis Plateau where there was high value agricultural land (BSAL), to a southern location that traversed mining areas.

EnergyCo removed the Uarbry Energy Hub, located south of Coolah, which was initially proposed as part of the revised study corridor. The removal of the energy hub was primarily based on the technical and environmental constraints associated with it and addressed local community concerns with significant visual impacts to communities and residences at and near Uarbry, particularly when considered in a cumulative context with the Liverpool Range and Valley of the Winds wind farm projects.

EnergyCo has also considered community and landowner feedback during the project development phase, which contributed to realigning the 330 kV transmission line connection to the LRWF, and more recently alignment changes that have been made in response to landowner feedback. These transmission line changes are described and assessed in the Amendment Report. Changes to the mitigation measures for the project as shown in Appendix B of this report been adopted in response to community feedback on the EIS.

EnergyCo established a Community Reference Group in August 2022 to provide an open forum for discussion between EnergyCo, community representatives and key stakeholders in relation to the project and Central-West Orana REZ. The CRG provides an advisory function and is not a decision-making authority for the project. The Community Reference Group aims to:

- establish good working relationships and promote information-sharing between EnergyCo, local community representatives and key stakeholders
- provide members with visibility of the project and enable them to share project information via their networks
- keep members informed about project activities, key milestones and opportunities to provide feedback
- provide an avenue for EnergyCo to seek community and stakeholder input on project matters
- allow community members to seek information from EnergyCo and provide feedback.

The Community Reference Group consists of an Independent Chairperson, four community representatives who are current residents and/or landowners in the REZ and five representatives from local community or stakeholder groups. In addition, representatives from local councils and Local Aboriginal Land Councils (LALCs) are invited to participate in the Community Reference Group. It is at these organisations' discretion if they nominate to attend the Community Reference Group meetings. Five meetings of the Community Reference Group were held prior to exhibition of the EIS.

The feedback and suggestions received from the community and stakeholders, including from the Community Reference Group, have been considered in combination with engineering, environmental, land use constraints, to further refine the project. Community and landowner feedback has formed a key role in the initial development and refinement of the project corridor. Appendix D of the EIS provides a detailed analysis of the feedback provided by community and stakeholders and how this has been addressed by the project.

Preferences for locating the workforce accommodation camps varies amongst stakeholders, with some preferring the camps to be located within existing urban centres, and others preferring a rural location away from the urban centres. EnergyCo's key considerations for selecting workforce accommodation camp locations included:

- minimising the number of camps required to minimise community impacts
- minimising travel time to the construction area
- avoiding the need for any compulsory acquisition where possible
- ensuring suitable access to the road network
- minimising clearing by using land that has already been disturbed.

Land for the temporary workforce accommodation camp at Neeleys Lane, Turill was acquired by EnergyCo via a vendor. This land was available on the open market and was acquired on a willing buyer and willing seller basis by EnergyCo. Neighbours of the property were contacted by EnergyCo via phone and/or email in July 2023 to notify them of the proposed workforce accommodation camp.



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### 4.5.3 Consultation during the preparation of the EIS

#### Submission ID numbers

50, 69, 85, 91, 148, 169, 184, 204, 206, 221, 240, 250, 254, 281, 292, 338, 348, 362

#### Summary of issue

Eighteen submissions raised concerns about the engagement undertaken with the community during preparation of the EIS.

The extent of the engagement was not considered to match the scale of the project and its associated impacts. Engagement was believed not to have adequate coverage as members of the community were unaware of the project leading up to the EIS exhibition. Limited consultation with Upper Hunter Shire Council was also raised as an issue.

Submissions believed the engagement during preparation of the EIS was not in accordance with the *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022c). One of these also commented that the engagement was only partially in accordance with the *Quality Assurance Standard for Community & Stakeholder Engagement* (IAP2, 2015).

The engagement completed during the preparation of the EIS was believed to not have adequate coverage of the community and would therefore not provide sufficient representation of community views and values. Furthermore, the concerns raised during this engagement was not addressed in the EIS.

There are concerns there was limited opportunity to provide input into the project and the engagement during preparation of the EIS did not sufficiently gather information about the environment and the community to inform the assessments. It was expressed that no direct engagement has been held in Cassilis during preparation of the EIS and none of the local community around the Neeleys Lane workforce accommodation camp have been asked what their concerns are.

Submissions raised the issue that the landowners of the family property named “Merotherie” were not asked if the same name could be used for the Merotherie Energy Hub as proposed by the project. The use of the same name is believed to have caused confusion amongst the community.

One submission was concerned that not enough evidence of consultation with indigenous persons during preparation of the EIS had been provided.

#### Response

Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ, including stakeholders in the Upper Hunter Local Government Area (LGA). In response to calls for more consultation with the community in Cassilis, EnergyCo held a pop-up outside the Community Hall on 17 October 2023.

EnergyCo regularly meets with councils to discuss the project and the development of the broader Central-West Orana REZ, including Mid-Western Regional Council, Dubbo Regional Council, Warrumbungle Shire Council and Upper Hunter Shire Council (note, amendments to the study corridor published in September 2022 extended the corridor into the Upper Hunter Shire Council). Around 75 meetings have been held with local councils since early 2022. A range of issues are discussed during these meetings, with particular focus on cumulative impacts and benefits within the REZ.

EnergyCo’s communication and engagement approach broadly aligns with *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022c) and *Quality Assurance Standard for Community and Stakeholder Engagement* (IAP2, 2015).

The feedback and suggestions received from the community and stakeholders have informed the development of the EIS. Appendix D of EIS provides a detailed analysis of the feedback provided by community and stakeholders and how this has been addressed in EIS. Consultation as part of the SIA for the EIS, including interviews and online surveys, were also completed and is addressed in Section 4.12.1 of this report.

As noted in Section 4.5.2 above, neighbours of the property proposed for the Neeleys Lane workforce accommodation camp were contacted by EnergyCo via phone and/or email in July 2023 to advise them of the proposed workforce accommodation camp.

The Merotherie Energy Hub was named after the suburb it is located in. It is acknowledged this may have caused confusion with an existing family property in the area with the same name.

Aboriginal stakeholder and community consultation and engagement activities for the project have been undertaken in accordance with the processes and methods outlined in *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b), as well as additional project-specific communication strategies to promote transparent and frequent two-way dialogue between the Aboriginal community and the project team. Further detail on consultation activities undertaken with Aboriginal stakeholders is provided in Section 4.10.1 of this report.

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## 4.5.4 Consultation during public exhibition of the EIS

### Submission ID numbers

62, 71, 78, 102, 139, 138, 148, 166, 184, 206, 221, 240, 250, 251, 252, 292, 348, 352, 353, 363, 375

### Summary of issue

Concerns about the consultation undertaken by EnergyCo during exhibition of the EIS were raised in 21 submissions.

Fifteen submissions specifically raised concerns about the organisation and running of the community information sessions, and the information provided. With regard to the organisation of these sessions, issues included the timing with locals finding it challenging to attend these sessions due to work or other commitments, and that no information sessions had been held in Cassilis.

Issues concerning the running or the information provided at the sessions included criticism that the sessions were only informational, that they provided limited opportunity to provide feedback and when feedback or queries were raised there was little or no follow up from EnergyCo. Other issues specifically with the sessions were:

- project information was poorly presented, lacked transparency, only provided content from the EIS or did not assist in understanding the EIS or supporting technical papers
- staff were not prepared to answer questions or appeared to withhold information
- the project information presented was high level and did not provide detail on the direct impacts to farming operations
- the lack of visual displays or photomontages of the project
- the booking process, specifically the requirement to book online and the need to provide personal details
- insufficient advanced notice of information sessions was provided.

Submissions expressed concerns that some people in the community did not have access to computers or may not have computer skills and therefore would have difficulty accessing information online and making a submission on the EIS. There was the perception that the submission process on the EIS was the only opportunity for the community to provide feedback on the project.

One of these submissions expressed disappointment that there was a change of EnergyCo staff during the EIS exhibition period resulting in community members having to repeat concerns to new staff.

## **Response**

As described in Section 3.4 of this report, to support the public exhibition of the EIS between late September and early November 2023, EnergyCo engaged with the community, addressing concerns and providing accurate and transparent information to deepen the community's understanding of the project, its impacts and planned mitigation measures.

Consultation activities included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop-up displays.

Community information sessions were primarily intended to provide information about the project, the EIS and the process for providing a submission through the formal DPHI process. The level of detail presented in the information session was intended to provide an overview of the project and EIS with greater detail to be found in the EIS and technical papers. Project representatives were also present at these sessions to provide answers to questions based on their expertise and the stage of the project. Printed copies of the photomontages and project fact sheets were available at each session.

Community information sessions and pop up displays were held at a range of times to provide a greater opportunity for community members with varying schedules to attend. The booking process for community information sessions was optional and bookings were encouraged so that people could register their details and the numbers of attendees could be estimated. Campaign emails were sent to more than 650 subscribed community and stakeholder members with notifications about community information sessions and pop-ups.

Throughout the public exhibition, a hard-copy of the EIS was available for viewing at council offices, EnergyCo's Office-in Dubbo, Dunedoo Post Office, Dunedoo Library and Coolah Library. The process for providing a submission the EIS was managed by DPHI as described in Section 4.4.1 of this report.

A submission to DPHI is the formal process for providing feedback on the project under the NSW Planning framework. However, EnergyCo has welcomed feedback through a range of channels including through the project information phonenumber and community email address as detailed in Section 3.4 of this report.

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## **4.5.5 Consultation with host landowners**

### **Submission ID numbers**

45, 57, 59, 64, 69, 73, 75, 100, 102, 138, 146, 149, 166, 169, 213, 220, 252, 264, 265, 290, 295, 301, 331, 352, 360, 363, 367, 368, 378

### **Summary of issue**

Concerns about approach and management of EnergyCo's engagement with landowners hosting the project have been raised in 29 submissions.

The approach to land acquisition has been perceived in some submissions as coercive and forceful. Other issues with the general approach to landowner engagement were that they felt blindsided by the notification to acquire their land and the approach taken to engagement was not sensitive to the stress felt by landowners.

Issues raised with the negotiation and valuation process were that they were tick box exercises with rushed timeframes, and lacked transparency. Furthermore it was considered that the nondisclosure agreements did not foster transparency.

Ten of these submissions expressed that landowners felt they had minimal input into location of the project on their land. Where alternative routes for the transmission line were suggested by landowners it is believed that they were not been given due consideration by EnergyCo.

An issue raised was that the communication from EnergyCo to the host landowners has been inadequate and the information that has been provided is differing from what has been submitted in the EIS. There are concerns the level of detail on restrictions and direct impacts to properties during construction and how these would be managed is not sufficient for landowners to make educated decisions. Another issue was that advice given on impacts to properties has affected property management decisions since the acquisition process has commenced and made operations more challenging.

The issues raised with regard to communication methods and property access included:

- communication being conducted via phone call rather than through written correspondence even when landowners requested otherwise
- insufficient lead time given when requests for property entry were made for the project
- EnergyCo sub-contractors did not initially comply with biosecurity measure for a property they visited
- that it was believed that EnergyCo (or its contractors) have entered properties without permission for the purpose of environmental investigations
- surveys undertaken on a property were not in the location that they were told the transmission line alignment would be.

## Response

EnergyCo has been in discussions with proposed host landowners along the alignment since early 2022. Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations, and stakeholder groups. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

In February 2022, EnergyCo released, and sought feedback on a revised study corridor for the project. The location and configuration of the revised study corridor was largely developed in response to community feedback Transgrid received on their December 2020 preliminary study corridor, in addition to technical and environmental constraints. Issues raised through community feedback included a preference to locate the alignment on previously disturbed land and avoid high value agricultural land to the extent possible leading to a revised corridor through mining lands north of Wollar.

In direct response to this feedback, the project located one major substation and over 60 per cent of the line between the New Wollar Switching Station and Merotherie Energy Hub on mining land. This represents approximately 40 per cent of the 500 kV transmission lines proposed as part of the project.

Between June 2022 and exhibition of the Environmental Impact Statement the project team consulted with host landholders, stakeholders and the community to refine the alignment. During this process the project team directly engaged with landowners on suggested alignment refinements. This included multiple site visits where engineers and planning specialists directly engaged with host landowners to understand their suggestions, concerns and property specific constraints. Not all requested changes have been adopted due to technical, environmental, property and other potential constraints, but over 70 changes to the alignment and configuration of the proposed infrastructure have been made in response to host landowner feedback.

The transmission line alignment has been further refined based on feedback received through the EIS exhibition period. Alignment changes made in response to landowner feedback on the EIS and are described in Chapter 3 of the Amendment Report.

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible.

EnergyCo is required to pay compensation for land it acquires for the project in accordance with the Just Terms Act. The acquisition process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo has encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process.

The land acquisition process was initiated in February 2023 with opening letters issued for the energy hubs and switching station sites. These opening letters all included a diagram highlighting the area of the host landowner's property proposed to host hub/switching station infrastructure. Meetings were held with landowners and neighbours impacted by the energy hubs at this time.

Opening letters were issued for transmission easements and associated transmission infrastructure in May 2023. These opening letters all included a diagram highlighting the area of the landowner's property proposed to host transmission infrastructure and/or construction activities.

Non-disclosure agreements have not been used in the property acquisition process for the project.

EnergyCo is required to pay compensation for land it acquires for the project in accordance with the Just Terms Act. The acquisition process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo has encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process.

It is acknowledged that land acquisition can be a stressful process for landowners. Landowners have been provided with an acquisition support team to help them understand their rights and obligations together with any other aspect of the acquisition process. Each landowner directly impacted by the project has a dedicated Land Acquisition Manager who acts as their point of contact throughout the acquisition. Land acquisition managers have been based in the region and generally have agricultural experience. This Land Acquisition Managers have worked to engage with landholders on project development and the acquisition process.

Whilst we recognise that landowners want as much detail on the proposed design and construction activities as possible, the detailed design is still being developed by the Network Operator. It is typical for the detailed design to not be completed until after the planning approval. This balances the need to progress the detailed design with the need to ensure that EnergyCo can genuinely consider and incorporate community and landowner feedback into the detailed design.

Every impacted landowner has been provided with an overview Property Management Plan as part of the acquisition process. This Property Management Plan provides the landholder with the principles the Network Operator will apply in managing and mitigating impacts during construction. The overview Property Management Plan provided to landholders outlines that the contractor will take all reasonable endeavours to:

- consult with the landowner and prepare property specific Property Management Plans. These will be provided at least two months before commencement of access and outline the construction program, detail of works, duration of works, and access at each property
- ensure construction access is confined to the part of the property subject to the Construction Easement
- provide the biosecurity management plan for the project if requested and establish specific biosecurity measures for each property in consultation with the landowner

- consult with the landholder to determine the appropriate management measures to mitigate impacts to agricultural operations. The contractor must take all reasonable measures to minimise the impact that construction works has on agricultural operations of the landowner
- ensure all gates used by the contractor must be returned to their closed or open state as discovered
- remain in regular contact with the landholder to ensure awareness of property operations is maintained
- undertake remediation measures post construction, including restoration of any areas that have been compacted.

In addition to the above, there are many other specifics that the contractor is committed to addressing and in consultation with landowners.

The potential impacts of the project on properties during construction and operation have been discussed with landowners. The restrictions on land within the transmission line easement for safety and operational reasons is outlined the easement agreements established with landowners and summarised in EnergyCo's Living and Working near transmission line easements fact sheet (EnergyCo, 2022), which is published online. Whilst there may be localised and specific restrictions during construction and operation, generally most grazing and agricultural activities can continue during construction and operation.

EnergyCo recognises that development of the project has resulted in uncertainty for landowners who use their land for agricultural or business operations. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. EnergyCo's land acquisition team are working with landowners to understand individual circumstances, including current and future land use and operations. EnergyCo is committed to finding ways to allow landowners activities to continue with minimal impact.

Impacts to landowners during construction are addressed in detail in EIS Chapter 7 EIS and in Section 4.6 of this report. As per mitigation measure AG3, individual Property Management Plans will be developed in consultation with each landowner, and would detail alternative access routes, communication protocols and outlined any temporary restrictions on use of the construction area. Consultation with landowners has been through phone call, email and letter exchanges. Key milestones in the acquisition process have been delivered by email or post. Written correspondence has been prioritised where requested by landowners. On occasion last minute requests for property entry have been made due to shifting project survey schedules, however property entry was contingent on consent from the landowner.

Compliance with land access protocols on private properties for field surveys is understood to be of utmost importance by the project team. Biosecurity measures for properties were communicated to and applied by project team members entering properties.

A small number of incidents have occurred where project specialists have accidentally entered an area outside their permitted area of access. These incidents were logged and notified, and corrective actions undertaken including additional land access protocols where appropriate.

Non-disclosure agreements have not been used in the property acquisition process for the project.

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## 4.5.6 Level of detail presented to the community

### Submission ID numbers

95, 102, 130, 133, 136, 148, 148, 237, 240, 248, 250, 283

### Summary of issue

Twelve submissions commented on the level of detail on the project conveyed to the community. The following concerns were raised:

- the EIS and supporting technical papers too long and complex to be understood by the community
- there was no detail about the expansions planned as part of the next stage of the project
- uncertainties and unclear project details which have not yet confirmed or fully planned
- inadequate level of detail on the direct impacts to landowners during construction and operation
- EnergyCo representatives unwilling or unable to provide answers to community queries
- non-disclosure agreements limiting publicly available project information including the purchase of Neeleys Lane workforce accommodation camp.

### Response

#### Complexity of the EIS

The concerns of the community regarding the scale and complexity of the EIS are noted. The level of information contained in the documentation is necessary to meet the SEARs for the project and relevant guidelines outlined within specialist technical papers. This includes a description of the project, and all components and activities required for construction and operation, along with a level of assessment of the likely impacts in sufficient detail to ensure that the community and stakeholders can understand and assess its impacts.

To facilitate the community's understanding of the information contained, the EIS summarised all specialist technical reports. In addition, a summary document containing a succinct overview of the key findings was included as part of the document, and a 'digital EIS' (which allowed easy navigation of the documents and effective mapping and summary information) was placed online. Community events were also held during the EIS exhibition period to allow members of the community to seek information and raise questions with the project team.

#### Future expansions

The NSW Electricity Infrastructure Roadmap and NSW Network Infrastructure Strategy outline the coordinated approach to deliver transformational change and meet the renewable energy generation targets across a 20-year horizon. No extensions to the project are currently proposed. Potential options for further development of transmission network in the Central-West Orana REZ are identified in the NSW Network Infrastructure Strategy. Any planned extensions to the project would require further investigation, and would need to be developed in accordance with the NSW Network Infrastructure Strategy (EnergyCo, 2023e).

The preliminary study corridor developed by Transgrid and released in 2020 included an option to extend the new transmission infrastructure for the Central-West Orana REZ south of Wellington to Lake Burrendong. Development of this option may be investigated in the future, would be subject to a separate assessment and approval. Further community consultation would be undertaken in the event that this option is developed further.

## Level of project detail and predicted impacts

The project as described in the EIS and Amendment Report is based upon a reference design and presents the key parameters of the project for which Energy Co is seeking approval. A reference design has sufficient detail to determine land and infrastructure requirements including the location and size of project features. The level of detail presented, and the mitigation and management measures proposed, are considered sufficient to determine the nature and scale of likely environmental and social impacts, and are consistent with the assessment requirements for CSSI projects. Detailed design and construction planning, including the development of a detailed Construction Environmental Management Plan (CEMP) and sub-plans, would be finalised following project approval. Refinements to the reference design of the project would be conducted during detailed design. These refinement would be generally consistent with the project as described in the EIS and Amendment Report. If a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. Details on the implications of project modifications are provided in Section 4.4.2 of this report.

The potential impacts of the project on properties have been discussed with landowners. The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

## Non-disclosure agreements

Non-disclosure agreements were not used on this project. Land for the temporary workforce accommodation camp at Neeleys Lane, Turill was acquired by EnergyCo via a vendor. This land was available on the open market, and was acquired on a willing buyer and willing seller basis by EnergyCo.

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## 4.5.7 Future community and stakeholder engagement

### Submission ID numbers

50, 102, 177, 184, 201, 251, 363, 386

### Summary of issue

Nine submissions made requests or suggestions regarding future engagement on the project including the following:

- request for personal notification on the determination of the project
- recommendation for future engagement staff to be qualified to handle engagement with vulnerable people and those dealing with mental health issues.
- request for notification of future public hearings or meetings
- recommendation for consultation with the Cassilis and Merriwa communities on the project
- request for the nearest RFS control in Mudgee and Coonabarabran be consulted on the project impacts
- request for updates to be provided to the community at each stage of the project including detailed design
- request for further information on how the concerns of the community have been included in the planning of the project
- request for the opportunity to comment on the planned road upgrades and that this is made publicly available to the community.



## Response

As outlined in Section 3.6 of this report, ongoing consultation with the community, landowners, government agencies and key stakeholders will continue throughout the development of the project, up to and during construction.

A pre-construction and construction Communication and Engagement Plan will be prepared and implemented to ensure landowners, businesses and local residents with the potential to be affected by construction activities are notified in a timely manner about the timing of activities and potential for impacts, and the measures that will be implemented to minimise the potential for impacts on individual properties. Consultation during detailed design would be targeted to landowners potentially affected by any refinement to the project. Project updates published on EnergyCo website and sent out via email would also be provided regularly.

EnergyCo has provided a mental health support telephone service to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned. A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support.

RFS, including the following areas, were notified of the exhibition of the EIS and invited to make a submission (and would be consulted further during detailed design in accordance with mitigation measure AF01):

- Cudgegong RFS Regional District (Mid-Western)
- Orana RFS Regional District
- RFS (Castlereagh Zone).

Following further stakeholder engagement, consideration of submissions received during EIS exhibition and ongoing development of the design and construction methodology, EnergyCo is proposing a number of amendments and refinements to the exhibited project. Further information about the proposed amendments and refinements are provided in the Amendment Report.

Road upgrades for the project were initially identified in the EIS. Details of the proposed road upgrades, including some changes to the scope of upgrades since exhibition of the EIS, have now been confirmed as being included in the scope of the project. The road upgrades are described and assessed in the Amendment Report.

This report outlines responses to issues raised by the community and Government on the project. The mitigation measures for the project have also been updated to respond to the issues raised in submissions. An updated list of mitigation measures showing changes is provided in Appendix B of this report.

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## 4.6 Land use and property

### 4.6.1 Change in land use (general)

#### Submission ID numbers

252, 254, 255, 259, 262, 269, 270, 277, 279, 280, 281, 289, 292, 297, 326, 379, 390

#### Summary of issue

Seventeen submissions raised concerns over the conversion of rural lands in the area to an industrial land use for the purpose of the project.

## Response

### Strategic land use

The Central-West Orana REZ has a long history of agricultural and mining activities, and while these land uses are expected to continue, the region is experiencing a shift as part of the larger energy transition. This shift is supported by the *Central West and Orana Regional Plan 2041* (DPE, 2022g), which recognises and supports the establishment of the Central-West Orana REZ, while aiming to ensure compatibility with existing land use practices and minimise the associated environmental and social impacts. Once operational, the project would support the future land use as envisioned by the Central-West and Orana Regional Plan 2041.

### Project development

Development of the project has been informed by community and landowner feedback, including agricultural land use concerns. Notably, the transmission line alignment avoids high value agricultural lands associated with the Merriwa Cassilis Plateau and instead traverses around 35 kilometres of mining land (more generally the avoidance of the highest value agricultural land was a key consideration in the development of a project alignment). In addition the project has sought to co-locate with nominated renewable energy developments where this could be achieved, to reduce the cumulative extent of agricultural land needed to accommodate project infrastructure.

Section 4.1.5 of this report provides additional information on how the selection of the project corridor has sought to minimise impacts, including on agricultural land.

### Land use change during project construction

As described in Section 7.4 of the EIS, at the commencement of construction, the current land use within the construction area would cease, either permanently at locations where permanent infrastructure would be required, or temporarily while construction activities are being carried out.

Construction of the project, including land requirements, would have a range of potential impacts on agricultural areas at different stages of construction and in different areas, depending on the intensity of construction activities required and the construction activities being undertaken at any given time. To assess these impacts, the EIS has conservatively assumed the entire construction area would be temporary unavailable for agricultural use for the duration of construction (three years). However, it is noted, construction activities would be completed at different times within the construction area and at different intensities.

Construction of the project, highlighting worst case impacts to agricultural lands (3,755 hectares as outlined in the Amendment Report), would result in the loss of 0.2 per cent of the total agricultural land in the four LGAs within which the project is located. It is noted this includes around 1,760 hectares of direct impacts, and 1,995 hectares of indirect impacts.

There is potential for impacts to rural land uses during construction of the project, however these impacts would generally be short term in nature, and would be minimised through the individual use of individual property management plans, developed in consultation with each landowner directly affected by construction activities. The individual Property Management Plans will be developed in line with the principles outlined in the overview Property Management Plan that EnergyCo has provided all affected landholders, and would be designed to ensure that rural land uses can generally take place during construction.

At the completion of construction, areas not required for permanent infrastructure would be rehabilitated and return to their pre-construction land use, as per mitigation measure LP9.

Additional details are included in Section 4.7 of this report.

## Land use change during project operation

Operation of the project would result in a permanent change to the operation area from the existing land use to electrical infrastructure, where energy hubs, switching stations and transmission line towers are located. This change would directly impact around 795 hectares of agricultural land (as outlined in the Amendment Report), within a total operation area of around 2,665 hectares. The permanent change in land use from agricultural to electrical infrastructure consists of around 0.04 per cent of the total agricultural land use within the LGAs impacted by the project.

The remaining portion of the operation area would consist of the transmission line easement. The area of direct impacts represents around 32 per cent of the operational area, while the transmission line easement (comprising the remaining 68 per cent) and land immediately would continue to be able to be used for agricultural activities subject to easement conditions, which are required to ensure both the safety of the landowner and security of the transmission line infrastructure.

Additional details are included in Section 4.7 of this report.

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## 4.6.2 Direct property impacts – construction

### Submission ID numbers

38, 64, 136, 332

### Summary of issue

Four submissions commented on the direct impact to private land during construction including the restriction on land use and access within properties.

One of these submissions raised an issue that an unoccupied property, sensitive receiver ID 731 in Tallawang, is proposed for demolition or substantial alteration, which is against the landowner's wishes and would prevent them from finishing their plans to restore the dwelling and use it for future accommodation.

One of these submissions also questioned whether the multiple buildings proposed as part of the Neeleys Lane workforce accommodation camp is consistent with the local planning framework and development controls as the land is zoned to allow a building permit for a single home.

### Response

#### Direct impacts to private land

During construction, landowner access to sections of their properties would be temporarily restricted. The impacts of these temporary restrictions would be dependent on the location of the construction area in relation to property boundaries and paddock configurations. While these restrictions are temporary due to the progressive nature of construction along the transmission line alignment, they may require the landowners to use alternative routes at times to access parts of their property or modify grazing activities. As per mitigation measure AG3, individual property management plans will be developed in consultation with each landowner, and would detail alternative access routes, communication protocols and outlined any temporary restrictions on use of the construction area.

#### Impacts to sensitive received ID 731

Sensitive receiver ID 731, also referred to as Spir Road Cottage (Heritage item ID CWO-22-HH08), is located within the construction area and may be directly impacted by construction activities such as vegetation clearance and tower placement. As per mitigation measure HH2, construction methodologies will be refined as part of continued development of the project design and detailed construction planning to avoid and/or minimise direct impacts to Spir Road Cottage, where reasonable and feasible.

## Planning controls associated with Neeleys Lane workforce accommodation camp

The Neeleys Lane workforce accommodation camp forms part of the project, which was declared to be CSSI under section 5.13 of the EP&A Act. Section 5.22 of the EP&A Act provides that Environmental Planning Instruments (EPI), such as Local Environmental Plans (LEPs) and State Environmental Planning Policies (SEPP), do not apply to CSSI projects other than the relevant provisions of the Transport and Infrastructure SEPP and the Planning Systems SEPP that declare certain infrastructure as SSI or CSSI and identify development that does not require consent. Therefore, the Neeleys Lane workforce accommodation camp is permissible without consent, and is not subject to local planning controls.

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### 4.6.3 Direct property impacts – operation

#### Submission ID numbers

34, 38, 52, 109, 208, 265, 272, 298, 300, 317, 321, 354, 360, 363, 368, 378

#### Summary of issue

Sixteen submissions commented on direct impacts to private properties during operation of the project. The issues raised included:

- loss of freehold properties
- severance of properties
- impacts to existing lease agreements on impacted properties
- transmission line easement conflicting with dwellings within 500 metres
- limitation on planned construction on properties (including potential impact on future subdivisions)
- additional effort to assist with maintenance of the transmission easement.

Two submissions also noted since the project has been in development, plans for works on potentially impacted properties have been put on hold due to uncertainty.

One submission commented the development of the project had disrupted planned commercial activities at the property, including entering into an agreement with a renewable energy developer, as well as disruptions to continued quarrying of granite sites near the transmission lines.

## Response

### Loss of freehold land

Operation of the project would require the permanent acquisition of 30 parcels of freehold land for project infrastructure. This would include the full and partial acquisition of land for energy hubs, switching stations and the Neeleys Lane workforce accommodation camp. It is noted, Neeleys Lane was purchased on the open market, and the land for energy hubs has been purchased via agreement with the landowner in accordance with the Just Terms Act.

However, permanent land acquisition is not proposed for land required to host the transmission line infrastructure, and as such there would be no loss of freehold land. Access to this land would be via the establishment of an easement which would impose certain restrictions on how a landowner may use this part of their land. This arrangement is intended to allow the Network Operator to access and use a section of private land for the transmission network. Permitted activities within easements would depend on the nature or scale of the activity, as well as proximity to the transmission line and structures.

Easements are not expected to significantly restrict the movements of landowners, workers, livestock, or equipment. The main restriction would be the height of agricultural machinery, which must not exceed 4.3 metres above ground level under transmission lines.

Any existing lease agreements would need to be adjusted in accordance with the easement.

### **Property severance**

The establishment of easements would not result in property severance impacts as the subdivision of lots is not required, and the ability for landowners to use land within the easement would be established in accordance with the easement conditions.

### **Impacts on dwellings within 500 metres**

The design development of the project from the identification of the revised study corridor through to the project as described in the Amendment Report (the 'amended project') has aimed to avoid or minimise potential impacts via maximising distance to existing dwellings (with a view to maintaining a minimum 500 metre buffer between the project and dwellings) where possible. Developing an alignment that has sought to find a line of best fit against multiple constraints has meant the alignment is within 500 metres of dwellings in some locations.

It is noted that landowners directly impacted by the project would be compensated in accordance with the Just Terms Act, which takes into account impacts to dwellings. Further refinement of the project has been undertaken, as described in section 3.1 of the Amendment Report to avoid conflict with dwellings.

### **Restrictions on development within easements**

Development and activities within the permanent transmission line easement are restricted for operational and safety purposes. The restrictions are specifically set out in EnergyCo's Registered Easement Memorandum AT283341. Building houses is not permitted within transmission line easements.

Development proposals that are within a transmission line easement will require approval from EnergyCo, as well as the relevant planning authority if development consent is required. Subdivision proposals from landowners will be assessed by EnergyCo on a case-by-case basis. New subdivision boundaries must not be located within the easement.

### **Uncertainties created by the project in relation to landowners' development plans**

EnergyCo's land acquisition team are working with landowners to understand individual circumstances, including current and future land use and operations. EnergyCo is committed to finding ways to allow these activities to continue with minimal impact.

### **Disruption of planned commercial activities by landowners**

It is noted that landowners' planned commercial activities (specifically in relation to the use of their land) may have been disrupted due to the acquisition process (the issue was raised in relation to the property of receiver ID 367). Quarrying operations outside the construction area can continue, however once an agreement is in place, activities in the construction area and in and round the permanent easement would be restricted as per the easement terms. As per mitigation measure AG3 the network operator is required to produce individual Property Management Plans in consultation with landowners regarding the interface with construction activities. These property management plans would be developed in consultation with landholders with the aim of minimizing impacts to existing operations.

With respect to disruptions to entering into an agreement with renewable energy developers, the revised study corridor that was publicly exhibited in February 2022 illustrated a narrow corridor through the mining areas, and the narrowest section of the revised study corridor between Cope State Forest and the mining areas. This section of the revised study corridor was intended to be narrow given the proximity to Goulburn River National Park, Munghorn Gap Nature Reserve, Cope State Forest, active mining areas and contiguous stands of vegetation.

The revised study corridor was refined in response to community and landowner submissions from the February 2022, noting there was no public information on the proposed solar farm at this time, and it was not raised as a potential concern.

An SSD application was lodged for the proposed solar farm development in June 2022, and the project CSSI application was lodged in September 2022. The project corridor included in the project Scoping Report predominantly retained its position south of the existing transmission line to occupy cleared land and avoid dense contiguous native vegetation to the north.

EnergyCo has been in discussions with the landowner and the solar farm proponent regarding the viability of both projects at this location based on surrounding constraints. A transmission line alignment north of the current location was not progressed as it would need to be located north of TransGrid's and Essential Energy infrastructure and easements, which would encroach into the native vegetation and increase the project's biodiversity impacts.

### **Easement maintenance**

Maintenance of the transmission lines easement is the responsibility of the Network Operator, and there would be no maintenance obligations on the landholder associated with the easements. Once the project is operational, the Network Operator would carry out regular on-site maintenance and inspections of the transmission lines. Fault and emergency crews may also attend site occasionally when required to respond to unplanned events to ensure safety and carry out repairs. Landowners would be kept informed about any maintenance activities and access required for maintenance purposes.

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## **4.6.4 Indirect property and land use impacts – operation**

### **Submission ID numbers**

63, 91, 150, 166, 171, 225, 252, 289, 321, 324, 348, 363

### **Summary of issue**

Twelve submissions raised concerns on the indirect impacts to property and land use during operation of the project. The issues generally focused on impacts to landowners with respect to insurance and liability, specifically, concerns the cost of insurance (such a public liability insurance) for host and surrounding landowners would increase due to the high value of the project infrastructure.

The increased fire and EMF risks associated with the project were also raised as issue with the view it may result in landowners having difficulty obtaining insurance or even being refused insurance.

The following specific questions were raised regarding liability and insurance:

- Who is responsible for insuring landowners?
- What liability do surrounding landowners have for damage to the project infrastructure, for example if agricultural machinery damages a transmission tower or if a fire is started nearby and spreads to the project infrastructure?
- Would EnergyCo be liable should the project result in damage to a surrounding property?

It was requested that landowners be indemnified from any claims against them for any loss through accidental or even negligent damage to project infrastructure.

Other issues raise regarding indirect land use and property impacts are:

- the potential increased difficulty finding available agricultural properties to purchase in the region due to occupation by transmission lines
- the impact to a landowners ability to mortgage or lease their property.

## Response

### Liability and insurance

Personal or business insurance would be at the discretion of the landowner and rates would be subject to a range of factors for each individual property. In the event landowners are experiencing issues with increased insurances due to the project, EnergyCo will work landowners to address the issue.

The EMF levels generated by the project comply and are within regulatory standards. The levels remain within acceptable reference levels as detailed in section 16.5.4 of the EIS, and further discussed in Section 4.15.9 of this report. The predicted EMF levels at the operation area's boundary adhere to the Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) current standards and guidelines, negating the need for project specific mitigation or modification concerning EMF management near properties.

The Network Operator would be liable for any directly attributable damage caused to land and property during the construction and operation of the transmission line. The Network Operator holds insurance policies with reputable insurers to cover any risks to workers, contractors and landowner property as a result of constructing and operating the transmission network.

### Property mortgage or leasing

The project would result in the partial and full acquisition of 30 parcels of freehold rural land for project infrastructure excluding transmission line easements. Properties with transmission line easements may be sold, noting the easement would be attached to the property. The presence of a transmission line easement does not restrict the property from being mortgaged or leased. For areas within the easements, agricultural operations and activities would continue, with only some activities restricted. The height above ground of the transmission line would be sufficient to achieve safe clearance for the operation of most farming vehicles, livestock movement and machinery under the powerlines.

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## 4.6.5 Impact to conservation land

### Submission ID numbers

55, 282, 337, 360, 374, 386

### Summary of issue

Six submissions raised concerns about impacts to land reserved for conservation or biodiversity offsets. Five of these submissions were concerned about the establishment of the transmission line alignment through the Durridgere SCA. One submission questioned why the transmission line alignment had not avoided national park estate, and biodiversity offset areas associated with mine sites. One submission questioned why it was considered acceptable to intersect woodland on private property rather than the nearby Tuckland State Forest.

## Response

### Route selection through Durridgere SCA

The Cassilis connection (between the Merotherie Energy Hub and LRWF) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the LRWF development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved LRWF project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved LRWF, only one project would construct the 330 kV alignment through the SCA.

When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares.

No direct impact to national parks or state forests are proposed during construction or operation except for the establishment of the project alignment through the Durridgere SCA. The Goulburn River National Park, Tuckland State Forest and Cope State Forest are located directly adjacent to the project, but there would be no direct impacts to these areas.

### **Route selection through mining biodiversity offsets**

EnergyCo established a transmission line corridor through the mining areas in response to strong community feedback on the previous study corridor that traversed high value agricultural lands on the Merriwa Cassilis Plateau. In doing so, EnergyCo sought to maximise the use of previously disturbed areas and co-locating with existing transmission infrastructure, to minimise environmental and land use impacts.

Developing an alignment through the mining areas, where there was existing infrastructure and transmission lines, had the advantage of maximising the use of existing disturbed land, avoiding Goulburn River National Park to the north, Munghorn Gap Nature Reserve to the south, and providing a strong connection to the NSW transmission system at Wollar. However, the narrow corridor and multiple operational mining constraints in this part of the construction area has resulted in a transmission line alignment that traverses the following biodiversity offset sites:

- land identified for enhancement and conservation areas (Area A, B, D and E) for the Wilpinjong Mine, as well as areas identified for rehabilitation following the closure of the mine. It is noted, that while area calculations for areas enhancement areas D and E areas were included in the EIS, they were not specifically identified as being impacted by the project alignment. This error has been addressed in section 5.2.2 of the Amendment Report
- land secured for offsets for:
  - the Moolarben Mine (Red Hills Cluster – Area 1 and Ulan 18 Cluster – property 24 and 25)
  - the Ulan Mine (the Highett Road site).

However, in recognition of the importance of these sites, EnergyCo has committed to ‘offset the offset’, which would be in addition to the offsets required under the Biodiversity Assessment Method (BAM). Accordingly, EnergyCo has acquired 643 hectares of land adjacent to Goulburn River National Park. The property contains predominantly native vegetation in good condition and contains around 80 hectares of Box Gum Woodland (compared to around 55 hectares impacted in the offset areas). The property is also around six times the size of the offset areas impacted. The property is planned to be subsumed in to the national park system, has an improved biodiversity outcome whilst providing residual value for the project’s offset liability.

### **Route selection adjacent to Tuckland State Forest**

It is acknowledged that in some locations along the project alignment, competing environmental and technical constraints are present which requires adopting a balanced approach to corridor planning to determine the most appropriate project alignment. The selection of the alignment through private property rather than Tuckland State Forest, is to minimise the impacts on native vegetation, as this is the narrowest section of an otherwise continuous north to south vegetated corridor. Measures to avoid any residual environmental constraints that are present within the project corridor would continue through ongoing design development and detailed construction planning.



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## 4.6.6 Property value impacts

### Submission ID numbers

28, 33, 34, 42, 49, 50, 51, 52, 61, 63, 64, 67, 73, 77, 97, 99, 101, 102, 102, 112, 113, 116, 127, 129, 136, 138, 144, 157, 166, 169, 171, 182, 208, 213, 217, 220, 221, 228, 230, 250, 251, 259, 268, 271, 277, 279, 288, 289, 303, 306, 312, 317, 323, 324, 335, 347, 348, 352, 353, 369, 373, 378, 394

### Summary of issue

Sixty-three submissions raised concerns on potential negative impacts to property value in the region, mostly regarding host landowners, neighbouring properties, and properties near the project.

Ten submissions believed the project would result in property value declines of around 30 per cent, primarily for host properties, and potentially for properties in the surrounding areas. Concern was also raised about the associated negative impact on leasing rates for dwellings and agricultural land.

The impact to property values was attributed to visual amenity impacts, potential bushfire and EMF risks, and from the restricted use of agricultural lands. Three of these submissions were also concerned that amenity impacts from Neeleys Lane workforce accommodation camp would contribute to the devaluation of neighbouring property.

### Response

While submissions have raised concerns about perceived impacts on property values, transmission lines may have little impact on dynamic changes in house prices over time (Han & Elliott, 2013). Furthermore, anecdotal evidence in the region suggests that land that is proximate to the proposed transmission infrastructure with strong renewable energy resources has the potential to generate value significantly greater than their current value as agricultural land.

In terms of landowners hosting the project, agricultural operations can largely continue subject to the easement conditions. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land due to the project in accordance with relevant legislation. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

Additionally, landowners directly hosting transmission lines are entitled to receive Strategic Benefit Payments (SBPs), which are in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land and are in recognition for hosting this infrastructure.

The potential impacts of the project with respect to amenity (visual, noise and vibration) and bushfire and EMF risks were assessed and mitigation measures included as part of the EIS and Amendment Report. A range of mitigation measures identified in Appendix E of the Amendment Report would be implemented during construction and operation to manage and minimise potential impacts.

The Neeleys Lane workforce accommodation camp is expected to operate for the duration of construction only. The potential amenity impacts to neighbouring properties would be indirect and temporary. EnergyCo has also secured a large land parcel to host this temporary accommodation to help provide the opportunity for large buffers to neighbouring residences. Mitigation measures would be implemented to minimise impacts further.

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## 4.6.7 Property acquisition/leasing – general

### Submission ID numbers

39, 52, 57, 59, 64, 66, 69, 78, 81, 100, 101, 102, 116, 136, 147, 150, 166, 169, 213, 220, 241, 244, 250, 265, 273, 277, 279, 286, 290, 299, 301, 345, 348, 352, 353, 363, 364, 373, 385, 396

### Summary of issue

Forty submissions commented on the compulsory acquisition of properties for the project, with the view that the acquisition process is forceful, with landowners having no rights or input into the process. The legality of compulsory acquisition was questioned and recommended to be overhauled. Submissions also questioned how land acquisition could be progressed with uncertainty remaining about the impact to each property.

Submissions recommended the NSW State Government or EnergyCo provide impacted landowners with financial assistance so they can seek independent, unbiased legal advice on the matters for the duration of their negotiations.

One of these submissions commented that the purchase of private land by EnergyCo for Neeleys Lane workforce accommodation camp excluded other interested parties from placing a counter bid even though the property was for sale by 'open offer'.

### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

Compulsory acquisition would only be carried out in accordance with the Just Terms Act where the parties are unable to reach an agreement. The process of compulsory acquisition provides the landowner with the benefit of an independent third party to determine appropriate compensation having regard to all relevant facts. EnergyCo compensates landowners for any reasonable fees associated with obtaining advice from a lawyer to help inform decisions during the acquisition process.

The acquisition process requires the preparation of detailed plans that outline the location of the transmission easement. The process involves a lease for the proposed construction area and then an agreement for the permanent easement would be completed at the end of construction.

Land for the temporary workforce accommodation camp at Neeleys Lane, Turill was acquired by EnergyCo via a vendor. This land was available on the open market, and was acquired on a willing buyer and willing seller basis by EnergyCo.

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## 4.6.8 Compensation for property acquisition and property valuations

### Submission ID numbers

52, 61, 62, 63, 64, 65, 101, 102, 102, 116, 117, 166, 169, 264, 277, 289, 292, 312, 324, 348, 360, 373, 387

### Summary of issue

Twenty-three submissions commented on landowner compensation for hosting project infrastructure, with the general view compensation offered to landowners was inadequate and the method for calculating compensation values was questioned. In addition, the valuation process was inadequate and lacked transparency. Submissions raised the scope of the valuation process for compensation was not seen to be comprehensive, and the following elements were identified in submissions as matters that should be accounted for in the compensation valuation:

- amenity impacts from the project infrastructure
- loss of land
- reduction of the property value
- impacts on agricultural operations during construction and operation of the project
- impacts to property assets such as the loss of shelter trees and adjustments to fencing
- costs of seeking legal advice for the acquisition process
- loss of income from the property due to the project
- increased cost of property insurance
- the value the landowner places on the land.

One submission acknowledged landowners could be reimbursed for the costs of getting an independent valuation of their property. However, the landowner was required to pay the upfront cost, which was not financially feasible for all landowners.

One submission commented that the compensation for properties hosting renewable energy developments was greater than for those hosting transmission infrastructure for this project.

Five submissions specifically referred to the SBPs Scheme which includes payments at a set rate of \$200,000 (in real 2022 dollars) per kilometre of transmission hosted, paid out in annual instalments over 20 years. The issues raised with the SBPs Scheme were:

- it is unclear how the payments are to be secured by landowners once an easement or caveat is registered on their land title by EnergyCo
- it should be for the life of the project not only 20 for years
- it will be heavily taxed reducing the value of the payments.

### Response

#### Valuation and compensation

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo has encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process. EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

An Acquisition Manager has been dedicated to each property identified for an easement or acquisition. This person acts as a point of contact throughout the acquisition process for each landowner.

To progress the acquisition process, each party is encouraged to exchange valuation reports before attending meetings/discussions between EnergyCo, the landowner, independent valuers, and any legal representative. This allows for discussions on any differences between the respective valuer's reports, with a view to reaching an agreement on compensation for the acquisition of the required property interests.

### **Strategic benefits payment scheme**

Unlike private developers, the commercial negotiations that transmission network operators undertake with landowners for transmission infrastructure must be in accordance with the Just Terms Act. However, given the scale and urgency of delivering new transmission infrastructure to facilitate the transformation of our energy system, the NSW Government considers that private landowners who host this infrastructure should receive a greater share of the benefits of building and operating new transmission lines than what is afforded under the Act. The NSW Government is implementing a SBP Scheme that will deliver additional financial benefits to private landowners hosting new major transmission projects.

SBPs will be paid by the Network Operator to applicable landowners on an annual basis over 20 years. The first payment will be made no later than three months after energisation of the project. The 20-year period of the SBP Scheme generally aligns with the access rights that will be granted to renewable energy generation and storage projects to connect to the new transmission infrastructure in REZs.

The taxation of SBPs will vary for landowners depending on ownership of the property, operation of any business on the property, and a range of other considerations. It is recommended landowners obtain independent tax advice regarding the treatment of the SBPs.

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## 4.6.9 Management and mitigation

### Submission ID numbers

251, 312, 324, 363

### Summary of issue

Four submissions commented on the mitigation measures proposed to address land use impacts. Specifically, the lack of mitigation measures for land use impacts was raised and further mitigation is sought for negative impact to property values and increased insurance cost for landowners.

### Response

A range of mitigation measures for land use impacts (LP1 to LP11) were identified in EIS Chapter 7 (Land use and property). Impacts to agricultural land uses will also be addressed through the agricultural mitigation measures (AG1 to AG10).

As described in Section 4.6.8, impacts to property values are assessed in accordance with the requirements of the Just Terms Act and evaluated as part of the valuation process, for which the landholder can obtain its own independent valuation (cost reimbursed by government). This process requires consideration of injurious affection.

Compensation has been assessed in accordance with the Just Terms Act by an Independent Valuer with advice on this valuation provided to EnergyCo. EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the Project. EnergyCo is also required to compensate an impacted party for any loss in the value of residue land a consequence to the project. Additional details are included in the response to submissions in Section 4.6.8 of this report.

The NEM is serviced by an extensive transmission network across Eastern Australia of many thousands of kilometres. There is no evidence that the presence of transmission lines increases the risk of landowners obtaining insurance or insurance cover being refused.

To the extent that an individual property owner can demonstrate an increase in insurance premium as a direct consequence of the construction and operation of transmission infrastructure on their land, this can be considered as part of easement compensation assessments in accordance with the Just Terms Act. EnergyCo will continue to work with landholders to ensure any such matter is resolved fairly.

The Network Operator would be liable for any directly attributable damage caused to land and property during the construction and operation of the transmission line. The network operator holds insurance policies with reputable insurers to cover any risks to workers, contractors and landowner property as a result of constructing and operating the transmission network.

Personal or business insurance requirements would be at the discretion of the landowner and rates would be subject to a range of factors for each individual property. In the event landowners are experiencing issues with increased insurances due to the project, EnergyCo will work landowners to address the issue.

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## 4.7 Agriculture

### 4.7.1 Impact assessment approach

#### Submission ID numbers

52, 58, 148, 166, 169, 250, 251, 279, 292, 363, 375

#### Summary of issues

Eleven submissions raised concerns with respect to the agricultural impact assessment approach presented in the EIS and Technical paper 2 – Agriculture. The concerns raised included:

- insufficient information and data presented in Technical paper 2 – Agriculture, as the assessment relied heavily on desktop studies, and did not present evidence of consultation with councils (Warrumbungle Shire Council and Upper Hunter Councils) and Local Land Services (LLS)
- the assessment underestimated the loss of agriculture production during the construction and operation of the project, and excluded livestock impacts on surrounding paddocks from the presented calculations
- the assessment did not consider the impacts to the nation’s food supply due to the loss of agriculture land during construction and operation
- the assessment only included interviews with seven landowners and three Cassilis community members, which neglected impacts on surrounding areas. In addition, the selection of the surveyed properties lacked detailed justification
- the assessment was deemed incomplete as land and soil surveys were not undertaken, particularly within the Elong Elong Energy Hub and Merotherie Energy Hub
- the assessment inadequately covered impacts to agricultural land, mostly relying on mapping with inaccuracies in research and management plans. The submission suggested the need for a more comprehensive consideration of impacts on individual agriculture businesses in the region.

Two submissions, also raised concerns regarding the accuracy of the assessment methodology and sought clarity regarding the selection process of properties and farmlands for the transmission lines. The submissions raised concerns the impact assessment:

- did not justify selection of farmlands for the transmission line and only relied on theoretical soil data, which overlooked the wider impacts of industrialisation of agriculture land
- overlooked unique soil types on smaller farms and only offered generalised conclusion on agricultural impacts
- inaccurately ranked cattle and calves grazing as the most valuable agricultural commodity and did not consider grain and hay production in favourable seasons
- chose favourable reports and scientific studies to highlight project advantages and downplayed the true value of affected agriculture properties and farming practices.

One of the submissions expressed concerns about the lack of detailed calculations for a cost-benefit analysis due to loss of agriculture land and production in the region and its impacts to agricultural businesses. Additionally, the submission requested a comprehensive methodology for the calculations which would be quantifiable, as well as assessing the state’s strategic advantages, manufacturing base and business competitiveness.

One of the submissions commented that the assessment did not account for seasonal changes in land and soil capability, in relation to agricultural production. The submission highlighted that areas in the farmland become unusable during several months of the agricultural farming cycle due to local flooding and inherent soil profile characteristics. The submission requested additional consultation with farmers to be undertaken, which was not considered in the agricultural impact assessment.

## Response

### Assessment methodology and consultation

The assessment methodology for the agricultural impact assessment, as detailed in section 8.2.2 of the EIS, and Technical paper 2 – Agriculture, was developed to meet the requirements of the project SEARs. As outlined in section 3.3.2 of Technical paper 2 – Agriculture, consultation for the agricultural assessment was undertaken with Warrumbungle Shire Council, Mid-Western Regional Council as well as the Central West LLS, with specific discussions around biosecurity risks and proposed management measures. EnergyCo provided offers to consult with the Western LLS, however no response was received.

The assessment was also informed by landowner interviews, conducted in November 2022, to obtain information on the agricultural enterprises at each property, as well as the views of landowners on the impacts of the project.

Furthermore, the assessment also analysed publicly available data such as the Australian Bureau of Statistics (ABS), Geographic Information Systems (GIS) databases and satellite imagery.

### Loss of agricultural production

The total gross value of agricultural production was sourced from the Australian Bureau of Statistics (ABS) 2020 to 2021 data (ABS, 2022) including livestock production. Details on the estimated impacts of construction of the project on agricultural productivity are provided in Table 5-1 of Technical paper 2 – Agriculture, with updated estimates provided in the Amendment Report.

As per the Amendment Report, construction of the project would result in an estimated loss of agricultural production of around \$3.95 million or \$1.32 million per annum. This amount is conservative (rather than being underestimated) as it assumes the total construction area, consisting of 3,755 hectares of agricultural land, would be restricted from agricultural use throughout the construction period. This is considered a conservative estimate as construction activities would be intermittent along the transmission line and would not occur for the full duration of construction at any one location. Agricultural operations would be able to occur in accordance with individual Property Management Plans (mitigation measure AG3), which would be developed in consultation with affected landowners.

In general, the gross value of agricultural production across land impacted by the project is assessed at an average of \$302 per hectare (for grazing land), and \$530 per hectare for cropping lands, which is approximately the midpoint of the average value of broadacre cropping production (\$799 per hectare) and grazing production (\$268 per hectare). This approach has been applied to the entire construction area, and a portion of the operational area (where permanent infrastructure would be located).

While stocking rates have not been used to calculate loss of productivity, the average stocking rate is estimated at 3.43 stock units per hectare, where 'stock unit per hectare' amount is calculated as total grazing stock units, divided by the estimate of land used for grazing in the four affected LGAs (refer to Table 4-12 in Technical paper 2 – Agriculture). The calculations use 'stock units' for livestock impacts, which is calculated as one unit for sheep, lambs, goats and 'other', and 10 units for cattle. The number of livestock impacted by the project is estimated to be around 10,000 stock units, equivalent to around 9,000 sheep or 1,000 cattle.

During operation, most of the project's operation area (around 1870 hectares) would comprise the easement where agriculture activities such as grazing would still be able to continue. It is unlikely that the transmission infrastructure would significantly restrict the movements of landowners, workers, livestock or equipment. Where agricultural operations have been restricted within easements, these have been considered as a part of the easement acquisition process. Potential impacts to livestock enterprises have also been considered in section 8.4.3 of the EIS and include the potential disturbance to sheep and cattle due to construction noise and vehicle movements, vegetation removal from the easement, disruption to livestock grazing patterns and potential relocation of stockyard and loading facilities were stated to be the main potential impacts. While there is potential for some disturbance, the effect on productivity is expected to be relatively minor.

### **Food security**

The impact of construction on the loss of agricultural productivity, has been quantified in the Amendment Report (based on project amendments and refinements since the exhibition of the EIS). The impacts of construction are estimated to be around 0.20 per cent of the total gross value of agricultural production across the four LGAs over the same period. On a national scale, this loss corresponds to only 0.002 per cent of the total gross value of agriculture production in Australia (valued at \$71 billion in 2020–2021).

Similarly, during operation of the project, the impacts on agricultural productivity are outlined in the Amendment Report, and is quantified at 0.04 per cent of the total gross value of agricultural production across the four affected LGAs. On a national level, this loss represents only 0.0004 per cent of the total gross value of agricultural production in Australia.

As such, the projected loss of agricultural production due to the project is deemed negligible both regionally and nationally, with negligible implications for the long-term food supply of the region and the nation.

### **Landowner interviews**

The selection of seven properties for landowner interviews/survey was to ensure representation across various geographical locations, project impacts, and types of agricultural enterprises within the construction area. The interviews were structured to obtain information on the agricultural enterprises at each property including usual crops grown, crop areas, normal livestock numbers, types of livestock, type of pastures and property areas, as well as their perceived impacts of the project. It was generally considered that additional interviews would not necessarily increase the level of knowledge of the general issues of the project area. However, further consultation with individual property owners where the project is located would be undertaken during the preparation of individual Property Management Plans (as detailed in mitigation measure AG3) to identify property-specific impacts on agriculture and opportunities for mitigation.

### **Land and soil survey**

A land and soil survey was proposed at the energy hub sites to validate the published land and soil capability mapping of the operation area. However, this investigation was unable to be completed due to land access not being granted. As noted in Chapter 3 of Technical paper 2 – Agriculture, the investigation is unlikely to change the outcome of the assessment due to the relatively small operation area involved (271 hectares across both energy hubs). Further, a soil survey across the proposed transmission line easement was considered necessary, as the project was anticipated to have minimal impact on the land use within the easement given that agricultural activities could generally continue in accordance with easement conditions following completion of construction.

Maps presented in the EIS have been prepared based on published data from the DPHI. The agricultural assessment aligns with the Land and Soil Capability Assessment Scheme (LSC) (OEH, 2012) which outlines a scheme for evaluating the biophysical characteristics of land and their impact on agricultural land use. The assessment also follows the guidance provided by Agricultural Land Use Mapping Resources in NSW (Squires, 2017), detailing the datasets used for mapping agricultural lands and related resources in NSW for land use planning purposes.



## Selection of transmission alignment

Refer to Section 4.1.5 of this report.

## Cost benefit analysis

Both the Australian Government and the NSW Government have endorsed the transition from fossil fuels to renewable energy, implementing supporting policies, plans and frameworks to support the transition. A cost benefit analysis was therefore not conducted for the project as it was deemed unnecessary within the established framework, as economists typically employ cost benefit analysis to ascertain whether the benefits to the community outweigh the costs, ensuring economic efficiency.

The project aligns with the initiatives and serves as a crucial component of the infrastructure needed to meet the Australian and NSW Government's renewable energy transition vision. Given the overarching policy, direction and objectives, the SEARs for the project do not mandate for the preparation of a cost benefit analysis.

## Annual variation in productivity

The impact assessment acknowledges that agricultural production varies from year to year. The data used to calculate agricultural production is representative of a typical or 'average' season. The effect of seasonal variations on agricultural production was not considered in the impact assessment as seasonal conditions during specific construction and operation periods cannot be predicted.

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## 4.7.2 Impact to agricultural practices – construction

### Submission ID numbers

38, 52, 73, 102, 116, 166, 169, 240, 265, 304, 319, 335, 341, 343, 348, 363, 367, 381, 394

### Summary of issues

Nineteen submissions commented on potential impacts to agricultural practices during the construction of the project. The submissions voiced concerns that construction activities would potentially lead to disruption and interference with the region's agricultural practices. There were concerns that the disruption to livestock grazing activities and crop production would be beyond the projected area as stated in the EIS and would lead to degradation of agricultural land, impacting agricultural production and businesses in the region.

Three submissions raised concerns regarding impacts to livestock due to removal of shade trees. With one submission stating they are a valuable resource for shade and stock protection. Further, two of the submissions raised specific impacts to livestock, pest management, and paddock configurations during construction of the project, specifically:

- distress to livestock particularly during critical birthing seasons such as calving and lambing, due to the construction noise and vibration generated from plant and machinery
- the removal of 40 shade trees along the easement, impacting livestock and soil conservation efforts
- property management challenges during construction, affecting six out of eleven paddocks in the case of one property, which would potentially lead to destocking, and challenges of feral animal management if farmers could not shoot or use 1080 poison to control pest.

The placement of transmission lines within the agriculture land was raised as an issue as it would adversely impact farm infrastructure, specifically identifying farm boundary fences and above-height-restriction internal fence. The submissions expressed frustration regarding future need to seek permission for new fencing and structures such as sheds, dam and water bores for farmers.

Two submissions (from the same property) commented that the twin 500 kV powerline would cut through their property in half which would also cause loss of access to western paddocks via Blue Springs Road. The submissions voiced concerns regarding losing access due to the area being used for construction activities and requested that the project comply with NSW Work Cover Standards by erecting temporary fencing.

One submission raised the construction of the project would require moving critical infrastructure and disruption of cattle yards and silos for all weather access, which would hinder accessibility for stock during wet weather conditions.

Concerns about the water supply needed during construction were raised, particularly the extraction of seven hundred million litres annually from the Talbragar River. The submissions highlighted the potential challenges for farmlands relying on these sources and commented that the EIS did not adequately address the impact on agriculture practices in an already arid region. The submissions emphasised the critical importance of the watercourses for the viability of local farms.

Two of the submissions also expressed the EIS did not adequately address impacts on agriculture water supply during construction, specifically, noting there would be severe impacts to the farm water supply by placing twin 500 kV power lines directly over a crucial water tank on their property affecting daily pump operations and valving for farms. Despite being informed about the importance of the water tank to the farm's water security, EnergyCo had dismissed concerns, suggesting that moving the tank would be the landowner's responsibility.

## **Response**

In general impacts to agricultural practices would be managed in accordance with mitigation measure AG3 which outlines the development of individual Property Management Plans. An overview Property Management Plan has been provided to all affected landholders. This plan outlines the principles and measures EnergyCo and the contractor will take to mitigate impacts on landowner's property, farming operations, biosecurity and existing infrastructure. The overview Property Management Plan outlines that property specific Property Access Plans will be developed in consultation with individual landowners to provide much greater detail on the construction timeline and activities, and to minimise the potential disruptions during construction. The intent of this mitigation measure is to provide a flexible approach to balance construction with agricultural operations, which includes management of livestock, access, as well as impacts to farm infrastructure.

### **Impacts to agricultural operations and access**

The project has been designed to minimise the potential for impacts to agricultural land use and agricultural activities. Transmission lines are proposed in areas where land use conflict was minimised, considering landowner feedback, and collaboration with those willing to host project infrastructure on their properties, where practicable.

It is noted in Chapter 7 (Land use and property) of the EIS that while the construction impacts from the project are expected to disrupt agricultural practices in the construction area, the impacts are temporary in nature and generally localised to the immediate area.

Construction of the transmission lines would not sever or permanently prevent access across the length of the alignment for the duration of construction and severance of properties is not anticipated. There would be some temporary restrictions on livestock grazing and movement, and movement of agricultural plant and machinery within and across the construction area. The severity of these impacts would depend on the location, scale and intensity of construction activities.

Temporary disruptions due to restricted construction area access are expected to be managed in consultation with landowners and in accordance with individual Property Management Plans. The EIS also notes restrictions are more likely in cropping than grazing areas given the higher land use intensity and mechanisation requirement of these areas. Impacts to livestock movement would be manageable with the listed mitigation measures in the EIS during construction.

The anticipated impact on livestock from the removal of shade trees would be minor as in most cases, there will be sufficient shade and shelter available to meet livestock requirements. EnergyCo is committed to retaining shade trees where possible. The proposed transmission alignment has been adjusted, as described in Chapter 3 of the Amendment Report, to avoid the removal of a large number of shade trees related to this submission.

Potential impacts to feral animal control such as aerial shooting, or baiting programs would be temporary, and limited to the immediate construction area. These temporary restrictions are not expected to impact the ability of landholders to manage feral animals. The specific requirements for landowners would be considered during the development of individual Property Management Plans.

### **Disturbance of livestock**

It is noted that construction activities may disturb livestock, particularly during calving and lambing, potentially affecting productivity. While construction activities would be intermittent and would not occur for the full duration of construction at any one location, potential impacts would be minimised through consultation with impacted landowners and highlighted in individual Property Management Plans. Measures may include the adjustment of timing of construction activities and/or the location of livestock grazing (if required) during sensitive periods of the livestock production cycle. Such that the overall effect on productivity is expected to be minor. The overview Property Management Plans provided to all affected landowners outlines EnergyCo and the contractors commitment to take all reasonable efforts to minimise impacts on livestock and farming operations of the landowner.

### **Farm infrastructure**

Impacts to farm infrastructure would be managed via individual Property Management Plans. If property infrastructure such as sheds, water tanks, fences, livestock yards or dams are within the construction area need to be removed or adjusted in line with easement conditions, this would be undertaken by the contractor in accordance with the Property Management Plans.

Any restrictions that limit agricultural operations within the transmission line easement, are aimed at ensuring the safety of landowners as well as the security of the asset, and the nature of these restrictions on the landowner are taken into consideration when assessing compensation.

Individual Property Management Plans will be developed in consultation with landowners before starting relevant works impacting the applicable property, activity, equipment, and or property infrastructure, and their requirements will be implemented throughout the construction period.

### **Water supply**

Impacts to water supply and usage have been considered in the EIS and further discussed in Section 4.18.4 of this report.

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## 4.7.3 Impact to agricultural practices – operation

### Submission ID numbers

31, 34, 38, 39, 47, 48, 52, 53, 57, 73, 94, 96, 99, 102, 116, 118, 131, 147, 150, 166, 169, 179, 186, 242, 255, 256, 264, 265, 267, 279, 282, 283, 297, 323, 326, 334, 341, 344, 347, 348, 358, 360, 363, 367, 368, 373, 375, 377, 378, 395

### Summary of issues

Fifty submissions commented on impacts to agricultural practices during the operation of the project. Most of the submissions raised the scale of the development would generate impacts on existing farm operations, hindering current agriculture activities and practices such as:

- restricting aerial operations for pest control, weed control, fertilising and firefighting
- the placement of the transmission lines and proposed service roads would go through farm infrastructure which included grain silos and cattle yards, requiring relocation
- the creation of dangerous conditions, especially if there was slack in power lines affecting livestock and inadequate height for the safe operation of modern farming equipment along the divided properties
- potential restrictions on landowners, workers, livestock, and equipment once transmission lines are operational. Farmers may face practical challenges, such as transporting machinery and harvesting on properties divided by the proposed transmission lines
- the vegetation clearing proposed would significantly lower farmers' productivity and profits which may require them to redesign their farms around easement clearings
- long-term impacts on soil productivity which would impact clean food sources
- there would need to be a consideration of the income lost through the broader economic and agricultural business due to the impact of the project's operation on productive farmland

Two submissions requested a thorough investigation would be required before construction, to pre-emptively address any issues regarding radio/GPS interference and that farmers would need to be assured that appropriate actions would be taken to prevent problems with GPS functionality on farming properties.

One of the submissions raised concerns about negative impacts of transmission lines on cattle. The submission stressed that powerlines could lead to diabetic-like conditions in the animals, prompting farmers to invest in shielding paddock areas.

## Response

### Aerial operations

Impacts on aerial agriculture activities in the operation area of the project are expected to be minimal, with restrictions to aerial activities such as mustering, monitoring, aerial spreading of fertilisers and pesticides, and aerial feral animal control being limited to the immediate area of the transmission lines.

Furthermore, it is noted that aerial agriculture is not intensively used in the operational area, as aerial applications are less frequent in small scale cropping enterprises and grazing situations (the predominant agricultural land use in the operational area). However as detailed in mitigation measure AS2, in areas where the transmission lines have the potential to impact existing aerial farming operations, consultation will be undertaken with relevant landowners to identify appropriate mitigation arrangements such as installation of aerial warning markers on the transmission line, where feasible.

## Agricultural operations

Operation of the project would affect around 2,440 hectares of agricultural land in total. This mainly comprises land within easements where agricultural activities could continue, but also includes permanent loss of around 795 hectares of land where permanent infrastructure would be located. The impact of land take associated with individual transmission towers on agricultural activities is expected to be minor due to the relatively small size of the tower footprints and the distance between the towers.

The transmission line alignment has been developed with consideration of landowner feedback, noting not all requested changes have been adopted. The proposed transmission alignment has been adjusted in response to landowner feedback, as described in Chapter 3 of the Amendment Report, to avoid impact to farm infrastructure including grain silos and cattle yards.

For areas within the easements, agricultural operations and activities would continue, with only some activities restricted. The height above ground of the transmission line would be sufficient to achieve safe clearance for the operation of most farming vehicles, livestock movement and machinery under the powerlines. The minimum clearance from the ground to transmission lines is set out in Australian Standards 7000 Overhead Line Design (AS/NZS 7000:2016). The project has adopted additional clearance from these minimum levels with the minimum ground clearance for 330 kV lines being nine metres and minimum ground clearance for 500 kV lines being 11 metres.

It is noted that the lowest point of the transmission lines would be the sag point between towers and only at localised locations. At the tower the lines are typically 30 metres from the ground. The actual clearances to the ground will depend on the detailed design and the distance between towers through the property and at all locations will exceed the limits set by Australian Standards.

The passage of vehicles under the transmission line is limited to 4.3 metres in accordance with the Easement Terms and the height is based on providing a buffer clearance to the minimum transmission line height. If a greater vehicle height is required, this could be investigated in terms of providing specific crossing locations.

Operation activities would generally be minimal and entail occasional access by project personnel and infrequent vehicle movements for activities such as inspection, maintenance and repairs. As such, the potential for damage to fences, livestock infrastructure, transport or spread of disease, pests or weed would be low. As noted in mitigation measure AG10, weed management within the transmission line easement and associated areas for permanent infrastructure would be managed in accordance with the *Biosecurity Act 2015* and the requirements of the Property Management Plans that would be prepared in collaboration with each affected property owner.

Fences within or near the transmission line infrastructure would be earthed and isolated to prioritise safety. Impacts to fencing, farm access, and any damage caused by maintenance activities will also be repaired promptly as detailed in mitigation measure AG7 and AG10.

## Agricultural productivity and income

The operation of the project would not generally affect the intrinsic capability or physical characteristics of the land in the operation area. The exception is where permanent infrastructure would remove areas from agricultural production and the soil and land capability would be lost which is about 795 hectares.

The remainder of the agricultural land within the operation area outside transmission tower footprints consists of transmission line easements, where land would not be permanently removed from agricultural production. Predominant agricultural land uses which are present, such as grazing and cropping operations would be able to continue within the transmission easements, subject to certain restrictions.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the project in accordance with the Just Terms Act. The NSW Government has also introduced the SBPs Scheme for new major transmission projects. Under this scheme, affected landowners will receive \$200,000 per kilometre of transmission line over a 20-year period in annual instalments. Compensation is further discussed in Section 4.6.8 of this report.

### **GPS operation**

With respect to potential disruption to GPS and radio communication services, the EIS notes that it is expected that satisfactory level of radio reception would be achieved even outside of set limits for electric and magnetic interferences, as all devices and the transmission line would generally operate on different frequencies. Mitigation measure AG7 commits to investigating and managing impacts and interruptions to agriculture operations, particularly impacts on precision farming GPS signals.

As per the mitigation measure AG8, such interference would be investigated further and will be addressed in consultation with the affected landowner. This may also include measures such as signal boosting equipment or antenna enhancements where applicable.

### **Farm infrastructure**

Impact to farm infrastructure, and the requirement for the relocation of some farm infrastructure would be limited to construction of the project. Refer to Section 4.7.2 – Impacts to agricultural practices – Construction.

### **Health impacts to livestock**

Refer to Section 4.15.9 (Hazard and risk – Electric and magnetic fields).

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## **4.7.4 Loss of agricultural land – construction**

### **Submission ID numbers**

47, 52, 77, 160, 221, 238, 250, 299, 306, 324, 352, 362, 363, 385, 387, 389

### **Summary of issues**

Sixteen submissions commented on the loss of agricultural land during the construction of the project. Concerns raised included:

- construction of the project would cover around 4,000 hectares of valuable agricultural land which would impact farmers and grazers
- that the loss of agricultural land during construction would lead to loss of production, disproportionately affecting smaller agriculture businesses and their production levels
- concerns regarding the loss of agricultural land due to construction of the Neeleys Lane workforce accommodation camp.

Two of the submissions commented that there was insufficient recognition of the loss of BSAL in the EIS, including the strategic importance of the Cassilis Plateau for agricultural production. The submissions also commented on the underestimation of the construction impacts of the transmission lines detailed in the EIS, with the view:

- the presence of the projects access tracks, switching station M7, transmission line towers within areas of BSAL and State Significant Agricultural Land (SSAL), with high quality soil and water resources, shows the prioritisation of industrial land use over agriculture
- there was a thorough need to investigate the viability of such a large amount of lost agricultural land and its future impacts to long term food supply.

One of the submissions expressed concerns that the loss of agricultural land during construction would disrupt food security for the region and commented that it made it questionable to allocate more land for purposes other than food production.

## Response

### Loss of agricultural land

As described in section 8.4.1 of the EIS and section 5.1.2 of Technical paper 2 – Agriculture, construction activities required for the project would progress in a transient manner. As such for most of the construction area, land would generally be removed from production for a relatively short period. The scale and intensity of construction activities would be intermittent within the construction area. For example, at transmission line towers the intensity of construction activities would be greater than in areas between each tower, this would allow for some agricultural land uses such as grazing to continue.

However for the purpose of estimating total impacts, it has been conservatively assumed the entire construction area (including 3,755 hectares used for agriculture) would be unavailable for agricultural activities during the construction period. The agricultural impacts of the project during construction would be less than 0.2 per cent of agricultural activity in the region. The projected loss of agricultural production arising from agricultural land lost to the project is negligible on a regional and national basis and would have negligible impact on the long-term food supply of the region and nation.

The Neeleys Lane workforce accommodation camp would occupy about 30 hectares of rural land. The workforce accommodation camps are expected to operate for the duration of construction. At the end of construction, the workforce accommodation camps would be demobilised, and the sites would be cleared of any temporary infrastructure and equipment, and then rehabilitated.

### High value agricultural lands

The project would not change the capability or physical characteristics of the land, except for high traffic areas or where earthworks are required. Rather, the main impact would be the temporary (during construction) or permanent (commencing during construction and continuing during operation) removal of areas from agricultural production.

Considering agricultural land capability for the area impacted during construction, around 75 per cent (or around 2,975 hectares) of the construction area is classified as having moderate to low capability, this generally limits agricultural use to grazing, some horticulture, forestry and nature conservation. As such, with the exception of smaller areas of higher value lands (described below), construction of the project is expected to result in limited and temporary reduction in the available use of agricultural lands.

As described in section 5.3.3 of the Amendment Report, the construction area includes around 170 hectares of land mapped as BSAL. It is noted this has increased by around 20 hectares since the exhibition of the EIS due to amendments and refinements of the transmission line.

During project development, consultation with the community indicated a strong preference for the project to be located off the Merriwa Cassilis plateau, in part to avoid large contiguous areas of BSAL. The current project alignment reflects this avoidance. The presence of BSAL was also considered in the development of the project alignment and energy hub locations (refer to section 2.7.2 of the EIS).

Figure 8-2 in the EIS shows the location of mapped BSAL and the project construction area. The main areas of BSAL which would be intersected by the project include:

- a small portion of land at the northern end of the Cassilis Connection
- along the Coolah and Leadville Connections where the transmission alignment crosses the Talbragar River and Cainbill creek floodplains
- the Merotherie – Elong Elong Transmission Line to the west of the Castlereagh Highway, and
- areas to the west of the Elong Elong Energy Hub, along the Goolma Connection around Spring Creek.

While the total area of BSAL within the construction area is around 170 hectares (as per the Amendment Report), construction would likely directly impact around 50 hectares, while the remaining 120 hectares would be able to remain in use (subject to timing and the location of planned construction activities), and where its intrinsic quality would not be impacted.

Impacts on crop and pasture operation in the construction area would be relatively minor due to the relatively small size within the construction area and the relatively small, short construction period at each location. Areas that are impacted and are not required for permanent infrastructure would also be rehabilitated after construction where practical, in consultation with the landowner.

With regards to SSAL, as described in the EIS, no area data exists for SSAL within the construction area, however NSW government mapping, indicates a marginally larger area of SSAL within the construction area, when compared with BSAL. As such, impacts are expected to be of a comparable nature.

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## 4.7.5 Loss of agricultural land – operation

### Submission ID numbers

25, 29, 32, 33, 38, 44, 47, 48, 52, 59, 60, 65, 67, 68, 69, 71, 72, 84, 85, 100, 102, 112, 114, 116, 117, 123, 125, 131, 133, 143, 146, 148, 156, 164, 166, 168, 169, 174, 177, 179, 182, 183, 188, 189, 191, 194, 195, 220, 244, 251, 254, 257, 259, 267, 288, 290, 292, 303, 305, 306, 311, 312, 324, 326, 327, 333, 335, 356, 362, 375, 387, 388, 395, 396, 397

### Summary of issues

Seventy-five submissions commented on the loss of agricultural land during operation of the project. Most of the submissions expressed concerns regarding the placement of transmission towers on prime agricultural land which would lead to loss of production and income for current and future generation of farmers.

Fifty-six of these submissions emphasised that there would be a permanent loss of arable agriculture land which would result in restrictions on production area, impact crop management, farm equipment manoeuvrability and limitations to livestock management. The submissions primarily raised concerns regarding:

- impacts on generationally owned agricultural land due to the permanent installation of transmission infrastructure
- anticipated loss of arable farmland, impacting future farming communities
- food security and agricultural sustainability of the region, and that the project would put food security at risk
- limitations to agricultural practices causing challenges for farm access to carry out farming operations.

Eighteen submissions voiced concerns regarding the broader community and economic impacts from anticipation of loss of farmland which would impact local farming communities, agricultural jobs and cause displacement.

Two of the submissions stressed the loss of agricultural land during operation would cause further challenges in the farming community such as:

- a gross reduction in farming income in the region
- scarcity of fertile and clear cropping land
- impact on NSW food production
- access and division of farms and smaller farms being isolated due to the perceived severance impact of the transmission corridor.



## Response

Once operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure (the operation area is subject to ongoing refinement and would be finalised as part of continued design development). The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used by agricultural operations for grazing, and cropping activities, subject to easement restrictions. As such, the project is not expected to result in consequential job losses, or impact to regional agricultural productivity.

As noted in section 5.3.3 of the Amendment Report, once the project is operational, the permanent loss of agricultural land would result in a loss of productivity of around \$285,900 per annum, equivalent to 0.04 per cent of the total annual gross value of agricultural production across the four impacted LGAs. Given the larger proportion of directly impacted land is within the Mid-Western Regional council, the loss of productivity would be greatest within this LGA, at around \$195,850 per annum (refer to Table 5-4 in the Amendment Report).

The projected loss of agricultural production due to the project is deemed negligible both regionally and nationally (0.00004 per cent), with negligible implications for the long-term food supply of the region and the nation.

Host landowners would be compensated for establishment of easements in accordance with the Just Terms Act and would receive SBPs paid by the Network Operator on an annual basis over 20 years. Additional details on property valuations and compensation are provided in Section 4.6.8 of this report.

In NSW there are a number of methods to assess land capability for agricultural purposes. Considering the LSC Assessment Scheme (OEH, 2012), a majority of the operation area (around 75 per cent) consists of land classified as having moderate to low capability (Class 5), which largely restricts agricultural land use to grazing, and some horticultural activities. High capability land (Class 3) and moderate capability (Class 4) each comprise around 16 per cent with only a small area of Class 2 (very high capability) (less than one per cent). The remaining land is Class 6 (low capability) and Class 7 (very low capability). Once operational, the permanent loss of BSAL would be around 26 hectares (mostly associated with transmission line towers and the construction of the M7 switching station) where permanent infrastructure would be located.

While there would be restrictions within the easement (e.g. height of machinery), farming activities such as grazing would be permitted within and around the easement. As such, operation of the project would not result in the severance of agricultural lands, as landowners would still be able to use and pass through the transmission line easement (considering minimum height restrictions).

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## 4.7.6 Impact to stock movements – construction

### Submission ID numbers

73, 84, 116, 230, 250, 258, 299, 312, 321, 323, 338, 352, 367, 368, 378

### Summary of issues

Fifteen submissions commented on the impacts to stock movements due to the proposed construction activities of the project. Comments raised included:

- restrictions on livestock movement activities due to the presence of construction personnel, plant and machinery, construction vehicles, and their operations
- the proposed use of South and North Birriwa Bus Routes by construction traffic would make it challenging for regular stock movements and would necessitate construction of onsite access tracks which would result in costs for landowners

- construction vehicle movements on Neeleys Lane would impact a crucial lane for large stock movements and farm machinery
- the prospect of increased traffic on Golden Highway during construction raises concerns for regular livestock and farm machinery crossing which would affect daily operations and livestock safety
- challenges managing stock movements and farm fence lines due to the upgrade of Merotherie Road were also raised, specifically that:
  - the upgrade, combined with foot traffic would cause significant hindrance to stock movement
  - increase in road traffic would also mean inability to graze feed on road edges, which is effective in reducing fuel load acting as a fire break.

## Response

Construction of the project may result in temporary restrictions on the movement of landowners, agricultural workers, livestock, or equipment within and across the construction area. The severity of these impacts would depend on the location, scale and intensity of construction activities.

As stated in section 5.4 of Technical paper 2 – Agriculture, it is unlikely that construction activities would substantially limit the movements of landowners, agricultural workers and equipment, and livestock within the construction area for extended periods. Individual Property Management Plans would be prepared in consultation with landowners to arrange access arrangements and communicate programmed construction activities and timing. This is detailed in mitigation measure AG3 and AG4 in Appendix B of this report.

The movement of livestock along roads and TSRs intersected by the project would be affected temporarily by restricted access where they intersect with construction activities. However, these restrictions would be of limited duration and not expected to significantly prevent or hinder livestock movements or impact the use of TSRs or livestock routes. Where road closures are likely to result in a significant traffic impact (e.g. short-term full road closure and long-term temporary lane/road closures), prior consultation will be undertaken with potentially affected stakeholders (e.g. landowners, emergency services, transport services) and relevant approval(s) obtained from the relevant roads authority.

Increased traffic volumes generated by the traffic would also occur across the construction routes, which would increase the potential for interactions between construction traffic and livestock of machinery movements. The proposed construction routes and estimated traffic volumes generated by the project are summarised in EIS Chapter 17 (Traffic and transport) and section 5.12 of the Amendment Report.

Birriwa Bus Route South would be used for construction traffic movements. Given the road's narrow width, local detours may be implemented to ensure road user safety during the works. It would remain accessible for stock and machinery movements with the exception of restrictions around the Merotherie Energy Hub during construction. Birriwa Bus Route North is not identified as a construction route for the project.

The southern extent of Neeleys Lane between Ulan Road and Neeleys Lane workforce accommodation camp would be used for construction traffic. However, the northern extent of the Neeleys Lane up to the Golden Highway is not proposed as a construction route, meaning the stock and machinery movements in this extent of the road would not be impacted by the project.

The Golden Highway would be key road used by the project and therefore would be subject to increased traffic movements. As the Golden Highway has sufficient spare capacity, the project would only have a minor impact on the efficiency and it would operate with a similar level of service (LoS) when compared to existing traffic conditions.

The proposed upgrades to Merotherie Road would involve sealing and widening of the road and construction of a new bridge across the Talbragar River. Merotherie Road would be closed temporarily to facilitate the proposed road works. Temporary disruptions to stock movements along Merotherie Road during construction would be managed in coordination with affected stakeholders. Areas disturbed by construction will be stabilised and appropriately rehabilitated back to pre-construction conditions where practical, or as agreed in consultation with the relevant landowner. Including adjustments to property fences.

As per mitigation measure T9, landowners will be notified of property access disruptions and traffic changes at least five days prior. Additionally, the Construction Traffic and Transport Management sub-plan will detail measures to reduce conflict between construction traffic and stock movements. The plan will be developed in consultation with Transport for NSW, relevant councils and LLS to address concerns regarding the TSR.

Furthermore, a Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including oversize and overmass (OSOM) routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

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## 4.7.7 Soil and land capability impacts – general

### Submission ID numbers

251, 375, 378

### Summary of issues

Three submissions commented that the EIS undervalued the significance of impacts on soil and land capability in the assessed area, in particular BSAL and SSAL. The submissions requested that the unique soil characteristics of the region be protected and recognised and raised concerns about potential erosion and environmental damage resulting from the removal of trees with heavy machinery.

### Response

The project was developed taking into account multiple constraints, including locating the alignment outside of areas of high value agricultural land, such as BSAL, where practicable. About 75 per cent of the construction area falls under LSC class 5, indicating moderate-low capability. As detailed in mitigation measure WA3, where relevant, permanent erosion control measures will be designed and implemented at energy hubs, switching stations and transmission line towers to minimise potential scour and erosion risks associated with surface water runoff during operation.

The BSAL area within the construction area is approximately 170 hectares, making up 4.2 per cent of the total construction area. Although there's no specific data for SSAL, the available mapping suggests a slightly larger SSAL area compared to BSAL within the construction area.

The impact on both BSAL and SSAL is expected to be minimal due to the small area involved, and any agricultural production loss would be temporary for most of this space during construction. Construction of the project would generally not affect the intrinsic capability or physical characteristics of the land in the construction area, except in small areas subject to heavy traffic or earthworks. Rather, the main impact of construction on soil and land capability would be through the temporary or permanent removal of areas from agricultural production to accommodate the project.

About 50 hectares of BSAL would be directly affected during construction, but most of this area will be rehabilitated if needed and returned to its original land use after the construction is completed or as agreed upon with the landowner.

Once operational, the permanent loss of BSAL would be around 26 hectares (mostly associated with transmission line towers and the construction of the M7 switching station) where permanent infrastructure would be located.

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## 4.7.8 Biosecurity impacts

### Submission ID numbers

39, 52, 65, 85, 91, 95, 97, 100, 101, 102, 116, 136, 166, 169, 213, 217, 220, 225, 240, 251, 254, 258, 262, 266, 277, 286, 289, 299, 363, 379, 387

### Summary of issues

Thirty-one submissions commented on the potential spread of weeds and introduction of plant and diseases through construction and during operation as a result of maintenance vehicles, machinery and personnel travelling through farmlands. Comments included:

- the absence of a Biosecurity Management Plan raised questions about disease and weed prevention, as vehicles moving across multiple properties during construction could transport seeds, contaminants, and weeds
- the identified biosecurity risks and impact on agriculture in the EIS lacked adequate countermeasures for livestock and crop protection
- the proposed mitigation measures in the EIS lacked clarity regarding:
  - guaranteed protocols for entering and leaving each property and the provision of signed biosecurity checklists by construction and maintenance workers
  - cost responsibility in the case of a biosecurity outbreak affecting landowners and local businesses
  - the acknowledgment that the effectiveness of measures in minimising biosecurity issues was less than 100 per cent
- the mitigation and management measures downplayed high-impact biosecurity issues, to being medium and was to be inadequately managed by a 'complaint system'
- invasive weeds (such as Spiny Burrgrass) would spread during the construction phase if contractors were not to follow compliance with Biosecurity Plan
- there was inadequate information about biosecurity measures during and after construction and that the EIS did not include procedures and direct communication measures for landowner's peace of mind throughout the project's lifetime
- requested that due to the possibility of severe threat to biosecurity and agriculture practices in regions highly dependent on agriculture, a more extensive community consultation with farmers and landowners be undertaken, beyond the surveyed.

Three of the submissions stressed the need for strict measures and regular compliance checks to be conducted to prevent the spread of diseases and noxious weeds, safeguarding both the project area and the broader region from biosecurity risks. The submissions commented that the requirements of risk prevention under the *Biosecurity Act 2015* and *Biosecurity Regulation 2017* was not adequately addressed by EnergyCo, especially regarding worker-induced spread of invasive weeds.

- that a stringent biosecurity plan to avoid impacts to livestock and crops, addressing weed, pest, and disease control
- diseases such as footrot in sheep enterprises and potential spread of noxious weeds from environmental and agricultural interests.

Submissions queried how biosecurity risks would be managed during construction and operation to prevent diseases across farms, specifically:

- how would biosecurity measures prevent the contamination of local biodiversity and what enforcement, and penalties would be implemented
- that there was lack of clarity on how EnergyCo contractors during the construction phase would comply with the NSW Biosecurity Plans for impacted properties
- the EIS lacked a detailed Notifiable Diseases Strategy during construction
- would there be specific plans in place for controlling biosecurity risks with unrestricted vehicle movement across multiple properties

Submissions expressed that non-residential workers would not fully comprehend the severity of biosecurity risks and would need proper, thorough briefing. The submissions highly recommended the need for guaranteed protocols upon entering and leaving each property including signed checklists from construction and maintenance workers.

Submissions also raised concerns that during operation of the project:

- the lack of a stringent Biosecurity Plan discussed in the EIS raised concerns about risks associated with livestock safety and security from the spread of diseases such as Ovine Johnes Disease (OJD)
- the EIS did not adequately address plans for documenting chemical use in the easement areas to meet farm biosecurity and safety requirements
- there would be potential disruption to existing biosecurity management practices due to the transmission line infrastructure located in paddocks, impeding farmer's ability to air spray crops
- the transmission infrastructure would result in challenges for locust management and would cause potential disruption to the operations of Australian Plague Locust Commission.

Two submissions (from one property holding) commented that EnergyCo had instructed the temporary removal of the farm's quarantine fencing which was erected to protect livestock from Foot-and-mouth disease and Lumpy Skin disease.

## Response

It is noted that construction and operation of the project has the potential to introduce or spread animal and plant diseases, feral pests and weeds, if not properly managed. There are a number of weeds, pests, and animal and plant diseases, which pose a high risk to agricultural production in the wider study area which have been identified in Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture). Footrot and ODJ were identified as biosecurity risks present in the area.

The mitigation measures outlined in the EIS have been developed to align with the requirements of the *Biosecurity Act 2015* and *Biosecurity Regulation 2017*.

### Biosecurity risks during construction

Mitigation measures AG5 and AG6 focuses on the development of a Biosecurity Management Plan and implementing strict biosecurity controls during construction to minimise the risk of transporting or spreading disease, pests or weeds. To manage and mitigate the biosecurity risks associated with individual landholdings, the Biosecurity Management Plan would be developed in consultation with relevant local council biosecurity officers, specifically in locations with high biosecurity risk areas.

The specific controls applicable to a property will be consistent with approved Property Biosecurity Plans where they are in place. Property-specific biosecurity protocols will be documented in the relevant individual Property Management Plans and implemented by the Network Operator during construction.

Protocols within the Biosecurity Management Plan would cover weed management controls, inspection and cleaning of plant and equipment, management of earthworks and clearing activities, and the establishment of specific controls for high biosecurity risks. Notification of new weed infestations, pests and diseases would be completed in accordance with the *Biosecurity Act 2015* and Biosecurity Regulation 2017 requirements.

Monitoring programs and consultation with landowners are integral components ensuring the effectiveness of the plan and specific risks. Mitigation measure AG6 in conjunction with mitigation measure AG5 is a proactive approach, which ensures that any potential impact on biosecurity particularly related to weed infestation is promptly identified and reported, thereby facilitating an effective control measure in accordance with regulatory standards.

The Biosecurity Management Plan include the following protocols/matters:

- review of the latest publicly available weed data including relevant Regional Strategic Weed Management Plans
- weed management controls, including inspection and cleaning of plant and equipment, and management of earthworks and clearing activities
- development of specific controls where high biosecurity risks are identified. For example, appropriate measures will be implemented with respect to foot and mouth disease to control any risk of introduction of the pathogen as a result of project activities
- a monitoring program to track the effectiveness of the controls identified in the Biosecurity Management Plan
- consultation with the owners of organic certified properties to identify the specific risks and controls required to be implemented
- notification of relevant councils of new infestations of priority weeds listed in the relevant Regional Strategic Weed Management Plans if identified.

Biosecurity awareness and management training would be undertaken within the site induction process for relevant personnel involved in site works.

EnergyCo has not been in a position to instruct landowners as to how they manage their current operations. No directions on changes to property infrastructure, including quarantine fencing, has been given by EnergyCo at this stage. Any required adjustments to property infrastructure (fences, access tracks, etc) as a result of construction of the project will be conducted in consultation with the landowner, subject to project approval.

### **Biosecurity risks during operation**

During the operation of the project, the biosecurity risk arising from the project was assessed as being significantly lower than during construction, primarily attributed to the less intense and infrequent nature of vehicle, machinery and personnel activity compared to the operation phase of the project. The lower level of activity during the operation of the project substantially diminishes the risks of spreading weeds, pests or diseases contributing to a more controlled and manageable biosecurity environment.

As detailed in mitigation measures AG9 and AG10, biosecurity controls outlined in the Biosecurity Management Plan during operation, focusing on minimising the risk of disease, pest and weed transport during maintenance activities. Additionally, AG10 addresses the weed management approach within the transmission line easement and associated areas, ensuring compliance with *Biosecurity Act 2015*. These combined measures would effectively manage and mitigate biosecurity risks throughout the operation of the project.

## Chemical use

With regards to chemical use within the transmission line easement, while the specific use of chemicals has not been determined, consultation with landowners would be undertaken during the development of individual Property Management Plans (Construction) and the Biosecurity management Plan (Construction and operation) to ensure landowners are aware of chemical use, this would include (as outlined in Mitigation measure AG5) consultation with the owners of organic certified properties to identify the specific risks and controls required to be implemented.

## Aerial spraying

For agricultural aerial activities, the transmission lines and towers would reduce the area available for aerial application as aircraft would not be able to operate under the transmission lines. Regarding aerial activities during farming such as spraying of fertilisers and pest control, mitigation measure AS2 will be implemented where applicable. At locations where the transmission lines would impact existing aerial farming operations, consultation will be undertaken with relevant landowners to identify appropriate mitigation arrangement such as the installation of aerial warning markers on the transmission lines where feasible.

## Locust control

Locust control in NSW is the responsibility of multiple stakeholders including LLS, landowners, and the Australian Plague Locust Commission. While Local Land Services takes the lead on coordinating plague locust control campaigns in NSW, the Australian Plague Locust Commission can step in where locusts have the potential to cause significant damage to agricultural properties in more than one state. Locust control consists on ground and aerial actions which would vary depending on the extent of the infestation (Local Land Services, 2023). The majority of the transmission easements would remain accessible and therefore ground control activities could continue. Transmission lines would need to be considered in aerial control actions as discussed above.

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## 4.7.9 Management and mitigation

### Submission ID numbers

52, 64, 65, 71, 100, 101, 102, 166, 169, 221, 250, 251, 266, 292, 360, 363, 378

### Summary of issues

Seventeen submissions commented on the adequacy of management and mitigation measures detailed in the EIS to minimise agricultural impacts during construction and operation. Most of these submissions raised concerns regarding the management of biosecurity risks and have been highlighted and addressed in Section 4.7.8 of this report.

Additional concerns included:

- queries on preparing Property Management Plans, and placing emphasis on impartial assistance to farmers. The submission also requested clarification on who would bear the associated costs if farmers were tasked with writing them
- queries on the responsibility of repairing of damaged fences during access
- queries on the briefing of drivers to safety navigate through stock on construction routes and roads.

Submissions also raised concerns regarding previous instances of surveyors causing damage by venturing beyond agreed areas in their property, and breach of trust in the project's assurances provided by EnergyCo.

## Response

The mitigation measures outlined in the EIS have been developed to address potential impacts to agriculture practices and agricultural land during the construction and operation of the project. Section 4.7.8 of this report provides a summary of community concerns with respect to the development of the Biosecurity Management Plans (mitigation measure AG5), and a response to those concerns.

In reference to the development of individual Property Management Plans (mitigation measure AG3), EnergyCo would be responsible for developing the plans in consultation with each landowner directly impacted by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities. The development of these plans would take place during detailed design, prior to the commencement of construction activities at individual properties.

Individual Property Management Plans would address disruption to properties including access arrangements and protocols and the proposed timing and location of construction works, particularly where some restriction on vehicular, equipment, grazing or livestock movements will be necessary.

Mitigation measures AG4, details measures to minimise disruptions to agricultural activities, with specific reference to any property infrastructure damaged or requiring adjustment during construction activities.

In reference to driver safety, and specifically navigating stock on construction routes and road, mitigation measures T4 (addressed in Section 4.16.5) would require the development and implementation of a driver code of conduct to define acceptable driver behaviour, promoting road safety and minimising the impacts of construction related vehicle movements on local roads and community (including interactions with livestock). The driver code of conduct would be communicated to all relevant construction personnel during project inductions.

During operation, activities such as inspections, maintenance, and repairs would be managed through the implementation of mitigation measure AG7, which addresses fencing and access requirements, and includes rectification measures if activities cause any damage to farm infrastructure. Property specific requirements would be determined in consultation with landowner.

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## 4.8 Landscape character and visual amenity

### 4.8.1 Impact assessment approach

#### Submission ID numbers

45, 75, 116, 136, 166, 185, 256, 266, 295, 348, 360, 363

#### Summary of issue

Twelve submissions raised concerns or questioned the approach to the landscape character and visual impact assessment. These included:

- why only properties within two kilometres of the project were considered in the assessment and requested justification of this selection
- concern that the assessment had not addressed the loss of visual amenity in its entirety
- concern that visual impacts are subjective and therefore as the assessment was likely conducted by someone from a metropolitan area, who is regularly exposed to major infrastructure, the assessment would not represent the perspective of the local community



- concern on the quality and accuracy of the photomontages provided in Technical paper 3 – Visual and landscape character, specifically:
  - the photograph taken to represent the private view from sensitive receiver ID 616 in Cope was of poor quality and focused on nearby trees rather than the broader view
  - the proposed vegetation clearing was not shown in the photomontages resulting in them being misleading. A particular reference was made to the vegetation clearing being missing in the photomontage for sensitive receiver ID 399
  - the horizontal field of view of sensitive receiver ID 717 is incorrectly identified to be 180 degrees, when it is actually 270 degrees, and the property is incorrectly identified as not hosting the project. Further visual assessment of this receiver is requested to address the inaccuracies
  - the orientation of the house identified for sensitive receiver ID 1057 (and adjoining property ID 998) in Appendix J is incorrect and does not adequately consider that the transmission line will cross south of the house and continue around to the north-east in front of views of the river valley and surrounding hills
  - the photomontage toward to the Cassilis switching station (M1) from a sensitive receiver ID 1351 has been taken from the incorrect position
  - the photomontage of the Tangaratta substation is not accurate.

## Response

### Study area

The consideration of properties within two-kilometres of the project was conservatively based on the scale and visual characteristics of the project and includes areas where there is the potential for landscape character and visual impacts. Beyond two kilometres the transmission line towers would either not be visible due to intervening landforms or would not be prominent in the view. The approach to the landscape character and visual impact assessment is explained in Chapter 3 of Technical paper 3 – Visual and landscape character.

At the time of preparing the technical paper, there was no guidance for the assessment of landscape character and visual impact assessment of large-scale transmission infrastructure. However, in November 2023 the *Draft Transmission Guideline – Guidance for state significant infrastructure and critical state significant infrastructure* (DPE, 2023e) and accompanying *Technical Supplement for Landscape and Visual Assessment* was exhibited by DPHI for comment. This document introduces guidance for determining the study area for the scoping stage of the visual impact assessment. Applying the draft transmission Guideline (specifically the diagram provided at Figure 6 in the technical supplement), the study area for this project would be about 1.5 kilometres, which is less than what was undertaken for the project (DPE, 2023e). In this regard, the two kilometre distance used, with other criteria in the initial screening assessment is considered conservative.

### Assessment of the project in its entirety

In response to the issue raised that the assessment had not addressed the loss of visual amenity in its entirety, the assessment considers the visual amenity impacts to the landscape and viewpoints for both construction and operation during the daytime and nighttime (i.e. the entirety of the project life). While the assessment does not present an overarching evaluation of the project in its entirety, the assessment has undertaken a representative viewpoint approach across multiple project locations to describe impacts on visual amenity of the project as a whole. The assessment of landscape character, also considers the impacts at a landscape scale.

## Assessment rigor and completeness (subjectivity)

While individual members of the public may not agree with the findings of the visual impact assessment, the findings of the visual impacts are not considered subjective. A method has been developed based on local and international guidance including the *Guidance Note for Landscape and Visual Assessment* (AILA, 2018), and includes a series of steps to minimise subjectivity and ensure consistency between view assessments.

The visual impact assessment for this project was prepared by a team of highly experienced visual assessment experts, trained in the interpretation and analysis of landscape and views. The method draws upon a broader knowledge of scenic preferences and experience in assessing large-scale infrastructure projects.

While landscape character and visual impacts cannot be quantified, experts provide their analysis and opinion on the level of impact. The assessment team has extensive experience working across the regional landscapes of NSW. This broader context is important when considering the rarity and uniqueness of landscapes and views.

Additional information about the methodology applied to undertake the landscape character and visual impact assessment is included in Chapter 3 of Technical paper 3 – Visual and landscape character.

## Photomontages

The photomontages prepared for the assessment are high quality. The method for preparing the photomontages is described in section 3.8 of Technical paper 3 – Visual and landscape character. The photomontages were taken using high quality lidar data and professional 3D modelling software. The selection of viewing locations was undertaken by an experienced visual assessment specialist (as described above), who identified views that provide a representative sample along the route. Considering comments of specific sensitive receiver photomontages:

- with reference to sensitive receiver ID 399, while the clearing of vegetation is not shown on the photomontages, it has been considered when determining the visual impacts of the project
- with reference sensitive receiver ID 616, a 180-degree wide 3D modelled image was created using LiDAR point cloud data to illustrate the view from sensitive receiver ID616 in Cope. This stylised image illustrates the landform, intervening vegetation and location and scale of the project (highlighted in red). This type of digitally generated image tends to exaggerate visibility across the landscape as solid objects are represented by clusters of individual points. A location near to the dwelling and oriented towards the project was selected for this image. This is in accordance with the guidance for visual assessment, which indicates that the assessment be undertaken from the dwelling, not from other locations on private property. The graphic representation illustrates that due to the distance between the project and this receiver and the intervening vegetation, the project would be largely obstructed and not prominent in views from this dwelling
- the assessment of sensitive receiver ID 717 has considered a 180-degree visibility based on the towers within two kilometres of the dwelling. Any project elements beyond two kilometres would not be prominent in the view and would have no material effect on the view. This sensitive receiver was incorrectly identified as a non-host property in Technical paper 3 – Visual and landscape character. This has been updated in the Landscape Character and Visual Impact Assessment Addendum (Appendix F of the Amendment Report)
- with reference to sensitive receiver ID 1057, as the main outlook (primary view) from this dwelling was not verified on site, this assessment assumed that the views towards the project were primary views and assigned a moderate visual sensitivity. If the view directly south is a secondary view, it would have a lower sensitivity, and consequently would reduce the potential visual impact level. The assessment considered the hilly landform and vegetation surrounding the dwelling to the southeast, east and northeast, which would obstruct views to the project.

It is acknowledged that the project would be visible in two separate locations from this dwelling. That is, to the south, at a distance of about 850 metres (reduced from 900 metres for the exhibited project), and to the northwest of the dwelling, at a distance of about 1.5 km metres. This distance reduces the prominence of the project in views in each of these directions. Together these portions of the project would not comprise a large extent of the overall horizontal field of view, with a large area of the existing view both to the east and west being unaltered by the amended project.

The preliminary impact screening assessment for sensitive receiver ID 1351 identified the need for a detailed visual assessment of this private dwelling. Although the private dwelling is within 500 m of the project, the detailed visual assessment identified there was a negligible visual impact at this sensitive receiver as:

- the dwelling was assessed as having a low visual sensitivity due to the view towards the project being a secondary view, and being screened by mature vegetation
- a negligible magnitude of change would be experienced from this view, as the project would not be prominent and there would be no perceived change in amenity.

Given the negligible visual impact, no photomontage was prepared for sensitive receiver ID 1351 in Cassilis. A photograph from the dwelling was included to illustrate the character of the views from this dwelling and support the findings of the detailed assessment.

There is no Tangaratta substation proposed as part of this project. Given the contents of the submission, it is assumed that this comment is in reference to the M1 switching station, located at the northern end of the Cassilis Connection. The view to this general location (from Rotherwood Road) has been considered in the assessment of viewpoint 18, to have a low-moderate impact rating. Due to this rating, no photomontage of this view is included in Technical paper 3 – Visual and landscape character.

A number of photomontages have been revised since the exhibition of the EIS and are presented in the Landscape Character and Visual Impact Assessment Addendum (Appendix F of the Amendment Report).

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## 4.8.2 General visual and landscape impacts – construction

### Submission ID numbers

244, 337

### Summary of issue

Two submissions raised concerns on the visual impact of the construction phase, with one of these submissions particularly concerned about residing near a construction workforce accommodation camp with potential lighting impacts at night.

### Response

#### Construction-phase impacts to landscape character

During construction, the project would result in negligible to moderate impacts to the landscape and representative public viewpoints during the day. Moderate impacts would occur in locations where views are close to the construction area, where there are views of concentrated construction activity (such as at energy hubs), where there are clear views to construction activities and/or where the removal of vegetation and temporary construction activities would contrast with the existing landscape character of these areas. Moderate landscape character impacts would be experienced within landscape character zones within the forested hills, rural valley and undulating rural hills landscape character types. These impacts would be temporary and transient along the transmission line alignment.

Construction of the project would result in low to moderate-high impacts to the landscape character of the study area at night. Impacts to landscape character during the night would occur where night-time lighting is introduced, and there is greater vegetation removal and prominence of temporary construction activities. This would include at the New Wollar Switching Station, the energy hubs at Merotherie and Elong Elong, and where the night lighting within the construction area would contrast with the predominantly dark rural character.

It is expected that some of these impacts would be reduced during construction through the implementation of mitigation measures outlined within the CEMP and the landscape and visual management sub-plan.

### **Construction impacts at night from lighting**

As per mitigation measure LV2, lighting at construction compounds and workforce accommodation camp(s) will be designed and operated in accordance with Australian and New Zealand Standard AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting. Compliance with the standard would ensure that light spill would be negligible at nearby receivers.

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## **4.8.3 General visual and landscape impacts – operation**

### **Submission ID numbers**

25, 30, 31, 32, 33, 38, 39, 42, 44, 51, 52, 53, 64, 67, 68, 72, 74, 75, 77, 83, 88, 95, 97, 99, 100, 101, 102, 107, 108, 109, 114, 118, 119, 126, 127, 129, 133, 134, 135, 136, 143, 144, 151, 157, 158, 163, 166, 168, 169, 175, 176, 177, 178, 179, 181, 182, 188, 191, 212, 215, 218, 219, 221, 226, 228, 229, 235, 242, 245, 247, 251, 252, 254, 258, 259, 262, 263, 266, 268, 271, 272, 276, 278, 279, 281, 283, 284, 285, 287, 288, 289, 290, 291, 292, 300, 306, 311, 323, 326, 328, 332, 333, 335, 337, 338, 339, 340, 341, 347, 352, 357, 358, 360, 361, 362, 363, 366, 371, 373, 374, 377, 379, 380, 382, 383, 384, 387, 390, 391, 395, 397

### **Summary of issue**

Comments about the landscape and visual impacts during operation of the project were raised in 131 submissions. The submissions placed high value on the appealing rural and natural views and landscape of the region and were concerned the project infrastructure would have a negative visual impact. Comments included:

- the transformation the landscape from rural to industrial due to the project
- the poor aesthetics and large size of the transmission towers
- the noticeable contrast of the project with the natural rural character of the surrounding landscape
- the degradation of scenic views from public locations, such as roads
- the reduction in the scenic setting of rural towns such as Cassilis
- the domination of transmission infrastructure in the landscape
- concerns about the impact of lighting the energy hubs and switching stations during operation at night.

## Response

The landscape character and visual amenity impacts of the project during operation are summarised in section 9.5 of the EIS and section 5.4 of the Amendment Report.

### Impacts to landscape character and visual amenity from project infrastructure

The main visual impacts during operation would be from the introduction of large-scale structures including transmission towers and energy hubs. Opportunities to minimise the potential landscape and visual impacts of the project have been considered during project development. This included:

- where possible, locating parts of the transmission line in previously disturbed areas (such as the mining areas)
- paralleling existing transmission line easements where possible to minimise new areas with transmission lines where there is no visual precedent
- consideration of the topography and any existing screening vegetation or other features
- minimising the overall transmission line length, where practicable, by coordinating generator connections to the energy hubs and locating the energy hubs centrally to renewable energy project locations
- maximising the distance between permanent project infrastructure (within the project easement) and existing dwellings and towns along the transmission line easement, including following a transmission line route which is located away from the towns of Gulgong and Dunedoo
- co-locating the New Wollar Switching Station with the existing Transgrid Wollar substation so as to utilise a location which is away from a large number of residential receivers.

Operation of the project and the presence of permanent project infrastructure would have moderate-low to moderate landscape character impacts within the identified landscape character zones during the daytime. The exception to this is within the Ulan mining landscape character zone (M-01) where the project would have a negligible impact given the very low sensitivity of this area.

The project would result in a range of visual impacts to selected public viewpoints such as roads, however given the prominence of the project within the rural landscape, and the lack of existing large scale structures, most assessed viewpoints would experience a moderate to high magnitude of change. Areas where a high magnitude of change would occur include locations where:

- the project would be seen at close range
- new transmission lines and 330 kV switching stations would contrast with the prevailing rural character and/or scenic qualities of the view, and where the view does not currently include any large-scale transmission lines
- the Merotherie and Elong Elong energy hubs would be prominent in a rural landscape and seen alongside connecting transmission lines.

Although there would be a high magnitude of change in these locations, when considered together with the visual sensitivity of the corresponding viewpoint, the resulting visual impacts range between low and moderate. Low visual impacts would occur where views include existing transmission infrastructure or mining development, and/or where there is some visual compatibility of the project with the character of the view.

### Impacts to landscape character and visual amenity from lighting

Operation of the project would introduce some low-level lighting at the New Wollar Switching Station, Merotherie Energy Hub and Elong Elong Energy Hub, and would result in moderate-low impact in landscape character zones during the night-time. Lighting at the energy hubs and switching stations will be designed and operated with consideration of minimising obtrusive lighting impacts.

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## 4.8.4 Impact to private views

### Submission ID numbers

32, 45, 48, 50, 64, 75, 84, 166, 169, 197, 208, 220, 256, 264, 298, 352, 360, 368, 377, 378, 394, 395

### Summary of issue

Twenty-two submissions raised concerns on impacts to private views from the project. The issues focused on negative impacts to picturesque rural private views from dwellings on host properties and neighbouring properties, primarily due to the large and visually unappealing transmission infrastructure. The lighting at energy hubs and switching stations during the night, were also raised as concern.

The following issues were raised with respect to specific properties:

- the alignment of the transmission lines as shown in the EIS is in direct view of a dwelling in Cassilis and a dwelling in Leadville
- the visual impact to the private view of sensitive receiver ID 1119 in Uarbry is believed to be significant rather than low and the impact to a new dwelling on that property, located about 100 metres from the transmission line alignment, will also be significant
- the high visual impact to the private views of sensitive receiver ID 399 in Stubbo due to the dwellings 240 metre proximity to the transmission line alignment
- the high visual impact to the private views of sensitive receiver ID 1103 in Turill due to the dwelling's uninterrupted view of the transmission line alignment and direct view of the Neeleys Workforce Accommodation Camp during construction
- the high visual impacts to the private views of sensitive receiver ID 616 in Cope due to the dwelling's uninterrupted view of the transmission line alignment and the potential for the transmission infrastructure to cause glare
- the high visual impact to the private views of sensitive receiver ID 717 in Tallawang due to the dwelling's high elevation, proximity to the transmission line alignment (about 400 metres) and direct outlook on the transmission line alignment, which would disrupt the view over the paddocks, distant hills and the Warrumbungles
- the high visual impact to the private views of sensitive receiver ID 367 in Cope due to the dwelling's proximity to the transmission line alignment
- the visual impact to the private view of an (unspecified) dwelling in Coolah
- the high visual impact to the private views of sensitive receiver ID 1057 and adjoining property (sensitive receiver ID 998) in Leadville due to the dwelling's proximity to the transmission line alignment, disrupting views to the river valley and surrounding hills
- the high visual impact to the private views of sensitive receiver ID 1044 in Turill due to the dwelling's proximity to the transmission line alignment
- the high visual impact to the private views of dwelling in Birriwa due to the dwelling's direct outlook onto the transmission line alignment
- the visual impact to a property in Tallawang (impact to their view of the valley)
- the visual impact of the transmission line alignment to a property in the Barneys Reef area
- the high visual impact to the private views of sensitive receiver ID 741 in Tallawang due to the dwelling's outlook onto the transmission line alignment.

## Response

EnergyCo recognises the concerns raised by the community and the importance placed upon rural views. In this regard, EnergyCo has sought to avoid or minimise impacts to private views during the project development phase by applying a 500 metre buffer to dwellings, as a preferred minimum offset distance. It is acknowledged that in some locations along the project alignment the transmission line is within 300 metres of dwellings. Where this has occurred EnergyCo has worked with the landowner to investigate alternative options, where possible. However, it is noted that when seeking to develop an alignment that balances other constraints such as biodiversity, technical, it has not always been feasible to adopt an alternative alignment. Since exhibition of the EIS, EnergyCo has made several amendments to the transmission line alignment in response to landowner feedback. These are contained in the Amendment Report.

As a general response to the summary of issues, in accordance with the assessment approach described in Section 9.2.2 of the EIS (and considering the response in Section 4.8.1 of this report), a preliminary impact screening identified 128 private dwellings located within two kilometres of the project. Any receivers outside this study area were not considered in the assessment. Of those 128 private dwellings, 91 were assessed as having the potential to experience visual amenity impacts from the operation of the project, and have been assessed further.

In response to issues raised with respect to specific properties:

- the sensitive receivers near Cassilis and Leadville identified to have potential views to the project were assessed to have a negligible to low visual impact, predominantly due to vegetation and landform screening
- the alignment has been adjusted in the vicinity of sensitive receiver ID 1119 at the owner's request given the proximity to the dwelling and line of site. The revised assessment is provided in the Amendment Report. The impact has been assessed as a low visual impact due to screening by existing vegetation and farm infrastructure. An assessment of the new dwelling (ID 1487) has also been included in the Amendment Report, with impacts assessed as having low visual impact
- the visual assessment confirmed there would be a high visual impact on sensitive receiver ID 399 due to the proximity and view to the project from multiple directions. It is acknowledged that in some locations along the project alignment the transmission line easement is within 300 metres of dwellings due to technical, and environmental constraints
- sensitive receiver ID 1103 is over a kilometre from the alignment, and has been assessed as having a negligible visual impact. The project crosses through trees to the west and the transmission lines would be viewed against the vegetated hills of the Durrigere SCA. The Neeleys Lane workforce accommodation camp would be over 750 metres from this dwelling during construction and there are some trees along Ulan Road that would act to screen the receiver from temporary impacts from this construction facility
- sensitive receiver ID 616 is about one kilometre from the project alignment and the visual impact level would be negligible as intervening vegetation would obstruct the view to the project. The proposed transmission lines and towers would not be made of reflective material and are not expected to cause glare
- a photomontage has been prepared for sensitive receiver ID 717 (assessed as having a high visual impact) and illustrates the extent of visibility. The trees surrounding the dwelling provide some limited screening of the transmission lines
- sensitive receiver ID 367 has been confirmed as a shed by the landowner. The Landscape character and visual impact assessment addendum (Appendix F of the Amendment Report) has been updated to include additional sensitive receiver ID 371, which would be located around 280 metres from the amended project. The views from this sensitive receiver would include the double row of 500 kV transmission line towers along the Merotherie Energy Hub connection. The visual impacts have been assessed as a high visual impact

- the two sensitive receivers in Coolah identified to have potential views to the project were assessed to have a low visual impact (ID 1323) and a moderate visual impact (ID 1324). As per the assessment methodology (refer Technical paper 3 – Visual and landscape character), the assessment includes dwellings within two kilometres of the project, with a view to the project. This is discussed in Section 4.8.1 of this report
- sensitive receiver ID 1057 was identified as having a low visual impact. The transmission line would be located around 900 metres to the south at its nearest point, with the transmission line extending to the east and north. In both these directions the landform and vegetation would limit the view to the transmission line. Sensitive receiver ID 998 is around 1.5 kilometres away from the project and has been identified as having a low visual impact. This assessment is based on a low magnitude of change, due to the distance to the project, with tower structures extending across the background, and views against vegetated hills
- since public exhibition of the EIS, the project alignment has been moved further away from sensitive receivers ID 1066 and ID 1044 based on feedback from impacted landowner. As such, the visual impact for sensitive receiver ID 1066 has been reduced from moderate to low (refer to Appendix F of the Amendment Report) a photomontage illustrating the revised view and a revised assessment of visual impact is contained in the Amendment Report
- a photomontage illustrating the revised view and a revised assessment of visual impact is contained in the Amendment Report
- sensitive receiver ID 902 is the only dwelling in Birriwa (within two kilometres of the project) identified to have potential views to the project and was assessed as having a negligible to low visual impact (refer to Section 4.8.1 of this report)
- there is no dwelling on the property in Tallawang, and as such a visual impact assessment is not required
- there are no dwellings identified in Barneys Reef as such a visual impact assessment is not required
- a high visual impact was identified for sensitive receiver ID 741 as documented in the EIS due to a prominent view of transmission infrastructure.

As per mitigation measure LV3 for private dwellings on non-host properties where the project is predicted to have a moderate or high visual impact, reasonable and feasible opportunities to reduce the visual impact (including the provision of screening vegetation) will be investigated. Appropriate visual screening or other options will be confirmed in consultation with the affected landowner (supported by detailed landscape plans where appropriate) and implemented either before or during construction. Reference to host properties is included in Section 4.8.5 of this report.

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## 4.8.5 Management and mitigation

### Submission ID

45, 64, 116, 217, 250, 360

### Summary of issue

Six submissions commented on the mitigation and management measures proposed for the project. For five of these submissions, a key concern was the issue of host properties not being considered for mitigation measures and also only properties up to two kilometres being considered for mitigation measures. One of the submissions was concerned no mitigation measures are identified for the visual impact on neighbouring properties, only for the properties hosting the project.

One of these submissions questioned whether the cost of mitigation measures for visual impacts is covered in the compensation payment for host properties, as host properties are not being considered for mitigation measures.



One of these submissions noted that they had provided suggested mitigation measures for a property in Cassilis including moving the location of the transmission line. Two of these submissions were related to sensitive receiver ID 717 in Tallawang and sensitive receiver ID 1103 in Turill.

## Response

The assessment of private views within a two kilometre distance of the project was conservatively selected based on the height of the proposed towers and their potential visibility as discussed in Section 4.8.1 of this report.

Reasonable and feasible mitigation will be investigated for private dwellings on non-host properties where the project is predicted to have a moderate or high visual impact (refer to mitigation measure LV3).

The assessment is on the basis that host properties would be compensated through the acquisition process under the Just Terms Act. The new Transmission Guideline supports this approach, stating the following in relation to easement affected receivers:

*'If a private landholding would host the proposed transmission infrastructure, and therefore be affected by an easement, then private receivers on that land do not need to be assessed in accordance with this document. That is because the affected landholder will be eligible for compensation under the Just Terms Act' (DPE, 2023e).*

The approach to developing the transmission line alignment considered a range of factors including technical (e.g. topography, ground conditions), environmental (biodiversity and heritage constraints, distance to dwellings) and landowner sentiment. It is acknowledged that in some locations along the project alignment, competing constraints are present which requires adopting a balanced approach to corridor planning to determine the most appropriate project alignment. As per mitigation measure LP1, the design will continue to be refined to minimise potential impacts on existing land uses and properties as far as practicable.

With reference to sensitive ID 717 as discussed in Section 4.1.5 of this report, a review of the alignment presented in the EIS, between Tuckland Road and the Tuckland State Forest was investigated, both to the north and south. Based on a number of factors including the location of proposed renewable energy projects, property boundaries, the proximity to sensitive receivers, biodiversity values, and the overall line length, the most efficient alignment, with the least impacts was considered to be that presented in the EIS. It is acknowledged the visual impacts to this receiver are high.

For Sensitive receiver ID1103 the transmission line was realigned in response to landowner/ community feedback and aligned with the approved LRWF alignment at this location.

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## 4.9 Biodiversity

### 4.9.1 Impact assessment approach

#### Submission ID

55, 65, 166, 169, 177, 206, 207, 251, 269, 279, 282, 348, 361, 386

#### Summary of issue

Fourteen submissions commented on the approach to the assessment of biodiversity impacts for the project. Comments raised included:

- who was responsible for calculating the total biodiversity impacts and determining whether the impacts are acceptable
- it was suggested that further assessments and studies be completed to fill in the gaps in the Biodiversity Development Assessment Report (BDAR), especially related to the potential impacts on threatened species and their habitats, to ensure the full extent of impacts are available prior to determination of the project
- questioning the adequacy and accuracy of the approach and data provided in the BDAR including:
  - a final assessment of biodiversity impacts is not available as it is subject to detailed design
  - the loss of critically endangered Grey Box Grassy Woodland is not adequately considered
  - the impacts to current Wilpinjong Coal Mine Regent Honeyeater biodiversity offset requirements was not adequately assessed or accounted for species credits
  - the Glossy Black Cockatoo was not adequately considered
  - the bird and bat surveys were inadequate
  - the timing of survey for the Swift Parrot was not appropriate for the species and would have ensured that no sightings would be made
  - direct impacts to the following birds have been underestimated; Wedge-Tailed Eagles (*Aquila audax*), Black-Shouldered Kite (*Elanus axillaris*), Nankeen Kestrel (*Falco cenchroides*) and various hawk species.
  - the assumption that Large-Eared pied bat and the Large Bent-winged bats live in these trees and along Cockabutta Creek would move away to live elsewhere
- the impact on the insect population from the project not been adequately addressed. it was recommended that the NSW Bird Atlassers (a not-for-profit charitable organisation seeking to provide accurate long-term data about Australia's native birds) be consulted on the birds present in the study areas as they have a comprehensive knowledge of the birds sightings in the region
- an updated version of Figure 10-2 in the EIS was requested to show threatened ecological communities (TECs) in and around the New Wollar Switching Station.

#### Response

##### Responsibility for calculations and assessment

The biodiversity impacts were calculated by qualified and accredited ecologists from WSP as detailed in the Technical paper 4 – BDAR and the updated BDAR in Appendix G of the Amendment Report. DPHI assess the project and the associated impacts (including biodiversity impacts) and either grant approval or refuse approval of the project. DPHI receive advice from the Department of Climate Change, Energy, the Environment and Water – Biodiversity Conservation Services (DECCW – BCS) on the assessment of biodiversity impacts.

## Approach to surveys and impact assessment

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with Commonwealth and State legislation and the BAM (DPIE, 2020a). The BAM sets out how biodiversity values will be assessed, prescribes requirements to avoid and minimise impacts, establishes rules for calculating the number and class of credits required for unavoidable impacts, and determines the trading rules that will apply (with respect to offsets).

The BAM specifies the type and extent of surveys required for a biodiversity assessment. A variety of survey methods were used to identify TECs. A detailed description of the methods used to assess biodiversity impacts is provided in Chapter 2 of the updated BDAR in Appendix G of the Amendment Report.

Since the exhibition of the EIS, additional biodiversity field surveys and assessment has been undertaken to account for the revised construction area associated with the proposed amendments. Additional field survey was also undertaken on additional parcels of land where access was not possible during preparation of the BDAR to support the EIS. In addition, further summer (seasonal) surveys were undertaken in late 2023/early 2024 across the construction area. These surveys are captured in the updated BDAR in the Appendix G of the Amendment Report. Seasonal survey for threatened species was limited in some locations as a result of access restrictions, resulting in some areas being unsurveyed or only surveyed in certain seasons. As a result the assessment has adopted a conservative approach and assumed presence for a number of threatened species.

The disturbance area would be confirmed during finalisation of the project design and construction methodology and would be developed with the aim of avoiding and minimising potential impacts to biodiversity, where practicable. The final design would not have greater biodiversity impacts than those identified in the updated BDAR in Appendix G of the Amendment Report. If a proposed refinement during detail design and construction planning is not consistent with the planning approval, it would be considered a project modification. Any modification would require further approval under Division 5.2 of the EP&A Act.

## Assessment of vegetation

Determination of native vegetation cover, extent and connectivity, and broad condition of vegetation types within the study area was undertaken using aerial photography, desktop assessment and field surveys, in accordance with the BAM. Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia was identified in the construction area and has been fully assessed.

The TECs in and around the New Wollar Switching Station are shown in Figure 14-11 in Chapter 14 of the updated BDAR.

## Survey of birds and bats

The survey and assessment of bats and birds (including the Regent Honeyeater and Glossy Black Cockatoo) was completed in accordance with BAM and considering the *Survey Guidelines for Australia's Threatened Birds* (DCCEEW, 2010). Reliable databases on birds have been sourced for the assessment. The NSW Bird Atlassers have not been specifically consulted, however a summary of their submission and accompanying response is included in Section 5.15 of this report.

Diurnal bird surveys were undertaken across the construction area in August, November, and December 2022 and February 2023. The BAM-C does not specify a recommended period for undertaking surveys for the Swift Parrot. The location of diurnal bird survey sites is shown in Figure 14-7 in Appendix G of the Amendment Report. Wherever threatened bird species were absent from the site, habitat assessments were conducted to determine the likelihood that the investigation area might support those species that are known to occur in the region.

Microchiropteran bat surveys were undertaken using Ultrasonic Anabat bat detection (Titley Electronics) to record and identify the echolocation calls of micro bats foraging across a number of native vegetation communities in the subject land. Spotlighting and call playback was used to target threatened nocturnal arboreal, flying and ground-dwelling mammals, birds, reptiles and amphibians.

Opportunistic sightings of animals were recorded including birds, mammals, frogs, and reptiles throughout all survey periods.

### **Assessment of impacts to birds**

The fauna assessment included detailed assessments of the potential impact of loss of habitat for threatened species including the Glossy Black Cockatoo and Regent Honeyeater. As the Wedge-tailed Eagle, Black-Shoulder Kite and Nakeen Kestrel are not listed threatened species, they were not subject to detailed assessment. However, an assessment of broader impacts of the project on habitat, habitat connectivity and bird strike was completed.

The impacts to mapped important habitat for Regent Honeyeater including the habitat within the biodiversity offset sites associated with Wilpinjong Coal Mine were assessed and included in the credit calculations for biodiversity offsets. The existing vegetation was surveyed and assessed, but the calculator does not assess impacts to offset sites and falls outside the BAM and biodiversity offset scheme. Accordingly, a land-based ratio approach has been applied that demonstrates an improved biodiversity outcome and which is in addition to the BAM requirements for the same area. Further details on offsets proposed for the project is provided Section 4.9.8 of this report.

### **Assessment of impacts to bats**

The impact of clearing on the habitat on the Large-eared Pie Bat and Large Bent-winged Bat was assessed. The project is not anticipated to have any direct impacts on irreplaceable habitat features like karst, caves, cliffs, crevices, and other formations that are essential for cave-dependent bat species such as the Large-eared Pie Bat.

### **Assessment of impacts to insects**

Endangered insects were considered in the BDAR, however they are referred to as invertebrates. Active searches were undertaken targeting the Key's Matchstick Grasshopper and the Golden Sun Moth. Suitable habitat for the Golden Sun Moth was not deemed to be present.

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## **4.9.2 General biodiversity impacts**

### **Submission ID**

25, 31, 32, 39, 42, 52, 55, 62, 65, 67, 68, 72, 74, 97, 100, 101, 107, 108, 124, 125, 126, 128, 138, 166, 168, 169, 171, 174, 177, 179, 186, 199, 206, 213, 217, 218, 219, 220, 221, 228, 234, 250, 262, 263, 265, 266, 272, 278, 282, 283, 284, 285, 287, 288, 289, 292, 297, 301, 315, 316, 317, 324, 334, 336, 344, 361, 370, 379, 380, 389, 390, 391, 394, 395

### **Summary of issue**

Seventy-four submissions commented on the assessment of biodiversity impacts of the project. Comments included:

- general concern about the impact to biodiversity from the project
- why areas with high biodiversity value such the Durrigere SCA, Coolah Tops National Park and vegetation along Cockabutta Creek were not avoided.

## Response

While efforts have been made to avoid biodiversity impacts, impacts have not been able to be completely avoided and will be addressed through biodiversity offsets. Impacts to high value biodiversity areas have been avoided or minimised along the project corridor where practicable. Actions taken to minimise and avoid impacts to biodiversity during project development include:

- locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines
- avoiding areas of dense vegetation associated with the Goulburn River National Park
- locating energy hubs on land mostly devoid of TECs and with little to no native vegetation
- avoiding populations of *Zieria ingramii*, *Diuris tricolor* and *Homoranthus darwinioides* identified during field surveys near Spring Ridge Road and Sandy Creek Road at Cobbora
- revising the alignment through Moolarben to minimise the extent of Regent Honeyeater habitat impacted by the project
- using large areas of cleared land to enable development of a transmission line alignment that avoids or minimises impacts to high-quality ecological values, where practicable
- employing avoidance measures for the identified Little Eagle breeding habitat at the Merotherie Energy Hub
- including the 330 kV transmission line connections to provide an optimised transmission network solution that would reduce both the number and length of transmission lines in the network thereby minimising potential environmental impacts associated with this infrastructure.

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330 kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares.

The project avoids direct impacts to Coolah Tops National park, which is located about 14 kilometres north east of the construction area.

The project traverses Cockabutta Creek at one location near Birkalla Road, Merotherie. Beyond this location, the construction area remains outside the riparian vegetation associated with Cockabutta Creek.

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### 4.9.3 Impacts to terrestrial biodiversity

#### Submission ID

31, 47, 48, 51, 63, 77, 84, 87, 95, 101, 102, 116, 138, 166, 206, 251, 259, 261, 271, 273, 279, 300, 302, 310, 314, 323, 332, 337, 338, 348, 360, 361, 363, 368, 372, 377, 386, 397

#### Summary of issue

Thirty-seven submissions commented on the impacts to terrestrial biodiversity during construction of the project. Comments raised included:

- the clearing of vegetation and destruction of habitat is seen as extensive with impacts to old growth trees. The clearing of 1,032 ha was considered high and disruptive to ecosystems

- impacts to White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands TECs are unacceptable
- impacts to fauna species were also considered unacceptable, with the following species specifically referred to:
  - Regent honey eater (*Anthochaera phrygia*)
  - Large-eared Pied Bat (*Chalinolobus dwyeri*)
  - Eastern Cave Bat (*Vespadelus troughtoni*)
  - The Glossy Black Cockatoo (*Calyptorhynchus lathami*)
  - Koalas (*Phascolarctos cinereus*)
  - Wedge-tailed eagles (*Aquila audax*)
  - Grey-Crowned Babbler (*Pomatostomus temporalis*)
- the clearing of habitat was raised as harmful to native animals such as birds, flying foxes, emus, wallabies, kangaroos, echidnas and other small marsupials
- the disruption of habitat connectivity was raised as a concern particularly for squirrel gliders where the proposed easement cuts through vegetation near Tuckland State Forest
- the project was also raised as likely to disturb the nesting habits of Wedge-tailed eagles.

## Response

In response to amendments to the project, and further field surveys, the biodiversity impacts from the project have been updated and are summarised in section 5.5 the Amendment Report and detailed in Appendix G (Updated BDAR).

### Impacts to native vegetation

Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. The BDAR recognises that there is a risk that the impacts to White Box-Yellow Box-Blakelys Red Gum Grassy Woodland would be a Serious and Irreversible Impact (SAIL).

The locations of TECs will be considered and potential impacts avoided or minimised to the greatest extent practicable during finalisation of the detailed design and construction methodology.

### Impacts to fauna species

Fourteen threatened fauna species would be directly impacted by the project during construction through loss of habitat. The threatened species directly impacted comprise birds, bats, the Koala, a glider, a lizard and a snake. The direct impacts to the threatened Glossy Black Cockatoo, the Koala, and Grey-Crowned Babbler would not be significant considering the amount of existing habitat in the construction area. Three threatened fauna species are identified as being at risk of a SAIL including the Regent Honeyeater, Large-eared Pied Bat and Eastern Cave Bat.

The project would impact around 111 hectares of mapped 'important habitat' for the Regent Honeyeater, which represents around 0.37 per cent of the species' geographical range. This would result in localised fragmentation of the species habitat. However, the population is not currently considered to be severely fragmented (based on EPBC Act criteria and regulations), and therefore there is no evidence that the population would become unviable as a result of the project's construction.

Construction of the project has the potential to impact habitat connectivity for the Squirrel Glider, threatened woodland birds and threatened bat species where the transmission line easement intersects areas of native vegetation, including adjacent to Tuckland State Forest. The transmission lines would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected for all species. While the impacts to connectivity would be permanent, the potential consequences would be minor. Any impacts are likely to reduce over time as biodiversity acclimatises to the presence of the transmission line and towers.

As the Wedge-tailed Eagle is not a listed threatened species, it was not subject to detailed assessment. However, an assessment of broader potentials impacts of the project on native fauna has been conducted. The project has the potential to impact threatened fauna due injury or mortality arising due to collision with transmission lines, EMF and vehicle strike. These impacts would be below and subject to mitigation measures as required

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## 4.9.4 Aquatic ecology impacts

### Submission ID

51, 337

### Summary of issue

Two submissions commented on potential impact to aquatic fauna from the project including the impact on waterways which support platypus, frogs and toads.

### Response

Construction of the project would be mostly comprise of above-ground construction activities, except for underground fibre optic cabling which would interact with around 29 water courses along some areas of the transmission line easement. These would be placed in conduits installed below the water courses. These would be constructed by under boring or directional drilling,

Energy hubs and switching stations are located outside core riparian zone areas, and all transmission line towers would be located as far as practicable from waterways, where feasible and reasonable. Road upgrades, along Merotherie Road and Spring Ridge Road, as described in the Amendment Report, would require work within Talbragar River and Laheys Creek respectively.

Any indirect impacts associated with construction of the project (such as reduction in water quality due to soil erosion), would be readily managed through mitigation measures including B17, WA4, WA5, FL9.

Temporary impact associated with vehicle watercourse crossings during construction would be limited where practicable to existing farm tracks and crossing points, and any impact to water quality would be temporary and negligible with the implementation of mitigation measures. Temporary watercourse crossings in the form of culverts, causeway, bridges or fords may be required during construction where alternative vehicle access routes are impractical.

Where infrastructure does interact with creek crossings, measures will be put in place to minimise impacts (refer to Mitigation measures regarding creek impacts). As per mitigation measure B17, watercourse crossings would be designed and installed in accordance with relevant NSW Department of Primary Industries (DPI) guidelines for watercourse crossings including:

- *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge, 2003)
- *Guidelines for Controlled Activities on Waterfront Land* (DPI, 2022)
- *Policy and Guidelines for Fish Habitat and Conservation and Management* (DPI, 2013).

Each riparian area would continue to function as it currently performs. It is considered unlikely that temporary impacts would result in any long-term degradation of mapped key fish habitat areas or aquatic ecology.

Once operational, the project would have negligible impacts on aquatic habitats for threatened species. Any disturbance for maintenance activities would be infrequent and of lower magnitude than construction. Environmental operational protocols would be implemented to minimise any impacts to downstream watercourses.

Endangered frog or toad species were not identified as likely to be present in the construction area. As the platypus is not a listed threatened species, it was not targeted during surveys and subject to detailed assessment.

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## 4.9.5 Groundwater dependent ecosystems

### Submission ID

348

### Summary of issue

One submission commented on the impact to groundwater dependent ecosystems (GDEs).

### Response

Construction of the project would result in direct impacts to vegetation in areas mapped as high priority GDEs. These direct impacts have been considered in the assessment of removal of native vegetation.

The project is unlikely to result in any indirect additional impact on GDEs as a result of changes to the groundwater regime within the construction area, as none of the construction or operation activities would result in any permanent groundwater take or permanent groundwater drawdown that would alter the groundwater flow outside of the direct impact areas.

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## 4.9.6 Bird strike

### Submission ID

261, 349

### Summary of issue

Two submissions commented on the risk posed to flying foxes and birds due to the presence of transmission lines.

### Response

The project has the potential to impact threatened fauna due to injury or mortality arising from collision with transmission lines. While this type of indirect impact has the potential to lead to an increase in bird and flying fox mortality, mitigation measures (including bird flappers/divertors) would be implemented to ensure the likely impacts are minimised. In addition:

- the project is mostly located well away from waterways and major wetlands that would provide habitat for large flocks of water birds, which reduces the overall risk
- transmission lines are likely to be below flight paths for most species.



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## 4.9.7 Management and mitigation

### Submission ID

45, 101, 274, 300, 324, 360

### Summary of issue

Six submissions commented on the mitigation measures proposed to address the biodiversity impacts. Comments included:

- if a third party will be monitoring whether the Network Operator is avoiding eagle nests during construction
- what measures will be taken to protect the Glossy Black Cockatoo after the destruction of their habitat.

The following mitigation suggestions were also suggested:

- further consideration of methods to avoid the destruction of vegetation including large groups of trees
- collection and storage of seed and DNA for all impacted flora and fauna in the construction area to enable regeneration in the future
- preparation of comprehensive grid plans of the construction area to record where species existed and enable future generations to undertake regeneration
- installation of corridors to allow fauna movement between habitat areas
- installation and maintenance of permanent watering points for the fauna.

### Response

Monitoring, inspections and independent audits of the implementation on mitigation measures will be undertaken in accordance with the CEMP and the conditions in the project's approval. As per mitigation measure B2, prior to construction activities taking place within the Little Eagle nest buffer and during the breeding season (from Spring until after young and fledged in early Summer), an ecologist will be engaged to determine if the species is present. If present, an impact assessment of proposed activities will be completed to determine what, if any, activities can take place within the buffer area, and what mitigation measures need to be implemented.

Habitat for threatened bird species, including the Glossy Black Cockatoo, would be impacted by vegetation clearing. Mitigation measures have been identified to address impacts on availability of nesting hollows. Mitigation measure B6 commits to preparing and implementing a supplementary hollow and nest strategy that requires the creation of nest boxes, or other hollow creation method, to provide alternative roosting and/or nesting habitat for threatened fauna displaced during clearing.

Mitigation measures B1 and B4 aim to minimise impact to vegetation clearing and disturbance of watercourses. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values and disturbance to watercourses.

Connectivity corridors are to be investigated in the form of installation of under transmission line glider poles (in accordance with clearance requirements for transmission lines and infrastructure) where the construction area will impact habitat connectivity for arboreal species. As per mitigation measure B5, the exact location and design of under-transmission line glider poles and/or rope bridges will be nominated as part of a Connectivity Strategy.

The project is not anticipated to impact many farms dams. Where the positioning of transmission line structures and other associated permanent structures will impact farm dams, consultation will be undertaken with the affected landowner to identify opportunities to avoid or minimise these impacts, where practicable. The presence of transmission lines would not prevent access to dams within the transmission easement. The installation of additional watering points is not proposed as part of the project.

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## 4.9.8 Offsets

### Submission ID

38, 68, 87, 101, 102, 206, 250, 269, 279, 282, 292, 301, 348, 360, 363, 386

### Summary of issue

Sixteen submissions commented on the approach to offsetting biodiversity impacts.

It was raised that biodiversity offsets would not be adequate to replace the destruction of threatened vulnerable and protected flora and fauna. There was concern the project relies too heavily on biodiversity offsets which should be considered the final measure after all other options to reduce the biodiversity impacts have been explored. It was also considered the project undermines the offset process by clearing offset areas associated with Wilpinjong Coal Mine.

Further detail on the Biodiversity Offset Strategy was sought and it was perceived that insufficient detail has been provided in the EIS. It was also suggested that requested offsetting be undertaken as close to the impacted areas as possible including considering that host landowners are paid to establish offset by EnergyCo to protect valuable forest land on their property.

### Response

The design development of the project from the identification of the revised study corridor through to the current EIS study corridor has aimed to avoid or minimise potential impacts (refer to Section 4.1.5). Developing an alignment that avoided or minimised environmental constraints has been generally applied throughout the project development process including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and habitats. While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided.

The Biodiversity Offsets Scheme (BOS), established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

EnergyCo's strategy to secure biodiversity offsets comprises four options of:

- establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project
- working with the Credit Supply Taskforce to purchase and retire biodiversity credits
- purchasing and retirement of existing biodiversity credits currently available on the biodiversity credit register
- making a payment into the Biodiversity Conservation Fund.

EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund.

EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

Subject to ongoing interest and detailed biodiversity surveys, the biodiversity stewardship agreements would address around half of the project's biodiversity offset liability, or most of the project ecosystem credits. It is noted that around 45 per cent of the project's offset liability relates to species credits, which aren't always present at biodiversity stewardship sites, or historically available on the market. If species credits cannot be retired through stewardship agreements, purchased on the open market or through the Taskforce, EnergyCo would need to pay into the Biodiversity Conservation Fund.

Determining the appropriate offsets for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. The following properties have been acquired:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## 4.10 Aboriginal heritage

### 4.10.1 Impact assessment approach

#### Submission ID numbers

334, 348

#### Summary of issues

Two submissions commented on the assessment approach undertaken in relation to Aboriginal heritage. The submission questioned the methodology used for measuring the project's impacts to Aboriginal heritage items and places.

Concerns were also raised regarding the lack of engagement with the Aboriginal community, representatives and organisations which contradicted EnergyCo's acknowledgment of Traditional Custodians. These concerns related to the perceived lack of representation and perception about the representation of Aboriginal voices in interviews, the number of landowners interviewed and the potential presence of Aboriginal deposits and sites on properties that had not been surveyed. It was also questioned which Aboriginal group was consulted regarding the project with respect to the Orana area.

#### Response

##### Aboriginal Heritage methodology

The Aboriginal Cultural Heritage Assessment Report completed for the EIS (Technical paper 5 – Aboriginal cultural heritage) (ACHAR) has been informed by a desktop assessment and comprehensive field investigations completed in accordance with relevant NSW and Australian legislation and guidelines (refer to section 11.1 of the EIS).

This includes the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011), which was used to determine the cultural significance of Aboriginal sites identified within the study area. This guideline provides guidance for Aboriginal heritage impact assessments with reference to the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (ICOMOS, 2013)

The assessment of potential impacts to Aboriginal heritage has been undertaken by adopting a 'worst case impact'. Conducting the impact assessment in this way allows for a level of flexibility to be maintained throughout the continued development of the project design and construction planning processes, while also providing a rigorous level of impact assessment that addresses the SEARs for the project.

### **Engagement with the Aboriginal community**

Consultation for the project has been carried out in accordance with the methods outlined in NSW DECCW – Heritage NSW's (Heritage NSW) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b) as well as additional project-specific communication strategies.

Consultation has been undertaken in a manner which promotes transparent and frequent two-way dialogue with the Aboriginal community. Discussions with the Registered Aboriginal Parties (RAPs) was extensive and wide-ranging over the assessment process between August 2022 and April 2023. RAPs were engaged early in the impact assessment process and consisted of Aboriginal stakeholders and/or communities that expressed interest to participate following contact by EnergyCo. These Aboriginal stakeholders and/or communities were identified in line with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b) through engagement with relevant State government agencies (including Heritage NSW) and advertisements placed in local media.

The RAPs include locally based Wiradjuri and Gomeroi individuals and organisations based primarily in Orange, Dubbo, Wellington and Gunnedah, as well as the broader Aboriginal community with an interest in cultural heritage management. RAPs also include representatives of the claimants for two known native title claims under the Commonwealth *Native Title Act 1993* (NC2011/006 and NC2018/002) identified in the construction area through searches of the registers maintained by the National Native Title Tribunal.

Field surveys and test excavations were undertaken over a 10 month period by archaeologists and 15 RAPs to validate the desktop assessment findings. Further investigations have been completed since the exhibition of the EIS, including additional test excavations and field survey of areas that had not been surveyed at the time of the EIS display and/or areas subject to the proposed project amendments (as described in the Amendment Report). RAPs have also participated in these additional field investigations.

A First Nations Working Group was also established in 2020 to help inform the preliminary design for the transmission corridor. A First Nations Working Group comprised of Aboriginal community representatives, LALCs, Aboriginal working parties, government support services and local First Nations organisations has been re-established to support and coordinate local First Nations community engagement during the planning and development phase of the REZ Transmission line project, and other REZ projects.

A detailed description of the approach to assessment and consultation is described in Chapter 3 and Chapter 4 of the ACHAR and Chapter 3 of the ACHAR addendum (Appendix H of the Amendment Report). A detailed outline of the consultation undertaken, and list of registered Aboriginal parties involved is provided in Appendix A of the ACHAR and Appendix C of the ACHAR addendum.

Furthermore, five Aboriginal organisations (including three LALCs) were invited to participate in interviews for the SIA as part of the EIS. However, only two interviews with Aboriginal organisations were carried out.

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## 4.10.2 Aboriginal heritage impacts

### Submission ID numbers

38, 57, 58, 101, 102

### Summary of issues

Five submissions commented on the impacts to Aboriginal heritage from the project. The permanent impacts on Aboriginal cultural heritage within and near the construction area were raised as an issue and it was commented that this contrasted with the project's stated concern for preserving Aboriginal culture and heritage in culturally significant areas such as the Warrumbungles. Two of these submissions projected a loss of five to 15 percent of identified sites within the construction area.

Concerns about impacts to Aboriginal cultural heritage value along the banks of Laheys Creek, the interface between Barneys Reef and the surrounding lowlands near Tallawang were raised. Concerns for a suite of grinding grooves on discrete sandstone dominated hills in the northwest of Merotherie Energy Hub, and an abundance of diverse sites along Wilpinjong Creek were also highlighted.

Concerns about the impact to current and future Native Title claims from the project were raised.

### Response

#### Impacts to Aboriginal cultural heritage

The project has sought to balance the various environmental and social features present within the construction area with engineering limitations and project costs (refer to Chapter 2 (Strategic context) of the EIS). This has included avoiding, where possible, impacts on Aboriginal objects and/or sites and/or areas that have or could have Aboriginal heritage value based on the desktop assessment and field survey outcomes. The project has avoided direct impacts to Aboriginal sites identified through desktop assessments and field surveys including:

- relocation of the construction area to avoid two of the most significant grinding groove sites at Prospect Creek and Talbragar River (north of Merotherie Energy Hub) found during field investigations
- shifting of the transmission line alignment in the vicinity of Cockabutta Creek, southeast of the Merotherie Energy Hub following the identification of culturally important places by RAPs
- refinements of the construction area to the east of the Wilpinjong Mine to avoid/minimise impacts on documented cultural sites and places.

There are 50 identified Aboriginal sites within the construction area (as amended). In addition to these sites, zones of archaeological potential were identified throughout the construction area, consisting of all land within the construction area that is within 150 metres of watercourses, including Sandys Creek, Laheys Creek, Deadmans Creek, Bora Creek, Cumbo Creek, Planters Creek, Wilpinjong Creek, Tallawang Creek and Copes Creek.

The assessment of potential impacts to Aboriginal heritage has been undertaken by adopting a 'worst case impact'. Conducting the impact assessment in this way allows for a level of flexibility to be maintained throughout the continued development of the project design and construction planning processes, while also providing a rigorous level of impact assessment that addresses the SEARs for the project. As a result, the assessment of Aboriginal heritage impacts has conservatively assumed that the construction area in its entirety could potentially be impacted by the project.

Mitigation measures have been identified to minimise and avoid impacts to Aboriginal heritage sites. Of the 50 Aboriginal sites and places, 23 sites are proposed for avoidance or impact minimisation through project-specific management and mitigation measures, including a regionally significant grinding groove site. As per updated mitigation measure AH1, the project will avoid impacts to the following identified Aboriginal objects and/or sites within the construction area:

- the proposed workforce accommodation camps and construction activities at the Merotherie Energy Hub will establish a heritage protection zone to avoid SNI-GG02 to SNI-GG09 inclusive
- the proposed workforce accommodation camps and construction activities at Neeleys Lane will establish a heritage protection zone to avoid SNI-AS65
- the proposed construction activities at break and winch sites near the Talbragar River will establish a heritage protection zone to avoid direct impacts to Argyll No.3 (#36-3-0111)
- a protection zone will also be implemented at the Elong Elong energy hub to protect cultural material within 150 m of Laheys Creek (excluding the unavoidable impacts associated with the crossing of Laheys Creek by the transmission corridor, which will be minimised), and ground disturbance associated with upgrades and maintenance along Spring Ridge Road and Dapper Road).

EnergyCo is continuing to explore the potential avoidance of sites of high and moderate significance, and especially where they are located within the energy hubs and workforce accommodation camps. The project design and construction methodology would continue to be refined to avoid or reduce impacts to Aboriginal sites. This would include investigating further micro-siting of project infrastructure and construction activities to avoid or minimise impacts to sites of high significance, such as rockshelters, grinding grooves, culturally modified trees and areas within 150 metres of Deadmans Creek, Bora Creek, Cumbo Creek, Wilpinjong Creek, Tallawang Creek (north crossing) and Copes Creek.

### **Native title**

The Register of Indigenous Land Use Agreements did not identify any agreements that apply to the construction or operation area of the project. The project would not impact the three existing native title claims identified within the study area used to undertake the land use and property assessment as described in EIS Chapter 7 (Land use and property). As the project would not impact Native Title claims, it would not contribute to cumulative impacts on Native Title claims.

RAPs engaged on the project includes representatives of the claimants for two known native title claims under the Commonwealth *Native Title Act 1993* (NC2011/006 and NC2018/002) identified in the construction area through searches of the registers maintained by the National Native Title Tribunal.

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## **4.10.3 Management and mitigation**

### **Submission ID numbers**

348

### **Summary of issues**

One submission commented on the mitigation measures aimed at minimising the project's impacts on Aboriginal heritage, questioning how these can be measures, accepted or mitigated.

## Response

Comprehensive mitigation measures that would be implemented to avoid or minimise potential impacts to Aboriginal heritage are outlined in Section 11.5.2 of the EIS. These measures will be implemented to address and manage potential impacts to these sites and potential future finds. Prior to construction, a dedicated Aboriginal Cultural Heritage Management Plan (ACHMP) sub-plan will be jointly prepared by the Network Operator and a suitably qualified heritage professional and developed in consultation with the RAPs and Heritage NSW. This sub-plan aims to proactively manage and avoid impacts to Aboriginal heritage identified within the construction area. Furthermore, a heritage interpretation strategy will be developed to identify interpretive values and guide potential interpretive opportunities for the project.

Mitigation measures AH1, AH2, and AH3 aim to avoid and minimise impacts on Aboriginal heritage by implementing avoidance strategies such as establishing heritage protection zones, investigating micro siting of project infrastructure, and conducting On-Country meetings with participating Elders to discuss efforts to conserve and communicate appropriate important information about places of cultural value intersected by the project. These measures provide comprehensive approach to preserving and respecting Aboriginal heritage throughout construction and operation of the project.

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## 4.11 Non-Aboriginal heritage

### 4.11.1 Impact assessment approach

#### Submission ID numbers

35, 102, 289

#### Summary of issues

Three submissions commented on the non-Aboriginal heritage impact assessment approach in the EIS. Comments included:

- the Warrumbungle Shire Community Based Heritage Study 2019 or other council heritage studies were not included in the non-Aboriginal heritage impact assessment
- the assessment did not consider locations of significance to the landowner
- many of the 26 identified non-Aboriginal heritage items were not surveyed due to access constraints and it was suggested all items be properly surveyed and assessed prior to project approval
- the justification for neutral impacts on some archaeological and non-Aboriginal heritage sites, due to proximity to existing transmission lines, when the project involves larger transmission infrastructure with greater impacts.

## Response

### Assessment approach

The historic heritage assessment has been prepared to address the SEARs as they relate to non-Aboriginal heritage, and in accordance with the relevant guidelines which provide a framework for identifying and managing historical significance under the *Heritage Act 1997* (NSW). The assessment involved desktop research and field surveys. A detailed description of the methodology used to undertake the assessment is provided in Technical paper 6 – Non-Aboriginal heritage.

As discussed in Section 4.1, the framework for developing and refining the project corridor was based upon environmental, community and engineering constraints. Non-Aboriginal heritage constraints were considered within this approach. These constraints were used in combination with the project objectives (as detailed in section 2.4 of the EIS), to develop the study corridor for the project and the basis for study corridor refinement. EnergyCo has been in discussions with landowners along the alignment since early/mid 2022 and while landowners were not specifically consulted as part of the non-Aboriginal heritage assessment, where project engagement with landowners and community raised heritage concerns, these informed the EIS and development of the project.

The identification of Tallawang Union Church (CWO-22-HH09b) and Tallawang Catholic Church (CWO-22-HH09c) was informed by local landowners and led to the implementation of ground penetrating radar survey to validate and further understand the complexities of the site. The results of the ground penetrating radar survey have been used to further assess and implement additional mitigation measures to avoid impacting. The findings of the ground penetrating radar is provided in section 5.7 of the Amendment Report.

### **Previous heritage studies**

A desktop assessment was undertaken to develop an understanding of the known and potential historical heritage values of the study area, identify areas of known or potential heritage value for subsequent field surveys, and to provide a context against which the heritage significance of these values was assessed. Background research that formed part of the desktop assessment included a literature review of previous heritage studies, including the Warrumbungle Shire Community Based Heritage Study (2019), the Shire of Coolah historical study, as well as general histories of relevance to the study area (refer to section 3.3.3 of Technical paper 6 – Non-Aboriginal heritage).

### **Access constraints**

Field surveys were conducted between September 2022 and April 2023 to validate the findings of the desktop review, record and document the heritage values of items within and adjacent to the construction area.

Of the 26 identified sites in the EIS, six unlisted potential heritage items identified in the desktop assessment were not able to be surveyed due to land access restrictions. This included CWO-22-HH4 (Avondale homestead), CWO-22-HH21 (MCP Site 12), CWO-22-HH17 (Mittaville Archaeological site), CWO-22-HH16 (MCP Site 10), CWO-22-HH15 (Moolarben Archaeological site), CWO-22-HH14 (Cope Road Archaeological site).

The significance of these six potential unlisted heritage sites was assessed based on available mapping and information from existing studies. For the purposes of the assessment, it was assumed that these items may be present. Two of the unsurveyed items (Cope Road Archaeological site and Moolarben Archaeological site) are located outside the construction area and would not be directly impacted by the project.

The remaining four items would be avoided if possible, based on the final siting of infrastructure. Additionally, construction methodologies will be refined to avoid and/or minimise direct and indirect impacts to listed and potential historic heritage items where reasonable and feasible. One heritage item, Mittaville Archaeological Site, which was not surveyed, was considered likely significantly impacted by past demolition and construction of the existing electrical transmission line easement.

### **Neutral impacts**

The identified significance of impacts are based on a combination of the nature of the expected impacts (i.e. direct, indirect or no impact) the sensitivity of the heritage item, as well as the likely magnitude of change which would be experienced.



The project would result in indirect impacts of neutral and/or slight significance (one unlisted, and two listed) due to visual impacts arising from the presence of new transmission infrastructure, however impacts are not considered significant enough to diminish the cultural significance in the region to the degree where it is no longer recognisable.

For example, for the listed Wandoona Homestead (CWO-22-HH222), the homestead is located around 2.3 km from the proposed transmission line (beyond the visual assessment study area of 2 km), with an existing transmission line present adjacent to the project. In addition, the homestead also faces the east, away from the project. As such, while the heritage sensitivity of the item is considered 'moderate' the likely magnitude of change has been assessed as 'negligible', resulting in a 'neutral/slight' impact rating.

For the listed Goulburn River National Park (CWO-22-HH23) while it's heritage sensitivity is considered 'moderate', the likely magnitude of change has been assessed as 'negligible' resulting in a neutral/slight impact rating. This is due to the presence of the existing transmission line running on a parallel pathway to the proposed transmission line easement, and lack of significant views in the direct of the project.

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## 4.11.2 Non-Aboriginal heritage impacts

### Submission ID numbers

35, 38, 116, 217, 220, 332

### Summary of issues

Six submissions commented on non-Aboriginal built heritage impacts. Comments included:

- the loss of non-Aboriginal heritage items from the Australian colonial period
- the potential significant impact to the stone road embankment heritage item (CWO-22-HH18) which could collapse due to increased ground movement
- the demolition or significant alteration of Spir Road Cottage heritage item (CWO-22-HH08) during construction
- potential impacts to older non-Aboriginal heritage sites/houses, particularly from ground movement and vibration which could destabilise and deteriorate the ground under these sites, resulting in the destruction and collapse of these structures.

### Response

#### Australian colonial period

The project is located in a landscape that retains evidence of the Australian colonial period to the present day. The project may result in direct impacts (full or partial disturbance) to 17 locally significant unlisted heritage items located partially or wholly within the construction area. The significance of these impacts would be neutral to slight/moderate. Indirect impacts of neutral/slight significance would occur at one unlisted heritage item and the two locally listed heritage items due to visual impacts arising from the presence of new transmission infrastructure. None of the impacts identified are significant enough to diminish cultural significance in the region to a degree where it is no longer recognisable.

## Ground movement and vibration

'Stone Road Embankment' (CWO-22-HH18) and 'Spir Road Cottage' (CWO-22-HH08) are both located within the construction area and may be directly impacted by construction activities, such as vegetation clearance and tower placement. In accordance with mitigation measure HH2, construction methodologies will be refined as part of continued development of the project design and detailed construction planning to avoid and/or minimise direct impacts to 'Stone Road Embankment' (CWO-22-HH18) and 'Spir Road Cottage' (CWO-22-HH08), where reasonable and feasible.

There is one unlisted non-Aboriginal heritage item (the Pine Park Wool Shed – CWO-22-HH19) identified within the minimum working distances, which has potential to be impacted by vibration from construction activities.

Another non-Aboriginal heritage item (Lahey's Creek Cemetery – CWO-22-HH06) is located outside the minimum working distances for heritage items, however due to the condition of some items within the cemetery, this site has been identified as potentially highly vibration sensitive. Mitigation measure HH08, includes the completion of a structural assessment of the standing headstones to determine if additional conservation works may be required to mitigate nearby construction works. Prior to and during any activities with the potential to generate vibration related impacts that exceed tolerance levels identified by the structural assessment, a vibration monitor will be installed within the cemetery at the closest point to construction works to confirm that vibration levels are compliant with applicable criteria.

However, impacts to heritage items due to vibration would be confirmed prior to any vibration generating works occurring in proximity to the relevant item. If required, specific criteria will be developed and management responses may include alternative methods or monitoring to manage this risk.

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### 4.11.3 Impacts to cemeteries

#### Submission ID numbers

35, 69, 332

#### Summary of issues

Three submissions commented on potential impacts to cemeteries during construction. Concerns related to the cemetery at Laheys Creek were raised, including that:

- the 'Laheys Creek Cemetery' has been incorrectly identified, and should instead be identified as 'Falconer Family Graveyard'
- the assessment has incorrectly assumed the 'Falconer Family Graveyard' is not currently used, however there are existing descendants who have the graveyard listed as their burial site in their wills
- family relations of the Falconers have stated that there are stories of unmarked graves outside the graveyard fence of Aboriginal workers and non-family members which may be impacted by construction
- the delicate gravestones within cemeteries would be damaged during construction, even with the recommended 100 metre boundary implemented.

One of these submissions commented that a graveyard is present within the property of the Tallawang community which was subject to non-intrusive subsurface investigation for they are currently awaiting confirmation of the grave sites.

## Response

The cemetery located on the eastern edge of the proposed Elong Elong Energy Hub, adjacent to Laheys Creek was referred to as Laheys Creek Cemetery (CWO-22-HH06) in the EIS. It was acknowledged in Technical paper 6 – Non-Aboriginal heritage that the cemetery is associated with the Falconer family and is on land selected by Catherine Falconer herself. The community, including descendants of the Falconer family, who still live in the area, value the connection to these pioneer settlers. It was also noted that reports in secondary sources held by the Gulgong Historical Society suggest that there are up to 40 unmarked graves at the Laheys Creek cemetery site/Falconer Family Graveyard. This was considered in the assessment, with updated mitigation measure HH10 requiring an exclusion area to be established prior to construction to avoid impacts to any unmarked graves and headstones.

Prior to and during any activities with the potential to generate vibration levels that exceed tolerance levels identified by the structural assessment, a vibration monitor will be installed within the cemetery at the closest point to construction works to confirm that vibration levels are compliant with applicable criteria (mitigation measure HH9).

Following consultation with landowners at Tallawang, two potential cemeteries were identified within the construction area. In accordance with Technical paper 6 – Non-Aboriginal heritage, limited information was available to confirm the specific location of these cemeteries. Therefore, a program of sub-surface investigation using Ground Penetrating Radar (GPR) was completed in September 2023 to potentially identify these sites. The GPR survey suggest the presence of graves and buried architecture on the church lots and makes further recommendations regarding avoidance of these sites. The findings of the GPR survey is provided in section 5.7 of the Amendment Report.

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### 4.11.4 Management and mitigation

#### Submission ID numbers

35, 116

#### Summary of issues

Two submissions commented on the non-Aboriginal heritage mitigation measures identified in the EIS. Comments included:

- some of the mitigation measures, such as shielding heritage items, are inadequate and that the EIS did not recommend sufficient protection for non-Aboriginal heritage items
- it was suggested that the transmission corridor should be moved to avoid all non-Aboriginal heritage items by a wide margin, and specifically to avoid the stone road embankment heritage item (CWO-22-HH18)
- it was also suggested that non-Aboriginal heritage items should be constantly monitored for impacts that could occur during construction, and all locations should be surveyed during construction.

#### Response

Non-Aboriginal heritage impacts would be managed in accordance with the CEMP. As part of the CEMP, a Historical Heritage Management Sub-Plan (HHMP) will be prepared. The HHMP will include as a minimum:

- measures that would be implemented to manage potential impacts on items of heritage significance
- inclusion of heritage awareness and management training within the site induction process for relevant personnel involved in site works

- details regarding the conservation and curation of any non-Aboriginal heritage artefacts recovered during works.

As per mitigation measure NV5, vibration sensitive Aboriginal and non-Aboriginal heritage items which have potential to be impacted by construction will be confirmed prior to the commencement of vibration generating works in proximity to relevant structures. Suitable, item specific criteria will be developed for heritage items and vibration impacts at these locations will be managed before commencement of construction. This may include the use of alternative construction methods which generate lower levels of ground vibration and the installation of vibration monitors while vibration intensive activities are conducted. An exclusion buffer area is currently only proposed for the cemetery at Laheys Creek (mitigation measure HH10).

It is acknowledged that in some locations along the project alignment, a number of competing environmental and technical constraints are present which requires adopting a balanced approach to corridor planning to determine the most appropriate project alignment. As per mitigation measures HH2 and HH3, construction methodologies will be refined to avoid and/or minimise direct and indirect impacts to listed and potential historic heritage items where reasonable and feasible.

In response to concerns raised about heritage Item (CWO-22-HH18 – Road Embankment (site 4, a)). Avoidance of this site was not considered feasible, as a shift of the transmission line alignment to the west would impact Transgrid Line 79 and move into the active mining area of Wilpinjong Coal Mine. A shift to the east would encroach into a larger area of Peabody’s biodiversity offsets. The current alignment the current alignment was developed in consultation with Peabody and sought to co-locate with Transgrid’s Line 79 to reduce additional biodiversity impacts e.g. Regent Honeyeater habitat.

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## 4.12 Social

### 4.12.1 Impact assessment approach

#### Submission ID

38, 57, 69, 101, 102, 116, 148, 166, 169, 185, 217, 229, 240, 250, 251, 258, 289, 292, 299, 301, 348, 353, 363

#### Summary of issue

Twenty three submissions commented on the approach to the SIA.

Of these submissions, 19 raised issues with the adequacy of the engagement undertaken to inform the SIA. There were concerns that the number of community members engaged through online survey and interviews was too small and therefore not representative of the views and values of the community. The engagement was estimated in submissions to have reached less than 0.1 per cent of the regional population. The determination in the technical paper with respect to landowner interviews that “the sample size of landowners (28 total) provided sufficient depth of information but was not considered statistically significant” was questioned. The engagement for the SIA was not considered to meet the SEARs and SIA Guidelines (DPE, 2023b).

The method for selecting who was engaged for the assessment was considered unclear. It was questioned as to why the Community Reference Group (established by EnergyCo as a forum for discussion between EnergyCo, the community and key stakeholders about the REZ transmission project and broader REZ issues) was not asked to participate and why only two interviews with public services and two interviews with Aboriginal organisations were carried out. There was a concern the approach to selecting people to engage was biased towards the objectives of the proponent. There were also concerns that questions asked in the interviews and surveys were leading with the intent of getting the preferred responses. Transparency around the types of questions asked and how these meaningfully correlate with areas of social impact was requested.

The surveys were also perceived as poorly scheduled as they overlapped with the harvest in November and December 2022. It was questioned why the targeted engagement did not involve specific travel through the region to gather on site data except for face-to-face interviews. Direct engagement with a broader cross-section of the community was requested. It was suggested that every host and neighbouring landowner should have been interviewed personally to gain a deeper understanding of their concerns. It was questioned how the assessment determined there would be a high positive impact to the livelihoods of host landowners when so few landowners were interviewed.

Other issues raised with the approach to the SIA were:

- it relied too heavily on desktop analysis
- it was not prepared by locals and/or unbiased persons
- not all impacts to the community were considered including mental health impacts
- it did not have meaningful characterisation and analysis of localities
- the distinction between local and regional social localities seemed arbitrary
- several local place names were incorrectly used in the technical paper for example 'canadian lead' misspelt as 'canadian lease'
- the classification of indirect impacts is not applicable to rural developments where impacts to the regional centres directly affect the surrounding community
- the outcomes of engagement were not analysed in enough detail
- Dunedoo was not discussed with respect to impact on supermarkets and medical services.

One of the submissions commented that the assessment lacked objective methods for gauging mental health, well-being, stress and social cohesion in the community. It was requested the methods be peer reviewed then the assessment redone.

## Response

### Engagement activities as part of the SIA

The SIA, (EIS Technical paper 7 – Social), was prepared in accordance with the SEARs and SIA Guidelines (DPE, 2023b). Engagement for the SIA focused on those who would most likely be affected by the project, and on providing opportunities for stakeholders to raise concerns and provide feedback, while also being mindful of avoiding consultation fatigue.

The criteria for selecting participants is outlined in section 3.4.2 of Technical paper 7 – Social and included:

- landowners and businesses located near project infrastructure including energy hubs
- dwellings identified as noise and or traffic-sensitive receivers or
- dwellings subject to potential visual impacts from project infrastructure.

Interviewees were also invited to suggest other landowners or community members to be interviewed. Stakeholders, landowners, and community representatives were located in Merotherie, Gulgong, Coolah, Uarbry, Turill, Tallawang, Mudgee, Leadville, Dunedoo, Stubbo, Cope, Elong Elong, Cassilis, Bungaba, and Wollar.

Three main engagement methods were used to inform the SIA, comprising:

- face-to-face interviews over three weeks in November 2022. Interviews were conducted at times and locations suggested by participants. While 23 in-person meetings were conducted, this number is not reflective of the number of people who attended each interview. In most instances, there were at least two people present in meetings, and in interviews with community organisations, often larger groups were present

- phone and online interviews. The SIA team interviewed stakeholders between October 2022 and May 2023. A total of 21 interviews were completed. Several attempts were made to interview public services and First Nations representatives, some of which chose to decline a formal interview
- online survey. The online survey provided an opportunity for landowners located adjacent to and within the construction area to provide feedback and insights regarding the project. The survey was open between 10 November and 8 December 2022, with 104 responses received.

With reference to concerns on timing of engagement activities, while the online survey was active between November and December 2022, other SIA engagement methods extended from October 2022 through to May 2023. The online survey provided an opportunity for landowners located adjacent to and within the construction area to provide feedback and insights regarding the project. The survey was distributed to 80 landowners and a total of 104 responses were received during this time. Thus, it is assumed that the harvest season did not impact the capacity of landowners to participate. The spike in responses corresponded to the survey being passed onto additional nearby landowners and community representatives.

Four field trips were carried through to inform the SIA, including the scoping report. Interviews were conducted at times and locations suggested by participants, which meant the SIA team was able to travel through the different localities nearby the project.

Based on the engagement outlined above, it was found that in-depth and detailed information was provided by those landowners, community members and Councils that were interviewed, including in survey responses. It was found that key concerns, aspirations, ideas, and interest were commonly repeated across stakeholders interviewed, indicating a general ‘saturation of information’ (i.e. that further interviews would not lead to better information. Interview findings were consistent with online survey findings and further complemented and were cross-checked against EnergyCo stakeholder engagement findings. The SIA further contextualised the project with a review of relevant Council and community strategic planning documents within the regional social locality, which gave further context regarding key priorities and views of the diverse communities surrounding the project.

It is acknowledged in the SIA that further engagement with First Nations representatives and public services is required to inform the drafting of mitigation measures. The establishment of a First Nations liaison group (mitigation measure SI6) and the development of the Social Impact Management Plan (mitigation measure SI8) will provide further opportunities for providing input for this group.

Interview questionnaires and online survey questions that were used as part of the engagement activities carried out for the SIA are provided in Appendix B of Technical paper 7 – Social. These included open-ended questions focused on understanding primary concerns and potential impacts, how concerns could be addressed, what benefits have been identified as potentially arising from the project, and how benefits could be enhanced. The questions were specifically designed to be open ended to avoid any bias or engineering of a preferred response.

In addition to the engagement findings provided in Chapter 5 of the Technical paper 7 – Social, a detailed summary of all feedback provided by each stakeholder group was provided in Appendix D of Technical paper 7 – Social.

The criteria that determined a ‘high’ livelihood enhancement for landowners hosting infrastructure included, that landowners hosting infrastructure would receive the SBP Scheme, and there was a moderate magnitude, defined as a noticeable improvement to something that is valued by people. Specifically, landowners hosting infrastructure identified that the main benefit of the project is financial, allowing them to complement their income when farm cashflow is reduced. The duration of the benefit over 20 years also determined the magnitude.

While 28 landowners were interviewed, their input was complemented with the online survey findings, which provided findings from a broader range of perspectives. It was acknowledged that at the time of conducting interviews there were landowners hosting infrastructure that were not aware of the Benefit Payment Scheme (BPS). It was also acknowledged that some landowners raised concerns that compensation and the BPS was not keeping up with land value.

### Assessment approach – general

The SIA, as detailed in Technical paper 7 – Social, was prepared in accordance with the SEARs and *Social Impact Assessment Guidelines* (DPE, 2023b), including the required desktop analysis to inform the assessment and determination of the boundaries for the local and regional social localities. The SIA was prepared by suitably qualified SIA practitioners, as established by the *Social Impact Assessment Guidelines* (DPE, 2023b).

The social locality was defined following the SIA Guideline methodology and was further refined to respond to feedback provided by the DPHI during the Scoping phase and to account for project scope refinements. The Social Locality expands beyond the project corridor, auxiliary infrastructure, and transportation routes. It includes 9 LGAs at the regional level and 41 localities at the local level.

Indirect impacts are understood as impacts caused by the project, but that are later in time or farther removed in distance but are still reasonably foreseeable. Direct and indirect impacts are assessed with the same rigor and methodology, and mitigation measures are assigned to all impacts independent of them being direct or indirect. The SIA identified direct, and indirect impacts as required by the SIA Guideline in the context of the project.

It is acknowledged that in the local social locality there is a spelling error of the locality of ‘Canadian Lead’ (misspelt as Canadian Lease).

Impacts to supermarkets and medical services in Dunedoo were assessed as part of the Regional social locality. The assessment found impacts to be low due to Dunedoo’s distance to the project construction area and the services proposed in workforce accommodation camps.

Impacts to mental health, well-being, stress, and social cohesion in the community are assessed in Technical paper 7 – Social in accordance with the SIA guidelines (DPE, 2023b), by using a matrix of likelihood and magnitude, where the level of community concern and vulnerability were identified as key considerations for the assessment ratings. The method used in the SIA to assess changes to mental health, wellbeing and social cohesion as a result of the project included an understanding of:

- the community health and wellbeing (section 4.5 of the Technical paper 7 – Social), which included understanding pre-existing health conditions in the social locality and vulnerable groups
- accessibility to health services (section 4.4.2.3 of the Technical paper 7 – Social), which included understanding services capacity and resources to deliver health services locally. This section was largely informed by consultation and desktop research
- surroundings (section 4.7.3 of the Technical paper 7 – Social), which included an understanding of climate event exposure for communities. In this case it identified both bushfires and flooding events within the social locality which had impacted mental health and livelihoods of many within the social locality.
- community values (section 4.2.2 of the Technical paper 7 – Social), which identified what communities value most about their lifestyle. Being community cohesion a notable value present in the community. This information was sourced via interviews and online survey
- SIA Engagement findings (Chapter 5 and Appendix D of the Technical paper 7 – Social), which identified community and landholders concerns and potential impacts to mental health and wellbeing as well as community cohesion.

While the SIA identified that these impacts would be more heavily experienced by landowners hosting infrastructure and adjacent neighbours, it also acknowledged that community members across the local social locality could experience some of these social impacts.

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## 4.12.2 General social impacts

### Submission ID

27, 33, 42, 51, 59, 62, 63, 65, 67, 69, 73, 89, 97, 100, 101, 102, 108, 112, 116, 117, 119, 122, 123, 125, 127, 128, 130, 131, 146, 157, 161, 166, 167, 169, 171, 176, 177, 179, 182, 183, 186, 188, 194, 195, 199, 208, 213, 217, 218, 219, 220, 221, 228, 234, 238, 250, 251, 254, 257, 259, 262, 265, 268, 272, 274, 277, 279, 281, 283, 288, 289, 291, 293, 297, 298, 299, 307, 312, 315, 316, 325, 327, 328, 335, 337, 338, 349, 352, 354, 360, 361, 362, 363, 365, 367, 369, 372, 373, 375, 380, 381, 382, 384, 388, 389, 390, 395, 396

### Summary of issue

Concerns about the general negative social impacts of the project on the community were raised in 107 submissions. Comments included:

- concern that the project would be detrimental to the welfare of the community, diminish quality of the life and sense of place and disrupt the local way of life and people's livelihoods
- the project is seen to have a negative impact on the social cohesion of the local community with concern that the project will continue to cause division and resentment in the community particularly between those who support it and benefit from it and the rest of the community. The unequal distribution of benefits is considered a key contributor to the degradation of social cohesion
- the project is considered responsible for causing stress and depression within the local community. The mental health impacts to landowners subject to compulsory acquisition was raised as an issue due to stress from the forced acquisition, loss of land they place high value on, uncertainty due to the design process, amenity impacts from the project infrastructure, changes to their way of life and impacts to their financial situation
- concerns the local community is particularly vulnerable to social impacts due to the trauma from recent droughts, floods, mice plagues, covid and bushfires, and stress from the economically volatile agricultural industry. The tendency to avoid discussions on mental health and seek professional help among sections of the community would further inhibit the ability of the local community to cope with the impacts of the project. This is exacerbated by the lack of mental health resources in the local area, which would further inhibit the communities ability to handle mental health impacts from the project. Locals with chronic health issues would also be more vulnerable to social impacts from the project
- concerns that families and individuals will leave the region due to the impacts from the project leading to degradation of the local communities. There is anxiety in the community about the future viability of farming in the region, and the possibility of disruption to generational farming practices (where the family farming business may not be taken over by the next generation)
- perception that the urban population is forcing this project on the local community, places no value on regional communities and has no regard for their rights and wishes.

### Response

Section 6.5 of Technical paper 7 – Social identifies changes to health and wellbeing including diminished mental health amongst landowners and diminished health and wellbeing due to potential amenity impacts. Changes to way of life and the way people enjoy and connect with the environment are also identified in the SIA.

Section 6.1.1 of Technical paper 7 – Social acknowledges that changes to community cohesion have already been experienced between residents hosting and neighbouring infrastructure. The SIA also details how detrimental effects to community cohesion are likely to be disproportionately experienced by landowners hosting infrastructure and their neighbours across the local social locality, resulting in a high unmitigated impact for those groups.



More broadly, for the local social locality, this impact would be experienced as a medium unmitigated impact. No impact to community cohesion is anticipated for the regional social locality.

Landowners with infrastructure on their land would experience the greatest land use and property impacts and would be compensated accordingly. It is acknowledged that land acquisition can be a stressful process for landowners. Landowners have been provided with an acquisition support team to help them understand their rights and obligations together with any other aspect of the acquisition process. Each landowner directly impacted by the project has a dedicated Land Acquisition Managers who acts as their point of contact throughout the acquisition. A mental health support telephone service has been established to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned (new mitigation measure S10).

Management and mitigation measures are in place to minimise the unequal distribution of impacts from the project. Landowners with infrastructure proposed on their property would be subject to direct impacts such as loss of land and land use restrictions. These landowners would be eligible for compensation through the Just Terms Act, as well as SBP. In general, many agricultural practices would be managed can continue during the project's operation in accordance with easement conditions.

Technical paper 7 – Social acknowledges that landowners neighbouring (but not hosting) infrastructure would experience an unequal distribution of visual impacts and benefits. EnergyCo will investigate opportunities for the provision of screening vegetation or other options for private dwellings where the project is predicted to have a high-moderate or high visual impact to mitigate in part those impacts (mitigation measure LV3).

As noted in Section 4.1.1 of this report, the location of the Central-West Orana REZ was based upon several factors including the extent of renewable energy resources. EnergyCo recognises the value of the regional community where the REZ is located and seeks to deliver lasting positive outcomes through the CEBP for the Central-West Orana REZ. The program will be administered by EnergyCo to deliver community projects and employment opportunities in recognition of the broader changes to the region. This program aims to share the benefits of the Central-West Orana REZ with local communities, First Nations, councils and stakeholders beyond those that would be available to individual landowners hosting transmission lines or projects. These would be delivered separately to the project.

The SIA acknowledges that the many landowners and community members who lived through recent bushfires and flooding events discussed undertaking significant recovery efforts, and the grief and trauma they experienced throughout those events.

The following plans and strategies have been identified to mitigate changes to social cohesion and mental health:

- ensure personnel appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues (mitigation measure S11)
- pre-construction and construction Communication and Engagement Plan (management measure S15)
- Social Impact Management Plan (mitigation measure S18)
- complaints management systems (mitigation measure S17).

A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support.

Biosecurity management plans, flooding mitigation measures, and Asset Protection Zones (APZ) will also contribute to mitigate potential impacts to mental health associated with concerns over risk to bushfire, floods and biosecurity.

As noted in section 7.2.1 of the Technical paper 7 – Social, the project is anticipated to have limited restrictions on agriculture activities during operations, allowing for the continuity of farming practices. The impact of land take associated with individual transmission towers on agricultural activities is expected to be minor due to the relatively small size of the tower footprints and the distance between the towers. The remainder of the agricultural land within transmission line easements would continue to be used for agricultural operations for grazing, and cropping activities, subject to easement restrictions.

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### 4.12.3 General social impacts – construction

#### Submission ID

39, 42, 44, 47, 62, 66, 71, 92, 97, 102, 116, 150, 152, 167, 206, 221, 230, 250, 254, 279, 299, 312, 317, 319, 352, 355, 363

#### Summary of issue

Concerns about the negative social impacts on the community during construction of the project were raised in 27 submissions. Construction activities and the associated influx of construction workers are considered to be overwhelming for locals and disruptive to the local way of life. The amenity impacts from construction are expected to have a negative social impact on the local community.

The establishment of construction workforce accommodation camps is expected to cause social issues. There are concerns the large numbers of construction workers proposed to be accommodated in the region during construction would have a negative impact of community cohesion, particularly in Cassilis due to the Neeleys Lane workforce accommodation camp located about 13 kilometres south west. It is believed the construction workforce would not contribute to the local community as they will work all day and reside in accommodation camps.

Concerns about the security and safety of local residents during construction were raised in 16 submissions. The presence of large construction workforce was highlighted as detrimental to the local communities' sense of safety. Concerns were also raised by landowners about the about large numbers of strangers entering their property during construction. Submissions noted that properties in the area have limited security.

The security and safety concerns associated with the construction workforce included:

- damage and theft of livestock and farming plant and equipment
- trespassing
- anti-social behaviour
- illegal drug use
- use of the sex work industry.

It was also noted in a submission that crime rates are perceived to be high within the Central-West Orana region, and the presence of construction activities may further exacerbate criminal activity. The presence of a large workforce may attract criminals interested in car theft and burglary. The presence of heavy machinery in the construction area may also attract criminal behaviour such as vandalism, theft and trespassing. This potential attraction of criminal behaviour may have overflow consequences to neighbouring properties which causes concern for safety and security of the local community.

Disruptions to utilities such as telecommunications, gas and electricity during construction was raised as an issues for local residents and businesses. It was noted that disruption to utilities would place stress on local business owners due to the associated costs to the business.

## Response

The SIA acknowledged the influx of a large non-resident workforce could lead to changes to sense of safety within the local social locality, especially for vulnerable groups such as the elderly, women and children. While the construction workforce would reside in the workforce accommodation camps where food services and entertainment would be provided, workers would be permitted to visit the local towns during resting time. Changes to sense of safety would be experienced to a higher degree by the communities around Merotherie and Turill where the workforce accommodation camps are located.

Impacts to sense of safety due to an influx of the non-resident workforce will be mitigated by the development of a Workforce Management Plan (mitigation measure S12) prior to construction, which will include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc.

The Workforce Management Plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others. The plan will be reviewed every six months to identify and manage any unanticipated impacts.

Security and surveillance measures for the workforce camps would include boundary fencing, CCTV, cameras, locked gates, movement/sensor lights, and alarms. Security fences and site access will also be provided at construction compounds.

Where adjustments or relocations to utilities are required during construction, short-term disruptions to these assets may occur. Any disruptions would be managed by the utility owner and affected property owners would be notified in advance of any disruptions. Furthermore, individual Property Management Plans will be developed in consultation with each landowner, which would include access arrangement and protocols. Contact details for the person who will liaise with landowners to provide direct avenues of enquiry for information and issues management will also be provided, as per mitigation measure AG3. This would allow landowners to have direct communication channels and pertinent details regarding activities occurring on the property and their timing.

A survey of existing mobile coverage in the vicinity of the project was completed and based on that survey, a number of telecommunications solutions are being investigated that will both provide the coverage required by the project as well as reduce the risk of decreasing coverage for the local communities as a result of the increase in the number of people in the area associated with project.

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## 4.12.4 Disruption to social and commercial services during construction

### Submission ID

34, 38, 47, 57, 60, 66, 69, 70, 71, 84, 102, 109, 116, 147, 157, 171, 274, 279, 284, 285, 286, 288, 291, 299, 301, 303, 304, 305, 311, 317, 335, 338, 343, 352, 353, 363, 371, 375, 379, 381

### Summary of issue

Forty submissions commented on the disruption to social services from construction of the project. The impact of the large construction workforce on already strained local social services was raised as an issue. The concern is that additional pressure from the project will make it difficult for the local community to access social services. It was noted that medical services in the region were currently particularly stretched. The following services were identified as not having capacity to meet the additional pressure from the project:

- medical services including hospitals, General Practitioners (GP) and nurses
- mental health services
- ambulance services
- firefighting services including RFS and Fire and Rescue NSW
- police
- housing and accommodation
- commercial centres in nearby small towns including the pubs and supermarkets (food supply).

### Response

The Network Operator has committed to medical service provision to reduce demand on existing medical services in the region. This includes plans to engage medical practitioners (likely to comprise two full time paramedics and one full time nurse), who would administer antibiotics and pain medication for the construction workforce.

The availability of accommodation has been identified as a constraint to mobilising additional medical resources to regional areas. EnergyCo has recently signed a Memorandum of Understanding with Health NSW to investigate opportunities to co-fund the delivery of key health worker accommodation in Coolah, Mudgee, Dubbo and Wellington.

As per new mitigation measure S10, EnergyCo has provided a mental health support telephone service to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned. A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support in the local community.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce (updated mitigation measure S15).

The construction workforce is proposed to be housed in the workforce accommodation camps to minimise pressure on housing and accommodation availability in the region. It is anticipated that at the commencement of construction, prior to the operation of the workforce accommodation camps, a small number of construction workers would utilise existing local hotel, motel and rental accommodation. These numbers would generally be limited primarily to those required for the establishment of workforce accommodation camps, as well as a small number of project management personnel.

Construction material and supplies, including food supplies for workforce accommodation camps, would be sourced locally and in consultation with resource providers, where practicable, to benefit the local economy. Materials and supplies that are not available locally or are not available at the required quantity would be sourced from other locations within NSW. Mitigation measure SI4 requires the preparation of an Industry Participation Plan, which will identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery). The plan will also identify the readiness of local and Indigenous businesses and suppliers to meet potential additional demand, setting procurement targets, attending tailored events for local and Aboriginal businesses to explore project related opportunities, and monitoring the availability of essential goods and services sourced locally.

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## 4.12.5 General social impacts – operation

### Submission ID

50, 57, 59, 102, 216, 240, 242, 245, 323, 353, 360, 379, 394

### Summary of issue

Thirteen submissions commented on the negative social impacts on the community during operation of the project. Comments included:

- concerns the environmental, economic and amenity impacts of the project would diminish the local quality of life and potentially lead to community members leaving the region
- loss of agricultural land, vegetation clearing, and the visual amenity impacts from the project are expected to reduce the local communities' sense of place. Stress and fear from the potential risk to safety and health from the project due to bushfire risk and EMF was raised as an issue for the local community
- host landowners were highlighted as impacted with their connection to land and enjoyment of their properties expected to be diminished, particularly due to the potential high visual impacts on dwellings. The potential impact to succession planning for family farming business hosting the project was also raised
- the description of operational social impacts as 'perceived' was raised as an issue as it was considered patronising.

### Response

Members of the community that place importance on local landscape value and vistas could experience a diminished sense of belonging due to concerns about potential and perceived visual impacts and the perceived 'industrialisation' of the local and regional area as a result of the project. It was perceived that this may lead to people relocating to other areas.

The SIA acknowledges that perceived impacts of the project can lead to material impacts such as diminished health and wellbeing. The SIA identifies changes to health and wellbeing as including diminished mental health amongst landowners and diminished health and wellbeing due to amenity impacts. Changes to way of life and the way people enjoy and connect with the environment are also identified in the SIA.

The main amenity impact during operation would be visual impacts from the introduction of large-scale structures including transmission towers and energy hubs. Loss of agricultural land during operation would be limited to areas with permanent project infrastructure. The remainder of the agricultural land within the amended operation area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions.

As outlined in Section 4.6.8 of this report, landowners would be compensated for the temporary and permanent use of land for the project in accordance with the Just Terms Act. Potential land use, property and agricultural impacts from the project would be minimised through a range of mitigation measures as listed in Appendix B of this report.

Stress due to perceived health and safety risks associated with project from EMFs and bushfire risk were identified in the SIA and considered to have a potentially high unmitigated impact significance. As described in Section 4.15.9 of this report, EMF risk from the project has been assessed in detail and is not predicted to pose a risk to health.

To manage bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations. Vegetation within transmission line easements would be managed cleared and maintained as APZs to ensure safe electrical clearances would be achieved during operation.

Health and wellbeing impacts and diminished sense of belonging during operations are expected to be mitigated by the following plans, systems and strategies:

- Operational Communication Plan (mitigation measure SI9), focused on maintaining communications with those located in close proximity to the transmission line to provide updated information and monitor experience and concerns
- Social Impact Management Plan (mitigation measure SI8), which will refine the social impact mitigation measures to be implemented and the impacts that they are intended to address and set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation
- bushfire measures, including APZs and access for firefighting appliances will be provided in accordance with section 2 of the RFS Fire Trails Standards (mitigation measure BF2)
- investigating opportunities for the provision of screening vegetation or other options for private dwellings where the project is predicted to have a high-moderate or high visual impact (mitigation measure LV3).

The word perceived is used to describe those impacts where there is no sufficient evidence that material changes will occur on a specific issue, however there is a high level of concern by the community which could lead to changes to health and wellbeing and behaviour.

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## 4.12.6 Community social benefits

### Submission ID

101, 102, 109, 138, 263, 279, 289, 346

### Summary of issue

Eight submissions commented on the lack of social benefits from the project. Comments included:

- the unequal distribution of impacts and benefits from the project was raised as an issue. The project is considered to lack benefits for the local community who would be subject to impacts. The project is seen as only benefitting the urban areas with no compensation for the impact to the local community
- the employment benefits to the local community are seen as non-existent or minimal and increased access to renewable energy sources is not considered a benefit. The benefits to the community are considered to be inadequate for the scale of the impacts of the project
- compensation and the benefits payment scheme to host landowners is not considered a positive social benefit as it is outweighed by the impact of the compulsory acquisition such as loss of property rights, inadequate compensation and disruption to businesses.

## Response

The SIA acknowledges that there will likely be an unequal distribution of unmitigated impacts and benefits associated with the project. It is anticipated that neighbouring landowners will experience heightened impacts and that project benefits will be distributed amongst landowners hosting infrastructure and more broadly by businesses and workforce across the local and regional social locality. Mitigation measures have been identified to minimise impacts based on their scale and nature.

Landowners with infrastructure proposed on their property would be subject to direct impacts such as loss of land and land use restrictions. These landowners would be eligible for compensation through the Just Terms Act, as well as SBPs. The SBP would provide a dependable annual payment to landowners which is in addition to the compensation paid under the Just Terms Act. In terms of loss of property rights, inadequate compensation and disruption to businesses please refer to Section 4.6.8 as it provides further detail as to how properties are valued and landowners compensated.

Negative impacts to landowners hosting infrastructure will also be mitigated by the following measures:

- Landowner Engagement Strategy (mitigation measure SI1)
- individual Property Management Plans and precondition assessments (mitigation measure AG3)
- disturbed areas would be rehabilitated in consultation with the relevant landowner and documented in individual Property Management Plans (mitigation measure LP9).

Negative impacts to neighbouring landowners are expected to be mitigated by investigating opportunities for the provision of screening vegetation or other options for private dwellings where the project is predicted to have a high-moderate or high visual impact (mitigation measure LV3).

Broader potential impacts from the project on the wider locality would be addressed through a range of mitigation measures as listed in Appendix B of this report.

The following plans, systems and strategies will contribute to maximising the delivery of benefits:

- A Local Workforce Participation Strategy (mitigation measure SI3), which will investigate opportunities for the delivery of training and upskilling programs for local labour force and strategies for maximising local training and employment opportunities for residents, especially for First Nations People.
- Industry Participation Plan (mitigation measure SI4) will identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery), identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand, and provide local and Indigenous procurement targets.
- A pre-construction and construction Communication and Engagement Plan (mitigation measure SI5), will be prepared to provide further information in the local social locality about the regional energy strategy, including about community energy schemes, power purchasing agreements and other initiatives.
- A First Nations liaison group will be established (mitigation measure SI6). It will focus on identifying and implementing strategies to enhance and maximise opportunities for employment, procurement, education and other potential project related benefits.

A CEBP for the Central-West Orana REZ will be administered by the EnergyCo to deliver community projects and employment opportunities. These would be delivered separately to the project. This program aims to share the benefits of the Central-West Orana REZ with local communities, First Nations, Councils and stakeholders beyond those that would be available to individual landowners hosting transmission lines or projects. Upfront funding of \$128 million will come from the Transmission Acceleration Facility (existing funds to fast-track critical energy infrastructure), and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ.

The types of programs, services or projects that could be funded include for community purposes (see section 56 of the Electricity Infrastructure Investment Regulation 2021):

- public or community services or infrastructure
- health services or infrastructure
- housing and accommodation
- training and employment programs
- health and education programs
- local or regional energy programs or infrastructure
- environmental programs or infrastructure
- parks and recreation infrastructure
- education programs or research
- arts or cultural programs
- tourism programs or infrastructure
- services, programs or infrastructure for First Nations people
- other services, programs or infrastructure that benefits the relevant local community.

The types of programs, services or projects that could be funded under employment purposes include (see section 57 of the Electricity Infrastructure Investment Regulation 2021):

- employment programs and associated services and facilities
- skills and training programs and associated services and facilities
- a program, service or facility that supports the relevant employees to gain employment skills or experience relevant to employment.

EnergyCo is working with local communities, First Nations organisations, local Councils and stakeholders to establish the program design and guidelines to administer community and employment benefits in 2024 so that benefits can be delivered early rather than waiting until after construction has been completed. Through the recently announced NSW Government's SBP Scheme, landowners hosting new high voltage transmission projects would be paid a set rate per kilometre of transmission hosted, paid out in annual instalments over 20 years. This payment scheme would offer a stable, diversified income stream, given the unpredictable weather patterns.

EnergyCo is also in discussions with Essential Energy on co-funding opportunities for initiatives that will support reliable and affordable electricity for REZ communities, such as Community Batteries.

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## 4.12.7 Management and mitigation

### Submission ID

31, 57, 62, 69, 73, 102, 221, 221, 230, 250, 251, 274, 289, 348, 363

### Summary of issue

Fifteen submissions commented on the approach to mitigation and management. Comments included:

- concerns that the social mitigation measures consist primarily of management plans that are currently not available and will be developed after approval. It was requested that suitable measures to monitor social impacts should be developed and monitoring undertaken to determine the effectiveness of mitigation measures



- compensation for landowners is not considered mitigation and requested community benefit funds need to be significantly higher to generate benefits for the local community. It was also suggested that the funds be controlled by local community groups rather than local councils, as they will be lost in administration costs or redirected
- lack of information about the management and mitigation of workforce accommodation camps and the influx of large numbers of construction workers was raised as an issue. Further information on the measures proposed during construction ensure the safety and security of the community was requested and continuation of measures during operation was suggested
- further information on the approach to address mental health impacts on landowners and the local community including how medical professionals will be made available assist impact landowners and member of the local community and if financial assistance will be made available to individuals seeking mental health treatment due to the project.

The following specific concerns and queries were raised with respect to the mitigation measures identified in the EIS:

- Regarding mitigation measure SI3 (the Local Workforce Participation Strategy), there was concern that opportunities and for employment and training would primarily be directed towards First Nations people.
- Regarding mitigation measure SI4 (Industry Participation Plan), it was queried whether procurement requests for the project would be put to tender as small business may struggle to compete with larger businesses.
- Regarding mitigation measure SI5 (Communication and Engagement Plan), it was queried whether communication methods will be unbiased and flexible to adapt to the lifestyle of landowners and local community members.
- Regarding mitigation measure SI6 (First Nations liaison group), it was queried whether engagement with the group would be active.
- Regarding mitigation measure SI7 (Complaints management system), it was queried:
  - whether there will be an avenue to report or escalate a complaint when the response is unsatisfactory
  - what the timeframes for response to complaints would be
  - whether the phone line or emails will be managed by people or artificial intelligence
  - what the qualifications of staff managing complaints will have as a knowledge of agricultural practices would be beneficial to providing an appropriate response to complaints.
- Regarding mitigation measure SI8 (Social Impact Management Plan), there is a concern the plan will be biased and is only a tick box measure.
- Regarding mitigation measure SI9 (Operational Communication Plan), it was queried whether communication methods will be unbiased and flexible to adapt to the lifestyle of landowners and local community members.

## Response

The development and implementation of management plans and strategies has been considered to provide a structured and accountable approach to managing social and environmental performance. The Social Impact Management Plan, developed in accordance with the SIA guidelines, would set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation. Monitoring findings will be presented to the project's Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision.

EnergyCo will track implementation of the Social Impact Management Plan, and review performance measures quarterly, to facilitate continual improvement. The plan will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.

Landowners hosting project infrastructure on their properties would be compensated under the Just Terms Act. Additionally, Section 4.12.6 provides further detail on the NSW Government's SBP scheme to incentivise private landowners hosting transmission infrastructure for a period of 20 years. This payment scheme would offer a stable, diversified income stream for landowners. Potential impacts from the project would be addressed through a range of mitigation measures as listed in Appendix B of this report. A CEBP for the Central-West Orana REZ will also be administered by EnergyCo to deliver community projects and employment opportunities in recognition of the broader changes to the region. Upfront funding will come from the Transmission Acceleration Facility (existing funds to fast-track critical energy infrastructure), and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ. The fund will be regulated under the *Electricity Infrastructure Investment Act 2020* (NSW), including the Consumer Trustee.

The Workforce Management Plan (mitigation measure SI2) to be implemented during construction will include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas,
- connections etc.

The Workforce Management Plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others. The plan will be reviewed every six months to identify and manage any unanticipated impacts.

The Network Operator will conduct screening background checks as part of the onboarding process. In addition, as part of the commencement of employment (or subcontractor engagement) all workers will complete project induction training prior to attending site or workforce accommodation camps. The induction outlines expectations with respect to worker behaviours, project rules and consequences. A drug and alcohol policy would also be made clear to workers and alcohol and/or other drug testing will be conducted as necessary to support the policy.

As per mitigation measure S10, EnergyCo has provided a mental health support telephone service to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned. A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support. Section 4.23.5 provides a response to cumulative impacts on medical services in the region.

The Local Workforce Participation Strategy (mitigation measure SI3), will identify and investigate opportunities for training for residents across the regional social locality. A focus on First Nations people training and employment has been included to meet the *First Nations Guidelines Central-West Orana Increasing income and employment opportunities from electricity infrastructure projects*.

The Industry Participation Plan (mitigation measure SI4) would identify tailored 'meet-the-contractor' events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project. This is intended to raise awareness of supply chain needs, capability, capacity and timing to increase participation.

Regarding mitigation measure SI5 (Communication and Engagement Plan), it considers proactive methods of communications with affected parties and strategies to reach vulnerable members of the community, such as door-knocks, text messages, newsletters and or phone calls.

The frequency and level of engagement with the First Nations liaison group, will be agreed with the members once the terms of reference of the liaison group are established (updated mitigation measure SI6).

The procedure for the complaints management system (updated mitigation measure SI7) will be developed upon approval of the project and comprise a 24-hour response phone line and an email address, which will be managed by an appropriately qualified person. Verbal and written responses describing what action will be taken will be provided to the complainant (or as otherwise agreed by the complainant). Complaints will be responded to in a timely manner and timeframes will be communicated to the complainant. If complaints remain unresolved, there will be an avenue for escalating the complaint.

Finally, the Operational Communication Plan specified in mitigation measure SI9 will be focused on maintaining communications with those located in close proximity to the transmission line and will be reviewed and updated on an annual basis.

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## 4.13 Economic

### 4.13.1 Impact assessment approach

#### Submission ID

31, 58, 68, 221, 229, 240, 251, 280, 292

#### Summary of issue

Nine submissions commented on the economic impact assessment approach for the project. Comments included:

- the broader economic impacts related to the strategic move away from coal generated electricity is not captured
- the economic contribution of farming businesses to the local and national economy was underestimated
- the assessment of economic impacts and benefits was considered inadequate and biased. It was suggested that insufficient justification was provided as to why the project would have little to no negative economic impact
- the economic assessment did not adequately consider the potential for housing of workers in accommodation camps to remove the opportunity for economic input into the local community
- it was questioned as to why a cost benefit analysis was not undertaken to support the economic assessment and why consultation with local businesses was not undertaken to determine the economic perspectives. The detailed calculations to support the economic assessment were requested.

#### Response

The economic impact assessment, as detailed in Technical paper 8 – Economic and summarised in EIS Chapter 14 (Economic), focused on the economic impacts of the project and noted the broader strategic transition to low emission energy sources by connecting renewable energy generators to the National Energy Market (NEM). The purpose of the assessment was to assess the economic impacts of the project.

The economic considerations of the strategic decisions by the NSW Government are outside the scope of the assessment, however the strategic need to transition to more renewable energy generation in NSW is described in EIS Chapter 2 (Strategic context). Furthermore, the economic assessment, as outlined in Technical paper 8 – Economic of the EIS, disputes the notion that the project would have little to no negative economic impact. The construction and operation of the project would potentially yield significant positive economic activity for both the regional and NSW economies.

The economic impacts were assessed using input-output analysis. Input-output analysis is used to assess the direct and indirect impacts of the construction and operation of the project on the regional and NSW economy. The analysis used data from the ABS Census of Population and Housing data and information from the model of the regional economy developed for the economic input-output analysis. To determine the economic impact from the loss of agricultural land, the findings of agricultural impact assessment in Technical paper 2 – Agriculture were used, which were also primarily based on ABS data.

This assessment assumed that 90 per cent of the required direct construction workforce for the project would reside in the workforce accommodation camps and that conservatively, none of the wages of these people would be spent in the regional economy. In reality, some construction workforce wages may be spent in the regional economy. An economic assessment of housing the workforce in local accommodation/housing versus workforce accommodation camps was not completed as there was strong community and council feedback to avoid the use of local housing/accommodation due to the low availability.

Cost Benefit Analysis is the method used by economists to establish whether the aggregate benefits to the community (producers and consumers) exceed the costs and so is desirable from an economic efficiency perspective. As a matter of policy, the Commonwealth Government and NSW Government have already decided that a transition away from fossil fuels towards renewable energy is desirable for the community and has implemented numerous policies, plans and frameworks to support renewable energy infrastructure and facilities. The project is an integral part of the infrastructure required to implement the governments renewable energy transition. In this context, the preparation of a Cost Benefit Analysis would not be applicable to the project economic assessment. While no consultation with local businesses was undertaken as part of the economic assessment, local businesses were provided with the opportunity to provide feedback on the project through the general community consultation process described in Section 1.5. Any additionally consultation with local businesses would not have changed the Input Output analysis as consultation can generally only supply qualitative information, not easily translated to quantitative modelling.

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## 4.13.2 General economic impacts

### Submission ID

57, 57, 70, 102, 116, 171, 177, 213, 217, 228, 234, 275, 281, 324, 336, 363, 373, 390

### Summary of issue

Concerns about negative economic impacts from the project were raised in 18 submissions. The economic benefits of the project are perceived to be limited to the construction sector. There are concerns the local economic benefits are outweighed by the negative economic impacts and the project contribute to the increased cost of living in the local region particularly during construction.

The economic benefits are perceived as primarily flowing to the wider state and national economy. It was noted that regional and state benefits may be further limited by the Network Operator, ACERZ, being a predominantly foreign owned company.

In the EIS, it was assumed that 10 per cent of the workforce could consist of local residents during the peak construction period (depending on the availability of workers in the local social locality). Submissions commented that this assumption is unrealistic due to low unemployment and labour shortages in the region. The lack of skills or expertise relevant to the project was also raised as an issue to meeting this expectation.

There are also concerns the project would have adverse impacts on tourism in the region, particularly from visual impacts, which would negatively affect the local economy.

## Response

Construction and operation of the project would provide positive economic activity for the regional and NSW economy. The positive flow-on effects to the economy during construction and operation of the project would mainly be due to employment and purchase of materials and services. The positive impact of the project on the regional economy during construction is estimated to be up to \$512 million in average annual output (the gross value of business turnover in a region). The impacts on the regional economy during project operation are estimated at up to \$134 million in average annual output.

The project would not lead generalised cost of living increases. During construction of the project, there will be a demand for construction labour and specific construction materials, which would have the potential to result in increase in wages as well as shortage in construction materials. However, the actual impact would depend on the available labour and materials, the ability of local suppliers to adjust to an increase in demand, and the availability of supply of labour and materials from outside the region.

The Network Operator, ACERZ, was engaged based on a competitive tender process to identify the most suitable candidate to construct, design and operate the project. Economic benefits in the region from the supply chain would be dependent on the capability and capacity of industry to meet the project needs and is unrelated to the ownership of ACERZ.

Cost of wages and materials are influenced by a wide range of factors such as market demands and inflation. Increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and contribute to inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to respond to increased demand. Economic impacts on the housing and accommodation costs are expected to be minimal due to the provision of workforce accommodation camps.

The construction workforce would vary depending on the stage of construction and associated activities. During the peak construction period, it is expected around 1,800 full time equivalent construction workers would be employed. Approximately 10 per cent of the construction workforce was estimated to be from the study area and the remaining workforce is expected to come from within NSW, noting some specialised roles would be sourced from overseas.. The employment of local workers would depend on the availability of workers in the local area which may be less than 10 per cent of the workforce.

The operation of the project would create a small demand for regional labour resources and regional inputs to production. Consequently, no wage or price increases or production shortages are anticipated during operation.

According to Destination NSW (2023), the main tourism activity in the area is related to dining and visiting friends and family. In relation to the implications of visual impacts on tourism, public viewpoints identified and assessed for the project were mostly located on local roads or highways, as no areas of open space, lookouts or other recreational areas were identified to have a view to the project. These identified public viewpoints were considered to have low or very low sensitivity. Furthermore, no specific tourism infrastructure was identified as being impacted. Direct impacts to tourist attractions, such as national parks, from the project are not anticipated.

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## 4.13.3 Agricultural land displacement

### Submission ID

60, 65, 97, 100, 210, 274, 307, 310, 375

### Summary of issue

Nine submissions commented on the economic impacts of the project due to the impacts on agricultural land. Comments included:

- the loss of agricultural land will result in negative impacts to the local economy including a reduction in employment opportunities and reduction in spending at local agricultural supply and service businesses. Should the project result in an increase in absentee farmers and a reduction in the local population, the local economy would suffer
- concerns the loss of agricultural land will result in wider implications for the local and national economy with the need to import more produce from abroad which would increase the cost of food.

### Response

Construction of the project would result in a reduction in the land available for agricultural activity. The agricultural impacts of the project during construction are less than 0.2 per cent of agricultural economic activity in the region. The reduction in land available for agricultural activity during construction represents a conservative estimate, which assumes that the entire construction area would be unavailable for agricultural use during construction. Agricultural activities would generally be able to continue within the project area in accordance with the individual Property Management Plans, as detailed in mitigation measure AG3.

Following construction, the project would result in a smaller reduction in agricultural land due to the comparatively smaller operation area. A majority agricultural land within the amended operation area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to easement conditions. As such any economic loss is expected to be relatively minor.

The agricultural impacts of the project during operation are less than 0.04 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project. This is not anticipated to result in a significant reduction in employment opportunities and reduction in spending at local agricultural supply and service businesses. The project would create a small demand for regional labour resources and regional inputs to production. Consequently, no other effects on other industry sectors are anticipated during operation.

The projected loss of agricultural production due to the project is deemed negligible both regionally and nationally, with negligible implications for the long-term food supply of the region and the nation.

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## 4.13.4 Impacts to local business – construction

### Submission ID

57, 66, 102, 116, 239, 280, 286, 311, 319, 355, 390

### Summary of issue

Eleven submissions commented about the negative economic impacts to local business during construction of the project. Comments included:

- concerns that economic benefits are limited to the construction sector and the risk of crowding out may be greater than estimated. Labour shortages and increases in the cost of construction materials and wages due to the project were raised as issues. There are concerns agricultural businesses would struggle to compete with the construction industry to attract or retain employees and may need to raise their offered wages
- the housing of construction workers in the workforce accommodation camps will reduce the indirect economic flow on effects to the local business and wider local economy
- there are concerns that local businesses would not be able to compete with larger business to provide goods and services to the project. There are concerns food will be imported from outside the region to support the construction workforce further diminishing economic benefits from the project.

### Response

Direct economic impacts would primarily be in the construction sector during construction of the project. Increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and rising inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to response to increased demand. In addition, the excess demand for resources for construction, such as quarry materials, concrete, and other construction materials, can result in rising costs for these resources and potentially shortages for other uses. However, these impacts need to be considered in the context of the positive economic effect that they create, namely that the project creates employment opportunities and a market for local goods and services.

The housing of workers in accommodation camps would reduce the opportunity for construction workers to spend in local towns in the region. However, mitigation measures have been identified to ensure local suppliers are considered during construction. As per mitigation measure SI4, an Industry Participation Plan will be prepared in accordance with the Renewable Energy Sector Board Plan (Office of Energy and Climate Change, 2022) and implemented which will:

- identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery)
- identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand
- provide local and Indigenous procurement targets
- identify tailored ‘meet-the-contractor’ events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project
- monitor the availability of key goods and services to the local community when procured locally.

Similar to consideration of the concerns raised about wage growth, the economic implications of the accommodation camps have both positive economic implications (i.e. they mitigate upward price pressure on local goods and services that would arise from workers being based in local towns, but in doing so, reduce the benefits of local spend on goods and services). In practice, the workers in the camps would use local shops and businesses to some degree.

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## 4.14 Noise and vibration

### 4.14.1 Impact assessment approach

#### Submission ID numbers

64, 136, 250, 289, 293, 360

#### Summary of issues

Six submissions commented on the approach to the noise and vibration assessment for the project. Comments included:

- the noise and vibration assessment was incomplete and noise impacts were not adequately assessed. Some submissions suggested that noise monitoring should be completed from within the dwelling and under different conditions
- there was no existing background noise data used for Cassilis so it was queried how the level of noise mitigation was determined
- the operational noise from the workforce accommodation camps was not assessed in the EIS and it was requested that this be assessed for negative impacts to sensitive receivers.

#### Response

##### Assessment approach

The noise and vibration assessment was completed as detailed in Chapter 2 of Technical paper 9 – Noise and vibration (and Appendix I of the Amendment Report. The assessment adopted regulatory guidelines and standards to establish noise and vibration criteria and limits to define where impacts may be experienced and to quantify the performance of recommended noise and vibration management measures during both construction and operation of the project.

For construction, noise modelling of representative ‘realistic worst-case’ scenarios that are based on likely construction stages and plant and equipment during standard and non-standard construction hours. The construction noise assessment also included a preliminary assessment of helicopter noise impacts associated with aerial stringing of transmission lines and a qualitative assessment of blasting during construction.

During operation, the assessment considered corona noise discharges from proposed transmission lines, noise generated through the operation of plant (e.g. fans) at energy hubs and noise generated from maintenance activities.

As the acoustic performance of the building envelopes of sensitive receivers was not known accurately, an external to internal correction of 10 decibels (dB) was applied. This is generally accepted as the minimum noise reduction that is typically provided by standard building facades, allowing for windows being open for ventilation.

Further noise assessment has also been undertaken as part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to submissions. The additional construction and operational noise assessment is detailed in Appendix I of the Amendment Report.



## Cassilis

The Rating Background Level (RBL) for Cassilis, which is in Noise Catchment Area (NCA) 9, was determined using attended and unattended noise monitoring in the area. The unattended noise monitoring was undertaken at a property located off the Golden Highway in Cassilis. The RBL for NCA 9 was used to assess the potential noise impact and determine the level of mitigation.

### Workforce accommodation camps

The noise associated with the workforce accommodation camps throughout construction were assessed, as described in section 5.1.22 and section 5.1.23 of Technical paper 9 – Noise and vibration, and summarised in section 15.5.2 (located within NCA4, NCA5, and NCA9) of the EIS.

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## 4.14.2 Construction airborne noise

### Submission ID numbers

42, 59, 64, 77, 102, 116, 208, 213, 230, 244, 286, 293, 317, 324, 341, 352, 360

### Summary of issues

Seventeen submissions raised concerns on construction airborne noise. Concerns included:

- increased construction noise due to construction vibration, blasting, helicopters, drones, and ongoing maintenance to keep the roads in stable condition, therefore increasing the overall noise intrusion to moderate levels
- increased noise impacts associated with the workforce accommodation camps particularly due to Out of Hours (OOH) work. Submissions requested that dwellings impacted are identified in the EIS
- that transmission lines are located closer to sensitive receiver ID 367 than indicated in the EIS, and therefore would be subject to increased noise during construction
- construction noise at sensitive receiver ID 965 to the northeast of the Merotherie Energy Hub would be clearly audible during construction and operation of the workforce accommodation camp and this receiver would also be subject to construction noise from nearby switching station
- horses being impacted by helicopter noise during construction
- objection to the use of ‘sensitive receivers’ to describe dwellings subject to increased noise impacts during construction.

### Response

#### Increased construction noise

During construction, noise impacts would generally be minor during standard work hours; however, the project has the potential to impact noise sensitive receivers (generally residences) in the vicinity of the project due to noise or vibration intensive activities such as earthworks.

Generally earthworks (including piling and blasting) associated with establishing transmission line tower foundations, energy hubs and switching stations are identified as the noisiest work stage during construction. Use of aerial equipment (drones or helicopter) for stringing transmission lines between towers may be required for short periods and would progress along the alignment. Where required, this activity would result in exceedances of Noise Management Levels (NMLs) during the daytime (including OOH daytime) as noise levels would be approximately 4 dB greater than the noisiest earthworks. However these impacts would be short term and this activity would not be undertaken during evening or night-time hours.

### **Workforce accommodation camps**

The description of predicted noise impacts from Merotherie workforce accommodation camp accommodation camp are detailed in section 5.1.22 of Technical paper 9 – Noise and vibration. The impacts are also summarised in section 15.5 of the EIS.

During OOH, exceedances are predicted at up to four receivers during the noisiest works from the Merotherie workforce accommodation camp. The exceedances are predicted to be up to 5 dB at one receiver and up to 15 dB at three receivers. One receiver (ID 965) would also be subject to noise exceedances in standard hours during the noisiest works required to construct the workforce accommodation camp. There is potential for this receiver to be impacted by concurrent construction activities in the vicinity subject to construction scheduling. Based on the proximity of the nearest receivers to the construction area, the risk of notable construction impacts would be low with concurrent noise levels not exceeding 3 dB above the highest predicted impacts from individual construction activities.

The description of predicted noise impacts from Neeleys Lane workforce accommodation camp are detailed in section 3.1.12 of the noise and vibration impact assessment addendum (Appendix I of the Amendment Report) and summarised in section 5.9 of the Amendment Report. For the Neeleys Lane workforce accommodation camp, exceedances are predicted at three receivers during the noisiest works. The exceedances are predicted to be up to 5 dB are predicted at one receiver and up to 15 dB at two receivers.

The application of mitigation measures would minimise predicted construction noise impacts.

### **Sensitive receiver ID 367**

The distance between sensitive receiver ID 367 and the proposed transmission lines was identified as approximately 470 metres in the EIS. The distance has been checked using GIS.

### **Noise impacts to horses**

Construction noise impacts from the project have been assessed in accordance with the Interim Construction Noise Guidelines (ICNG). Noise impacts on working animals has not been considered in the EIS and is not proposed to be assessed.

Assessment of potential impacts to livestock is provided throughout Chapter 8 (Agriculture) and includes the potential for disturbance by construction activities (including the use of helicopters or drones).

Individual Property Management Plans will be developed in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities.

### **Sensitive receivers**

The term sensitive receiver is regularly used in environmental assessment. In accordance with the ICNG, 'sensitive receivers' are receivers located within a land use that is sensitive to noise impacts. This includes residences.

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## **4.14.3 Construction vibration**

### **Submission ID numbers**

146, 293, 360

### **Summary of issues**

Three submissions raised concerns construction vibration, including blasting, would impact the stability of nearby existing structures and cause increased noise due to construction vibration.

## Response

The description of predicted vibration impacts during construction are detailed in section 3.2 of the noise and vibration impact assessment addendum in Appendix I of the Amendment Report, and summarised in section 5.9 of the Amendment Report. Up to nine structures have been identified within the recommended minimum working distances for potential cosmetic damage. Of these structures, four are within close proximity to both the transmission line alignment and access track works. All nine are unoccupied structures such as sheds and unoccupied houses. Where prescribed cosmetic damage minimum distances (as outlined in British Standard BS 7385-2:1993), are complied with, damage to structures, utilities, pipelines and infrastructure is considered highly unlikely.

Potential human comfort impacts may be experienced at up to two sensitive receivers located within 100 metres of the construction area. These impacts are due to construction of transmission lines and access tracks which would be transient and short term.

Groundborne noise generated has not been assessed for the project due to the nature of the construction works and remote location of the construction area. Furthermore, airborne noise is expected to dominate any potential groundborne noise generated by vibration.

Where construction is likely to result in vibration levels that exceed relevant criteria at sensitive receivers, mitigation and management will be implemented where practicable and appropriate.

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## 4.14.4 Construction traffic noise

### Submission ID numbers

152, 213, 230, 312, 343, 360

### Summary of issues

Six submissions commented on increased construction traffic noise.

These concerns were largely general in nature. However, some submissions raised concerns about increased construction traffic noise at specific locations, including Birriwa Bus Route South, Birriwa Bus Route North and Ancrum Street, Cassilis. There were also concerns about OOH construction traffic noise, due to increased truck movements along the Golden Highway.

## Response

Road traffic generated by construction of the project would cause increases in traffic noise on existing roads. The majority of receivers along the construction routes are not predicted to experience exceedances of the traffic noise criteria as a result of the project. However, around 32 receivers are predicted to exceed the road noise criteria primarily during night-time hours. Figure 15-4 in EIS Chapter 15 (Noise and vibration) shows the location of predicted noise exceedances due to construction traffic.

No exceedances of road noise criteria are predicted directly on Birriwa Bus Route South or Birriwa Bus Route North. However, 10 receivers are predicted to exceed road noise criteria during nighttime. Exceedances are limited to the receivers directly adjacent to the highway in township of Birriwa. No other exceedances are predicted in this area. No exceedance are also predicted in the township of Cassilis including along Ancrum Street.

In the township of Dunedoo, 12 receivers are predicted to exceed the night-time traffic noise criteria. The exceedances in Dunedoo are limited to properties directly on the Golden Highway. No other exceedances are predicted on the Golden Highway west of Merotherie Road. No exceedances are predicted along the Golden Highway between Blue Springs Road and Cassilis.

The predicted noise exceedances, particularly during the night-time on local roads, are high as existing traffic volumes are low and the addition of even low volumes of construction vehicles can result in a relatively large increase in road traffic noise. Typical noise levels are likely to be lower than the predicted exceedances, as construction traffic would vary according to the stage of construction and the location of construction activity in the construction area. The predicted noise levels from construction traffic represent a worst-case scenario. Nonetheless, noise management measures would be employed to minimise the potential for noise disturbance from construction traffic including limiting traffic movements to daytime periods as far as reasonable and feasible.

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## 4.14.5 Operational airborne noise impacts

### Submission ID numbers

48, 75, 77, 101, 116, 134, 205, 208, 213, 220, 286, 324, 341, 360, 363, 369

### Summary of issues

Sixteen submissions commented on operational airborne noise impacts. Most submissions were concerned about experiencing corona noise from the transmission lines during operation of the project. It was commented there are multiple sensitive receivers within 500 metres that would experience noise exceedances during operation. It was also noted that transmission lines noise is 25 dBA higher than the NMLs allowed for the switching stations.

It was commented that one sensitive receiver is expected to experience corona noise up to 24 per cent of the time. Concern was raised that sensitive receiver ID 1119, located approximately 350 metres from transmission lines, would hear an audible buzz during operation of the project.

Concerns were also raised about operational noise impacting on horse behaviour.

### Response

The operation of high voltage transmission lines may generate audible noise as a result of the accumulation of pollution and water droplets on the conductor surface of the transmission lines, which can result in corona discharge noise. Audible corona noise would not be a constant occurrence but would be present during mild, wet and misty conditions. Based on the meteorological conditions identified for the noise area, the expected annual frequency of these conditions is between 16 and 24 per cent of the time.

The description of predicted noise impacts during operation are detailed in Chapter 4 of the noise and vibration impact assessment addendum in Appendix I of the Amendment Report. The impacts are also summarised in section 5.9 of the Amendment Report. Noise impacts from operation of the transmission line, associated with corona noise discharges, have been predicted to potentially affect up to one sensitive receiver during the evening and night. Noise levels at sensitive receiver ID 1119 are not predicted to exceed the project noise trigger level (PNTL).

Operational noise impacts which would exceed the PNTL, during normal meteorological conditions are predicted out to a distance of approximately 125 metres. Sensitive receiver ID 1119 is identified around 320 metres from the refined construction area. Audible corona discharge noise is not expected to be a constant occurrence but is only present during mild, wet and misty conditions. Based on the meteorological conditions identified for the area, the expected annual frequency of these conditions is between 16–24 per cent of the time.

Circuit breaker switches are the main noise source at switching stations. These would activate infrequently and do not typically affect the background noise environment. Three sensitive receivers near switching stations are also predicted to be affected by infrequent and brief noise exceedances.

As per mitigation measure NV6, an Operational Noise Review would be prepared to confirm the predicted noise impacts during operation of the project. Where exceedances of the PNTLs are predicted (i.e. audible noise from the transmission lines), feasible and reasonable mitigation measures would be further investigated and implemented as soon as practicable.

### **Noise impacts to horses**

Construction noise impacts from the project have been assessed in accordance with the ICNGs (DECCW, 2009). Noise impacts on working animals has not been considered in the EIS and is not proposed to be assessed.

In general, the impacts of the operation of the project on livestock enterprises is likely to be minor as grazing activities would be permitted to continue within the transmission line easement. The main operational impacts of the project on livestock enterprises would be minor livestock disturbance during maintenance activities. The operation of the project may result in noise and movement disturbance of sheep and cattle during inspections or maintenance on transmission lines or transmission towers. However due to the lower number and frequency of personnel and vehicle movements during operation, these impacts are likely to be minor.

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## **4.14.6 Mitigation and management – construction**

### **Submission ID numbers**

64, 102, 116, 217, 312, 230

### **Summary of issues**

Six submissions commented on the mitigation and management measures proposed during construction. Comments included:

- that the EIS identified that noise would be audible at specific sensitive receivers during construction of the project; however, there were no adequate solutions proposed
- that notification of noise impacts is not an adequate mitigation measure, and one submission suggested that a more proactive mitigation measure should be considered prior to approval of the project
- it was also questioned how sensitive receivers impacted by OOH works noise impacts would be compensated, and if alternative accommodation would be offered during these periods.

### **Response**

There is potential for construction noise impacts at the nearest sensitive receivers. The construction schedule and equipment are subject to further refinement as detailed planning progresses however, a Construction Noise and Vibration Management Sub-Plan (CNVMP) would be prepared as part of the CEMP which would identify feasible and reasonable measures to reduce potential noise impacts during construction of the project. Mitigation measures NV1 to NV3 address predicted noise impact during construction as described in Appendix B of this report. These include a range of material and administrative measure.

Examples of materials measures (outlined in mitigation measure NV1) include (but not limited too) actions such as the use of portable noise screens, turning off construction machinery when not in use, and the use of spotter, or 'smart' reverse alarms.

Examples of administrative measures (outlined in mitigation measure NV2) include (but not limited too) actions such as the avoidance of simultaneous construction near Energy Hubs and limiting noise generating works to less sensitive construction hours.

As detailed in Table 15-30 in the EIS, additional OOH noise mitigation measures would be implemented during construction of the project, including respite offers for sensitive receivers predicted to experience OOH construction noise that is clearly audible (5–15 dBA above NML), moderately intrusive (15–25 dBA above NML) and highly intrusive (>25 dBA above NML).

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## 4.15 Hazard and risk

### 4.15.1 General hazards and risks

#### Submission ID

38, 52, 62, 122, 133, 146, 173, 179, 195, 379

#### Summary of issue

Ten submissions raised general concerns about the potential safety hazards and health risks associated with the project. The presence of toxic chemicals such as bisphenol A (BPA) was raised as particular concern.

#### Response

The use and types of hazardous materials used during construction are temporary and variable. Hazardous materials associated with the construction phase of the project are not expected to be significant quantities. The storage of these materials at the construction compounds would be sited and arranged so that hazardous materials are stored in accordance with all hazardous material standards and legislation, and at a suitable distance from any nearby sensitive receivers. BPA is a chemical primarily used in plastics and is not identified as a hazardous material or dangerous good to be used on the project.

During operation of the project, dangerous goods and hazardous materials would be stored at the switching stations and energy hub sites within the operation area. The expected types of dangerous goods and hazardous materials and their purpose are described in Technical paper 11 – Preliminary hazard analysis and EIS Chapter 16 (Hazard and risk).

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### 4.15.2 Aviation safety

#### Submission ID

47, 49, 62, 71, 147, 250, 323

#### Summary of issue

Seven submissions raised concerns about the impact of the project on aviation safety including concern about the impact on aerial firefighting efforts in proximity to the project.

#### Response

The transmission line and transmission line towers would not infringe any certified airports and are unlikely to impact take-off and landing operations at the Aircraft Landing Areas (ALA) assessed in proximity to the transmission line alignment. Establishment of the proposed transmission lines and towers would introduce a new obstacle into the airspace. However, additional transmission lines are unlikely to impact aviation safety as they would be published on aeronautical charts and advised to aviation stakeholders prior to construction.

Transmission lines would not prevent aerial firefighting activities from being carried out. Transmission lines are generally clearly visible from the air even when there's smoke. It is noted that the RFS assesses each fire operation on a complete set of conditions for each individual occasion.

Further, during exhibition of the EIS, feedback was received from Airservices Australia (the national service provider responsible for managing Australia's airspace), and the Civil Aviation Safety Authority (CASA) (the Government body that regulates aviation safety). Both bodies deemed the project acceptable from an aviation safety perspective subject to ongoing consultation through detailed design. This would include provision of a final project design for their review.

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### 4.15.3 BESS related hazards

#### Submission ID

62, 63, 72,106

#### Summary of issue

Four submissions raised concerns about the potential hazards associated with the operation of a Battery Energy Storage System (BESS) as part of the project. The hazards included fires, explosion, release of toxic gases, electric shock and contamination of the land.

#### Response

A BESS is no longer proposed as part of the project.

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### 4.15.4 Impacts to telecommunications

#### Submission ID

32, 33, 52, 62, 63, 102, 160, 166, 169, 279, 286

#### Summary of issue

Eleven submissions raised concerns about disruption to telecommunication services in the region during both construction and operation of the project including:

- impacts to the telecommunications network during construction from the influx of a large construction workforce exacerbating existing mobile phone coverage
- the operation of high voltage transmission lines may disrupt mobile phone coverage, radio, Global Positioning Systems (GPS), internet and television reception.

#### Response

##### Construction impacts

A survey of existing mobile coverage in the vicinity of the project was completed, and based on that survey, a number of telecommunications solutions are being investigated that would both provide the coverage required during construction of the project. This would reduce the risk of decreasing coverage for the local communities as a result of the increase in the number of people in the area associated with construction of the project.

## Operational impacts

The mobile phone, National Broadband Network (NBN) and GPS operate on higher frequencies than transmission lines and therefore should not be disrupted by operation of the project.

A transmission line design generates electrical “noise” that can interfere with other signals and is referred to as Radio Frequency Interference (RFI). Transmission lines can impact AM domestic radio and television reception. The transmission line design itself must comply with the limits stipulated in *AS 2344:2016 Limits of electromagnetic interference from overhead a.c. powerlines and high voltage equipment installations in the frequency range 0.15 MHz to 3000 MHz* (Australian Standards, 2016). This is largely determined by appropriate transmission line material selection, size and electrical characteristics. RFI compliance assessment is in progress with initial assessment results indicating that compliance can be achieved. Transmission lines have a negligible impact ultra-high frequency (UHF) signals that range from 300 MHz to 3 GHz. Mobile phone coverage in Australia sits within this frequency range.

Section 8.5.2 of the EIS outlines the impacts of the project on GPS. If the project causes nuisance interference, it would be investigated in consultation with the landowner, and may require signal boosting equipment or antenna enhancement to alleviate the problem.

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## 4.15.5 Bushfire risks – assessment approach

### Submission ID

245, 269, 263, 369, 395

### Summary of issue

Five submissions commented on the approach to the bushfire assessment for the project.

Comments included:

- the view that the bushfire history in the EIS was incomplete, stating that while the Sir Ivan bushfire is noted, the major bushfire between Birriwa, Ulan, Dunedoo and Cobbora in 1979 (that started as more than one fire) is not referenced
- comment that Barrigan Valley is the prime source of major bushfire activity in the Wollar area. This has not been identified in EIS Technical paper 10 – Bushfire. There has been no mention of the catastrophic fire that threatened the existing Transgrid substation in 2017.

### Response

In Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk) it was acknowledged that bushfires are a common occurrence in the central west region and the broader landscape has a history of large bushfires. Bushfires between 2011 and 2012, and 2016 and 2017 were referenced.

With reference to the 2017 fire raised in the submission, a review of NPWS fire history data (NSW Government, 2024) indicates the White Cedars Road Kains Flat Fire (Feb-March 2017) burned through around 6500 acres to the south of Wollar, including the area of the existing Wollar station. However, it was noted that regardless of the fire history affecting the study area and the broader surrounding area, bushfires can occur at any time of the year, and as such, further documenting of historic fires will not necessarily inform the assessment of bushfire risk.



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## 4.15.6 Bushfire risks – construction

### Submission ID

33, 53, 63, 65, 102, 116, 147, 286, 287, 299

### Summary of issue

Ten submissions raised concerns about the increased risk of bushfire ignition during construction of the project. Concerns related to a range of ignition risks associated with construction activities in bushfire prone areas including the lack of fire risk awareness of the construction workforce and the risk of human error causing ignition.

The limited capacity of Fire and Rescue NSW and RFS to support the project was also raised as an issue.

### Response

The project is in a bushfire prone area, and construction activities have the potential to cause a bushfire and therefore a risk to public safety without mitigation measures put into effect. The potential sources of ignition resulting from the construction of the project have been identified in Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk).

Mitigation measures would be implemented to minimise bushfire risk and provide emergency protocols, however the risk of fire starting and spreading would remain high. Asset Protection Zones (APZs), which are fuel-reduced areas surrounding a built asset or structure to provide a buffer zone between a bushfire hazard and an asset, would be established during the construction phase of the project. APZs would be provided at the construction compounds and workforce accommodation camps to reduce the risk of fire spreading from these locations as well as minimising the risk of bushfire impacting the facilities.

A comprehensive Bushfire Emergency Management and Evacuation Plan would be prepared to outline emergency response plan for the project and the Fire Management Plan (FMP) during operation. The Bushfire Emergency Management and Evacuation Plan would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. This plan would include training to inform workers of bushfire risks and preventative actions, including risks associated with vehicles, plant and equipment.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services will be undertaken for the project to establish processes for managing potential increased demands due to non-resident workforce (mitigation measure SI5). In addition, the CEMP will include environmental management training and awareness for construction staff, which will incorporate fire risk awareness and mitigation.

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## 4.15.7 Bushfire risks – operation

### Submission ID

25, 26, 32, 33, 34, 38, 42, 48, 49, 51, 52, 53, 59, 62, 65, 71, 72, 73, 75, 77, 83, 84, 87, 91, 92, 94, 95, 97, 101, 102, 106, 114, 116, 118, 124, 127, 129, 136, 138, 147, 150, 171, 194, 195, 208, 210, 211, 217, 220, 221, 228, 230, 242, 245, 251, 265, 277, 278, 279, 281, 289, 294, 301, 305, 310, 312, 317, 326, 337, 338, 344, 348, 352, 353, 360, 361, 363, 366, 367, 368, 369, 371, 374, 378, 385, 390

### Summary of issue

Concerns about the risk of bushfire ignition from the proposed transmission infrastructure was raised in 86 submissions. There are fears the operation of transmission lines will significantly increase the risk of widespread catastrophic bushfires, particularly due to the presence of bushfire prone land and the local history of bushfires. The bushfire ignition risks specially referred to included:

- human error during maintenance activities
- lightning strike
- storms causing damage or toppling transmission lines
- faults at substations.

The close proximity of the proposed transmission lines to dwellings and the history of bushfires being started by electrical infrastructure in Australia was raised a concern.

Submissions questioned whether the Network Operator would be responsible for managing fuel loads within the transmission line easement. They also questioned whether there would be restrictions on paddock burning near the transmission line easement.

Submissions questioned who would be responsible for fighting fires started by the project. There is concern that aerial firefighting will not be possible and that RFS will refuse to fight fire due to danger posed by transmission lines. The availability of water during firefighting was also raised as an issue including the restricted access to dams under transmission lines for refilling helicopters doing water drops. The challenge of evacuating remote areas during a bushfire was also raised as a concern.

### Response

Ignition of bushfires as a result of the project's operation has the potential to occur during maintenance of project infrastructure and from the infrastructure itself. The potential sources of ignition resulting from the operation of the project have been identified in Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk). The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations.

The risk of a bushfire being ignited by high voltage transmission lines is low. High voltage (above 220 kV) transmission lines have lower risk than distribution lines, as they are suspended higher above the ground, significantly reducing the likelihood of physical contact with vegetation or arcing to ground (EnergyCo, 2023f).

To ensure safe electrical clearances would be achieved during operation, vegetation within the transmission easements with growth heights of two metres and above (largely trees and shrubs) would be removed by the Network Operator prior to and during operation, whereas native vegetation with growth heights less than two metres would be retained. In addition, large trees in close proximity to the easement (deemed 'hazard trees') would also be removed where they pose a potential risk. This approach seeks to balance sufficient bushfire risk mitigation with protection of biodiversity, and has been applied in other recent transmission infrastructure projects in NSW. EnergyCo will work with landowners during the easement acquisition process to understand individual property constraints in relation to fire management.

Where practicable, the transmission alignment has been located away from high bushfire risk areas and distance maximised to existing dwellings. It is acknowledged that in some locations along the project alignment, a number of competing social, environmental and technical constraints have required a balanced approach to corridor planning to determine the most appropriate project alignment. In some instances this has resulted in the transmission alignment being closer to dwellings or through bushfire prone land.

RFS would be the lead agency for combating bush fires in the region regardless of whether they were started by the project. Transmission lines will not prevent aerial firefighting activities from being carried out. It is noted that the RFS assesses each fire operation on a complete set of conditions for each individual occasion. Helicopter access to dams within the transmission easement would be restricted due to aviation safety requirements. Where the positioning of transmission line structures and other associated permanent structures will impact farm dams (likely in two to three instances along the project alignment), consultation will be undertaken with the affected landowner to identify opportunities to avoid or minimise these impacts, where practicable (mitigation measure AG2). Water within key locations including the energy hubs and switching stations would be provided during operation, and would be available for firefighting purposes in the event of a bushfire.

A comprehensive Bushfire Emergency Management and Evacuation Plan would be prepared to outline emergency response plan for the project and the FMP during operation. The Bushfire Emergency Management and Evacuation Plan would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated.

There are no identified difficulties in accessing and suppressing fires that could occur within the operation area. The project has existing and new connections to the surrounding road networks that service the region.

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## 4.15.8 Bushfire risks – mitigation and management

### Submission ID

47, 52, 53, 102, 240, 245, 250, 312, 326, 337, 352, 353, 360, 363

### Summary of issue

The measures to manage and mitigate risk associated with bushfire were raised by 14 submissions. The adequacy and detail provided in the mitigation measures was questioned. Further detail was requested on the following:

- whether a FMP would be prepared for construction and operation
- where construction workers would evacuate to in extreme and catastrophic fire danger rating periods as local evacuation centres may not be able to handle that number of people
- what steps would be taken in the event fallen transmission lines block evacuation routes
- whether the Network Operator would supply their own firefighting equipment and staff
- whether compensation be provided to properties burnt by a bushfire started by the project.

The following bushfire mitigation measures were suggested:

- increased volume of water tanks at the construction compounds and workforce accommodation camps as the volumes identified in the EIS were considered too low
- additional resources be provided to local fire brigades throughout the life of the project
- intensive demonstration sessions to equip landholders with the safe and effective skills to fight fires around the alignment
- construction of buffers of green belt agricultural crops or plantings
- financing of water trucks/trailers on each property within the project.

## Response

As a licenced transmission operator, the Network Operator will be required to implement an Electricity Network Safety Management System to *Australian Standard 5577 – Electricity network safety management systems*, undertake hazard identification associated with bushfire risk, implement and maintain appropriate fire protection measures. As part of this, the Network Operator will collaborate with RFS to determine any additional resources required to manage bushfire risk to an acceptable level.

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared for construction and operation, to outline the emergency response for the project and the fire management during construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. The plan would be prepared in accordance with the *Guide to Developing a Bushfire Emergency Management Plan* (RFS, 2014) and meet the requirements of *Australian Standard AS3745-2010 Planning for emergencies in facilities* and would include:

- protocols for the relocation of workers to nominated safe refuge zones during a bushfire emergency, either within or remote to the work zone
- protocols for the management of bushfire risk and fuel management during construction and operation. This would include the restriction and/or prevention of certain activities that present bushfire risks on days with a fire danger rating of equal to or greater than 'high', and as directed by relevant state authorities
- training to inform workers of bushfire risks and preventative actions, including risks associated with the operation (and maintenance) of vehicles, plant and equipment.

Firefighting equipment will be installed at construction compounds and workforce accommodation camps. As outlined in mitigation measure BF5, firefighting equipment will be maintained and made available for use during the construction phase in accordance with *Planning for Bushfire Protection 2019* (RFS, 2019) including the following:

- static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes (final construction water storage volume would be confirmed during detailed design)
- 38 millimetre metal Storz outlets with a gate or ball valve will be provided as an outlet on each of the tanks
- non-combustible water tanks and fittings will be used
- firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.

Switching stations and energy hubs would be designed and constructed in accordance with *AS3959 – 2018 Construction of Buildings in Bushfire Prone Areas* including installation of fire systems.

The Network Operator would be liable for any directly attributable damage caused to land and property during the construction and operation of the transmission line, such as ignition of a fire. The Network Operator holds insurance policies with reputable insurers to cover any risks to workers, contractors and landowner property as a result of constructing and operating the transmission network.

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## 4.15.9 Electric and magnetic fields

### Submission ID

26, 28, 32, 33, 62, 63, 65, 73, 75, 100, 101, 102, 116, 117, 118, 119, 131, 136, 166, 169, 195, 203, 208, 210, 217, 245, 273, 277, 281, 292, 294, 301, 324, 334, 338, 360, 395

### Summary of issue

Concerns about the health risks from EMF from transmission infrastructure were raised in 37 submissions.

Submissions questioned whether sufficient investigation had been undertaken into the health risks associated with EMF. The reference in the EIS to the Gibbs report of 1991 was questioned due to the age of the report. It was also raised that the report was apparently not well received. There are concerns that the scientific conclusions of EMF health risks in the report are not conclusive.

Prolonged exposure to EMF for people living and working near transmission infrastructure was raised as a concern. There is worry that EMF can cause health issues such as infertility, diabetes and cancer. Concerns were raised that low frequency EMF have apparently been linked to leukemia in children. There were concerns that those near the transmission lines with existing medical conditions will be particularly vulnerable to EMF and there is concern EMF will interfere with a pacemaker. The health impacts to the health of livestock and wildlife was also raised as a concern.

Submission sought further information on how long a person can be safely exposed to EMF before being susceptible to health risks. It was also raised that an EnergyCo EMF advisor at the Dunedoo information session advised that if someone stands under a transmission line for too long their skin will 'boil'.

Submissions commented that the transmission line easements may be too narrow to protect residents from EMF. The 100 metre setbacks from 330 kV transmission lines being specified in Belgium was brought up as an example where wider easements are applied.

### Response

EMFs are a natural part of the environment and are produced wherever electricity or electrical equipment is used. According to health authorities, including the World Health Organisation (WHO) and ARPANSA, EMFs from electrical transmission lines are not considered a risk to human health.

ARPANSA is responsible for the regulation of EMFs with the aim of protecting people and the environment from harm. ARPANSA has adopted the EMF standards and guidelines by the International Commission for Non-Ionizing Radiation Protection (ICNIRP). The ICNIRP sets 'Basic Restrictions', which are the limitations of exposure that may lead to established health effects. The ICNIRP (2010) guideline then defines Reference Levels for continuous exposure to the public, which are set below the Basic Restriction limits with additional margin.

A detailed assessment of EMF risks from the project was carried as detailed in Technical paper 12 – Electro Magnetic Field assessment report and summarised in EIS Chapter 16 (Hazard and risk). The assessment was carried out in accordance with the ICNIRP Guideline and confirmed that the design of the transmission line complies with the ICNIRP (2010) reference levels and other limits.

As noted by one of the submissions, the assessment report refers to the inquiry into community needs and high voltage transmission line report prepared by Sir Rober Gibbs in 1991. Despite its age, the report is considered a creditable reference as an independent and wide-ranging review of the EMF effects on animals and plants prepared for the NSW Government.

More specifically, the magnetic fields from the transmission lines, energy hubs and switching stations would not reach the ICNIRP Reference Levels at any location within the operation area including transmission easements. Electric fields produced by the project would be strongest closest to the source but reduce quickly with distance. As the predicted EMF levels at the boundary of the operation area are compliant with the current standards and guidelines administered by ARPANSA, no mitigation or modifications specific to the management of EMFs are required for the project.

The WHO noted “there are uncertainties about the existence of chronic effects, because of the limited evidence for a link between exposure to extremely low frequency magnetic fields and childhood leukaemia. Therefore, the use of precautionary approaches is warranted. However, it is not recommended that limit values in exposure guidelines be reduced to some arbitrary level in the name of precaution. Such practice undermines the scientific foundation on which the limits are based and is likely to be an expensive and not necessarily effective way of providing protection” (WHO, 2007).

Other potential health effects associated with long-term exposure to magnetic fields have been studied including other childhood cancers, cancers in adults, depression, suicide, cardiovascular disorders, reproductive dysfunction, developmental disorders, immunological modifications, neurobehavioural effects and neurodegenerative disease. WHO (2007) identified that the scientific evidence supporting these other health effects is much weaker (or not at all) than for childhood leukaemia.

At high levels of acute/short-term exposure, ICNIRP (2010) states that “the most robustly established effect of electric fields below the threshold for direct nerve or muscle excitation is the induction of magnetic phosphenes, the perception of faint flickering light in the periphery of the visual field, in the retinas of volunteers exposed to low frequency magnetic fields. It should be noted that the ICNIRP (2010) “consider the scientific evidence related to possible health effects from long-term, low-level exposure to extremely low frequency fields insufficient to justify lowering these quantitative exposure limits.” EMFs have the potential to impact livestock similarly to humans.

An EMF advisor conveyed at a community information session that it is not advised to stay within the easement for permanent durations (i.e. having dwellings directly beneath transmission lines). The commentary has been taken out of context and the term “skin will boil” was not said. For clarity, there is also no technical or factual justification for this statement with regards to EMF from transmission lines.

The EMF assessment within the EIS has been based on the EMF exposure at the edge of the easement. EMF assessments significantly depend on characteristics of the individual transmission line. Different transmission line designs may result in different setback requirements. Setback requirements also may or may not be related to compliance with EMF limits. The EMF assessment found the electromagnetic field levels at the edge the transmission line easement and boundary of energy hubs is compliant with the Reference Levels contained within the ICNIRP. The alignment has generally been developed to maintain a 500 metre buffer distance between dwellings.

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## 4.16 Transport and traffic

### 4.16.1 Impact assessment approach

#### Submission ID numbers

71, 184, 251, 269, 293, 299, 319, 352, 360, 363

#### Summary of issues

Ten submissions commented on the traffic impact assessment of the project. Comments included:

- the traffic count on Golden Highway and heavy vehicle count on Ulan Road was underestimated as it did not account for existing mine traffic and underestimated the impact of the predicted increase in traffic on proposed construction routes and local roads
- overestimated the claimed capacity (1,000 vehicles per lane per hour) of local unsealed roads
- provided inadequate details on management and measures to address turning movements such as turning lanes, overtaking lanes and wide load waiting bays
- the assessment used outdated data from 2016-2020 which excluded the recent fatal and serious injuries in the last three years
- the traffic impact assessment did not adequately consider Ancrum Street at the start of Coolah Road in Cassilis including that:
  - the 40 kilometre per hour school zone at Ancrum Street (at the start of Coolah Road) was not accounted for in the traffic impact assessment
  - the proposed increase in traffic during the peak construction period did not consider safety concerns for school children
  - the impact assessment did not adequately address the lack of school crossing and footpaths on the street, as well as the additional impacts from increased vehicle movement on existing condition
  - a lack of consideration of alternatives to the use of Vinegaroy Road to access the M1 switching station to avoid impacting the school zone and minimising disturbance in the area.

#### Response

The traffic impact assessment was undertaken in accordance with the SEARs and with reference to the requirements of relevant legislation, policies and/or assessment guidelines, as detailed in Chapter 3 of Technical paper 13 – Traffic and transport. Further traffic assessment has also been undertaken as part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to Transport for NSW comments. The additional traffic assessment is detailed in Appendix J of the Amendment Report.

Existing traffic conditions for the project were estimated using a combination of publicly available data, intersection traffic counts and midblock surveys. The traffic impact assessment used up to date data and applied traffic growth rates advised by Transport for NSW to determine future background traffic volumes. Intersection and mid-block count surveys were also conducted on 19 October 2022 and between 16 and 23 October 2022 to understand current traffic demands, conditions, and travel patterns. These surveys account for all traffic passing along the road at the time including mining traffic. Following consideration of Government agency and other stakeholder submissions on the EIS, additional traffic surveys including intersection counts were also undertaken in November 2023 at the following intersections inform the assessment further:

- Cassilis Road and Golden Highway
- Golden Highway and Castlereagh Highway.

Intersection counts were conducted during peak hours between 6 am–10 am and 3 pm–7 pm, and provided insights into traffic movements, distinguishing between light and heavy vehicles. Additionally, 24-hour midblock counts were conducted to capture comprehensive traffic data, including volume, speed, and vehicle classifications. The surveys aimed to understand the current traffic conditions and travel patterns along the proposed construction routes for the project.

The capacity of local roads (including unsealed roads) was based on the Austroads' Guide to Traffic Management Part 3: Transport Study and Analysis Methods and existing road features (i.e. lane width availability of turn lanes, shoulders) which influences road capacity. The capacity for local roads has been applied to a free flowing road with minimal or no interruption.

Quantitative assessments of key intersections have been analysed using Austroads' intersection turn treatment warrant. The layout of key intersections used by construction vehicles were assessed to determine if the intersections can safely accommodate construction vehicles during the morning and afternoon peaks based on the design speed according to Guide to Traffic Management, or what turn treatments are required to ensure the safe operation of the intersections. The assessment has considered safety performance of the intersections and not the operational performance as almost all intersections impacted by the project are priority controlled, have low traffic demand and are operationally observed to have minimal traffic delay and queuing assessment.

Upgrades of intersection and local roads have been identified and have been included in the scope of the project since exhibition of the EIS, as described in Chapter 3 of the Amendment Report. These upgrades are required to ensure safe access to construction area and accommodate the movement of OSOM vehicles.

Adjustments and upgrades to public roads are required to facilitate the movement of OSOM equipment between the Port of Newcastle and the REZ for future renewable energy developments. The adjustments and upgrades involve a range of works such as pavement widening and pull over bays, relocation of traffic lights, signs barriers and utilities, and tree and vegetation removal and trimming. These works will be delivered separately and will be subject to separate planning approvals.

The crash analysis was completed using the five-year crash data available at the time of the assessment, a period between 2016 and 2020. Additional analysis of crash data has been completed using the updated data available, between 2018 and 2022 and is summarised in section 4.1 of Appendix J of the Amendment Report.

Selection of construction routes was informed by review of the project construction area, prioritising roads that connect to the construction compound, workforce accommodation camps and broader road networks. Further evaluation of the construction routes will be undertaken during detailed construction planning. In order to address and manage safety impacts on the roads, including Ancrum Street, a road safety audit will be conducted to identify and implement appropriate controls.



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## 4.16.2 Construction traffic impacts

### Submission ID numbers

31, 42, 47, 53, 57, 59, 64, 77, 95, 97, 102, 116, 136, 148, 150, 160, 167, 171, 184, 213, 217, 221, 225, 230, 232, 240, 244, 245, 250, 251, 258, 274, 278, 279, 281, 286, 288, 290, 293, 303, 305, 310, 311, 312, 313, 314, 316, 317, 319, 321, 323, 326, 343, 352, 362, 371, 379, 381, 390

### Summary of issues

Fifty-nine submissions commented on the impacts of increase in vehicle movement during construction of the project. Comments included:

- the inadequacy of the existing road infrastructure and potential challenges associated with construction traffic on the region's road network
- the predicted traffic would impact the current road capacity and increase congestion, particularly on the Golden Highway and in Cassilis
- the workforce accommodation camps would generate high traffic volumes
- there was lack of logistical details presented in the EIS regarding construction waste transportation such as the potential number and size of vehicles involved
- small local businesses along the construction route may face challenges as commuters would be likely to seek alternative routes to avoid traffic
- there would be disruption to emergency vehicle routes for medical services and hospitals.

Fifteen of these submissions raised that Cassilis would not be able to manage the projected increase in construction traffic. One of the submissions expressed concern regarding traffic increases on small rural roads and highlighted the disruption to the daily usage for stock and farm machinery. The submission commented that that there was inaccurate information provided in the EIS stating that the roads were bidirectional with two lanes.

### Response

Estimates of the maximum number of construction vehicle movements per hour associated with the workforce accommodation camps, energy hubs and switching stations are presented in Table 17-8 and depicted in Figure 17-4 of the EIS. Considering the low volumes of existing traffic on the roads, even with the addition of the project construction traffic, the road network is assessed as operating at an acceptable LoS. Golden Highway is predicted to continue to operate at the existing LoS A (refer section 17.4 of the EIS) which means traffic would be free-flowing with vehicles almost unimpeded in their ability to manoeuvre within the traffic stream. Existing traffic conditions in Cassilis are not expected to be affected during construction or operation of the project.

Estimations used in the traffic assessment for the construction vehicle movements comprised of heavy and light vehicles transporting equipment and plant, construction materials, water, spoil and waste from construction facilities and workforce accommodation camp sites. The majority of construction workers would be transported between the construction areas and the workforce accommodation camps using both light and heavy (small bus) vehicles to minimise potential traffic impacts of the project on local roads.

Impacts on local businesses along the route are anticipated to be minimal as traffic impacts along the construction routes would be minor. Estimates of the maximum number of construction vehicle movements per hour associated with the workforce accommodation camps, energy hubs and switching stations are presented in Table 17-8 of the EIS and the assessment has considered the maximum number of construction vehicles that would use the construction routes. A maximum peak of up to 70 construction vehicles per hour in proximity to the Merotherie Energy Hub is expected however all local roads that form part of the project construction routes would maintain the same LoS A or LoS B as per existing conditions.

Short term detours may be proposed during construction of the project, particularly during road upgrades. Any road closures would be coordinated with relevant road authority and emergency services would be notified of any required detours and duration of the task.

Construction of the project would not significantly impact access to properties or disrupt emergency services. In the event of temporary, partial road closures or disruption to property access, the Network Operator would consult and/or notify the affected property owners of any changes to the road network. Where necessary, temporary alternative access to private property would be provided. Local roads along the construction route have been identified as bidirectional. It is noted that these roads may be narrow in sections requiring vehicles to pull to the side to allow safe passing of another vehicle.

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

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### 4.16.3 Operational traffic impacts

#### Submission ID numbers

303, 313, 390

#### Summary of issues

Three submissions raised general concerns regarding traffic impacts during the operation of the project.

#### Response

The routine inspection and maintenance of the project by staff and contractors are expected to be infrequent. Site-based activities, typically conducted by three to five personnel, would generate minimal light vehicle traffic. Consequently, the anticipated impacts on the road network, encompassing capacity, efficiency, safety, and effects on other road users, including public and active transport, are projected to be negligible.

The low traffic movements and minimal heavy vehicles involved in the operation of the project are not anticipated to have a noticeable impact on the road pavement condition or road safety in the region.

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### 4.16.4 Impacts to property access – construction

#### Submission ID numbers

102

#### Summary of issues

One submission questioned whether the project would disrupt the ability of landowners to access parts of their properties during construction and inhibit movements to and from their properties. It was questioned whether access points would be restored to their original condition if they are impacted by construction.

## Response

During construction, landowner access to sections of their properties may be temporarily restricted, including where the construction area is located on their property. In the event of temporary, partial road closures or disruptions to property access, the Network Operator will notify affected property owners regarding changes to the road network.

As per mitigation measure T9, access to properties will be maintained throughout construction where feasible. In cases where this is not feasible, temporary alternative access arrangements will be established following consultation with affected landowners and in adherence to the pre-construction and construction Communication and Engagement Plan, as outlined in mitigation measure SI5. Disruptions to property access and traffic will be communicated to landowners at least five days prior, following the relevant community consultation processes outlined in the CEMP.

Pre-condition assessments of the construction area will be undertaken to determine the existing condition of assets, infrastructure, utilities and the general condition of the land, including access points. This will inform requirements for rehabilitation within individual Property Management Plans established with landowners (mitigation measures LP3).

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### 4.16.5 Road safety impacts

#### Submission ID numbers

32, 71, 102, 136, 148, 152, 184, 230, 232, 240, 245, 250, 251, 286, 293, 295, 321, 324, 352, 353, 360, 363, 373, 381, 390

#### Summary of issues

Twenty-four submissions commented on road safety impacts in the region due to the increase in traffic volumes from the project. Comments included:

- the overall safety and lifestyle of the community, including in the vicinity of residential areas and schools would be impacted due to the increased safety risks. Specific concerns were raised around:
  - the impact to road safety in Cassilis near the Cassilis Public School on Ancrum Street and on the Golden Highway, including between Sandy Hollow and Cassilis. Road safety risks were also raised with respect to the traffic generation from workforce accommodations camps
  - the suitability and safety of roads such as Birkalla Road, Merotherie Road, Birriwa Bus Route South for construction vehicles considering their narrow unsealed and winding nature and high speed limit (100 kilometres per hour)
- heavy construction vehicles on unsealed roads would cause visibility issues due to dust emission and may cause accidents
- the EIS presented inadequate measures to address road safety concerns from speeding and dangerous driving by construction workforce
- there would be an additional strain to emergency services with an increase in traffic-related incidents
- the need for assurance that local councils would be able to maintain and repair the damaged roads during and after construction to avoid road accidents
- the potential implications of upgrading Merotherie Road due to its location on floodplain and highlighted the possibility of impacts on Talbragar River system due to the proposed upgrade activities

- the safety concerns related to the proposed road upgrade at Merotherie Road with consideration to limited space and proximity to trees
- how increased traffic volumes would be managed, specifically questioning if construction workers would be briefed on how to safely navigate livestock crossing the road.

## Response

### Road safety

Construction vehicle movements would occur across the road network as vehicles travel to/from construction compounds, workforce accommodation camps and the construction area more broadly. The increase in traffic due to the project would increase the number of interactions with other road users and introduce risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact.

Mitigation measure T4 addresses driver-related road safety concerns and includes the development and implementation of a Driver Code of Conduct to define acceptable driver behaviour, promoting road safety and minimising the impacts of construction related vehicle movements on local roads and community. The mitigation measure also accounts for load limits and fatigue management and an establishment of a Driver Fatigue Management Plan, integrated to the CEMP to address driver fatigue risks, planning regular breaks and mapping locations of drivers rest areas along the proposed construction routes.

To further address and manage potential road safety risks due to the project, including Ancrum Street in Cassilis, a road safety audit will be conducted to identify and implement appropriate controls. Routine inspections will be conducted to ensure ongoing safety compliance and address any emerging concerns promptly.

### Dust generation

Dust generation by construction vehicles would occur along unsealed roads along the construction routes. This includes public roads such as Birkalla Road, Merotherie Road, Birriwa Bus Route South which are unsealed and narrow in sections (and as such are already subject to dust generation from local traffic movements).

During high wind conditions (wind speeds greater than 8 metres per second), reduced speed limits for project heavy vehicles on unsealed roads will be implemented in the vicinity of sensitive receivers (mitigation measures AQ5). Management measures to prevent or minimise dust generation and impacts to the local community and environment will include (but not be limited to) the use of water sprays or dust suppression surfactants as required for dust suppression .

**Consultation** Consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce would be undertaken as described in the Communication and Engagement Plan (mitigation measure SI5).

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

### Road upgrades

To accommodate the construction traffic movements and OSOM vehicle and equipment movements, local road and intersection upgrades would be carried out to ensure safe access to construction sites, as discussed in section 3.3 of the Amendment Report. Upgrades would generally comprise replacement of existing road pavement and localised road widening, replacement of the bridge over Talbragar River and causeway over Laheys Creek, and localised realignment of the road approach to both crossings.

Prior to construction, the Network Operator would also be required to undertake road dilapidation surveys and routine inspections along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

Road upgrades along Merotherie Road, including a new bridge crossing a Talbragar River, would be designed and constructed in accordance with Austroads Guidelines and consider the appropriate design vehicles that are anticipated to be using these roads. A flooding assessment of the proposed road upgrades along Merotherie Road has also been completed and is described in Appendix K of the Amendment Report. As per mitigation FL12, the upgrades to the local roads that service the Merotherie and Elong Elong energy hubs, including Merotherie Road, would be designed such that:

- the existing level of flood immunity of the road is maintained or improved, and
- during storm events that result in overtopping of the road, there is no significant increase in the depth and hazardous nature of flooding.

The movement of livestock along roads and TSRs intersected by the project would be affected temporarily by restricted access where they intersect with construction activities. However, these restrictions would be of limited duration and not expected to significantly prevent or hinder livestock movements or impact the use of TSRs or livestock routes.

It is noted that Barney's Reef Road in the vicinity of the TSR is not nominated as a construction access road. There are access gates proposed at the intersection of Barney's Reef Road and the transmission line easement to permit construction vehicles to traverse the alignment; however, the anticipated traffic volumes using this crossing are low. There will be a need to implement traffic control arrangements at this intersection when the transmission line conductor is being strung across the road. This will be completed under a Road Occupancy Licence in consultation with Council. The community and impacted stakeholders will be notified prior to the works being undertaken.

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## 4.16.6 Impacts to active transport

### Submission ID numbers

177, 335

### Summary of issues

Two submissions commented on the project's impact on the region's walking and cycling routes, including the Central West Cycle trail which is considered to be important for local tourism.

### Response

The potential impacts on the Central West Cycle trail during the project's construction have been assessed in the EIS. Mitigation measure T10 specifically addresses pedestrian and cyclist access, underscoring the project's commitment to actively consult with local bicycle groups, including the Central West Cycle. The consultation process will particularly focus on construction routes intersecting CW's cycling route from Gulgong to Dunedoo. Safe pedestrian and cyclist access will be maintained at points where the project interacts with existing pedestrian and cyclist routes. In instances where this isn't feasible, temporary alternative access arrangements will be established following consultation with affected stakeholders and the relevant roads authority.

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## 4.16.7 Impacts to existing road infrastructure

### Submission ID numbers

33, 34, 85, 147, 157, 160, 167, 200, 213, 237, 251, 263, 286, 291, 293, 299, 304, 312, 318, 324, 335, 355, 363

### Summary of issues

Twenty-three submissions commented on the project's impact to existing road infrastructure in the region. Comments included:

- there would be potential damage to road infrastructure, including contour banks within the road corridor
- impacts to existing road conditions due to OSOM during construction was not detailed adequately in the impact assessment
- there was additional justification needed around the feasibility of road ratings in the impact assessment as it not adequately addresses impacts to the current state of dirt roads and did not mention road upgrade plans
- requests that additional plans for maintenance and management of road repairs and upgrades be made available prior to construction. This is due to concerns that construction may deteriorate the existing road infrastructure without assigning responsibility for the damage.

### Response

The impact of project construction traffic on road pavement condition is expected to be minor. Heavy vehicles and OSOM vehicles would likely have a larger impact on road pavement conditions; however the impact would depend on the existing road condition including remaining life of the pavement. Prior to construction, the Network Operator would be required to undertake road dilapidation surveys and routine inspections along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

Road upgrades as described in Chapter 3 of the Amendment Report, are planned to be undertaken early in construction to facilitate access to the workforce accommodation camps. Local road and intersection upgrades to ensure safe access to construction sites for the project, including OSOM movements, are required at the following locations:

- Neeleys Lane/Ulan Road intersection
- intersection of Merotherie Road and access road to the Merotherie Energy Hub
- Merotherie Road from the access point to the Merotherie Energy Hub to the Merotherie Road/ Golden Highway intersection
- replacement of the existing low weir/causeway on Spring Ridge Road
- Spring Ridge Road/Dapper Road intersection.

An upgrade to the intersection of the Golden Highway and Ulan Road would be confirmed during detailed design.

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## 4.16.8 Oversized and overmass vehicle movements

### Submission ID numbers

152, 251, 319, 363

### Summary of issues

Four submissions commented on OSOM vehicle movements in the region from the project. Concerns about the suitability of the construction route, in particular the route to the workforce accommodation camps, and for OSOM vehicles along Denman Bridge and the main roads through Merriwa and Dunedoo.

Concerns were raised that the proposed Golden Highway OSOM route between Merriwa and Cassilis was too narrow and winding which would pose challenges for road users for overtaking.

### Response

Construction of the project would require OSOM movements to the energy hubs and other locations across the construction area for the delivery of specialist electrical equipment and construction plant, materials and equipment. The number of OSOM vehicles for the project would be small and impacts to road users would be infrequent along the Golden Highway.

To facilitate these movements, appropriate travel permits for OSOM movements outside of pre-approved routes (i.e. 'last mile' sections) would be sought from the National Heavy Vehicle Regulator (NHVR). Road upgrades proposed for the project (see Section 4.16.7 above, and Chapter 3 of the Amendment Report) would also be designed with consideration for the largest vehicle proposed to be using the road.

The proposed generators within the Central-West Orana REZ will use common routes to transport OSOM components from the Port of Newcastle to the Central-West Orana REZ. Accordingly, the NSW Government has requested that EnergyCo identify and carry out required upgrades to a number of intersections along the State Road Network to facilitate the transportation of OSOM component, including consideration of Denman Bridge and main roads through Merriwa and Dunedoo. The Port to Central-West Orana REZ OSOM road infrastructure intersection upgrades project is, however, separate to the construction and operation of new electricity transmission infrastructure proposed as part of this project. Accordingly, assessment and approval of those works is outside the scope of this CSSI application. Further, this project is not reliant on the P2R road upgrades program of works which are a separate development and for a different purpose.

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## 4.16.9 Management and mitigation

### Submission ID numbers

71, 136, 167, 184, 221, 232, 240, 250, 251, 289, 319 363

### Summary of issues

Twelve submissions commented on the management and mitigation measures from traffic impacts presented in the EIS. Comments included:

- a detailed Traffic and Transport Management Plan should be provided (noting none was detailed in the EIS) and the plan should focus on increased worker vehicles and road maintenance during construction
- community consultation should be undertaken to address potential road safety risks generated by the project

- mitigation of road pavement damage and responsibility of road repairs after construction should be specified
- road upgrades should be undertaken to manage traffic impacts such as widening and sealing of roads used by EnergyCo to improve safety conditions
- inadequate safety management is proposed for local roads and the Golden Highway
- safety measures for traffic control should be provided for vehicle movements to and from the workers accommodation camps
- alternative routes should be used to direct traffic away from Cassilis and avoid safety risks near Cassilis Public School.

## Response

A range of mitigation measures for traffic and transport impacts have been identified to minimise impacts as listed in Appendix B of this report. Traffic and transport impacts during construction would be managed in accordance with a Construction traffic management sub-plan, which would form part of the CEMP. The sub-plan would be prepared in consultation with local councils and Transport for NSW and incorporate the construction traffic mitigation measures listed in Appendix B of this report.

Prior to construction, road dilapidation surveys and routine inspections would be undertaken along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required (mitigation measure T7). Access tracks used for construction sites, construction compounds and workforce accommodation camps will be maintained to safe standard (mitigation measure T6).

Road upgrades are planned along Merotherie Road, at the existing causeway on Spring Ridge Road and at the intersection of Golden Highway with Merotherie Road, the intersection of Ulan Road and Neeley's Lane, the intersection of Spring Ridge Road and Dapper Road as described in Chapter 3 of the Amendment Report. These upgrades are planned to be undertaken early in construction to facilitate safe access to the workforce accommodation camps. Widening and sealing of roads along the construction routes would not be undertaken outside the locations selected for road upgrades. Prior to construction, the Network Operator would be required to undertake road dilapidation surveys and routine inspections along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

The majority of construction workers would be transported between the construction areas and the workforce accommodation camps using both light and heavy (small bus) vehicles, to minimise potential traffic impacts of the project on local roads and minimise road safety risks.

Further evaluation of the construction routes will be undertaken during detailed construction planning. In order to address and manage potential safety risks, including Ancrum Street, a road safety audit will be conducted to identify and implement appropriate controls.

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

In terms of road safety, mitigation measures T2, T3, and T4 detail the management strategies proposed to address safety risks associated with the increase in traffic volumes during construction. Traffic control plans will be developed for locations where construction-related traffic enters and leaves the public road network for project construction related purposes. Prior to the commencement of works, including site access and access tracks, necessary road occupancy licences and road-related work approvals will be obtained where required.



All accesses will be designed to accommodate the required construction vehicle(s) requiring access, and in accordance with relevant Austroads guidelines (where applicable) in consultation with the relevant roads authority.

To address road safety concerns related to construction vehicle drivers, mitigation measure T4 commits to the development and implementation of a Driver Code of Conduct. This code will define acceptable driver behaviour for project personnel, promoting road safety and minimizing the impacts of construction-related vehicle movements on local roads and the community. Additionally, a Driver Fatigue Management Plan will be developed and implemented as part of the CEMP.

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## 4.17 Waste management

### 4.17.1 General waste management

#### Submission ID numbers

57, 84, 136, 147, 150, 254, 259, 274, 279, 288, 289, 290, 299, 310, 317, 319, 323, 324, 347, 358, 379, 387

#### Summary of issues

Twenty-two submissions commented on the generation and management of waste generated during construction and operation of the project. Concern was raised regarding how waste and wastewater (sewage) will be managed by the project. Comments included:

- lack of detail on how waste volumes have been estimated, including over the construction period according to construction stages
- the lack of detail about how construction waste would be sorted and stored within the construction area, and how waste would be transported (prior to or following sorting onsite)
- the lack of detail on the impacts of waste sorting and storage on site, including hazards and odour
- the inadequate details about waste management facilities within approximately 150 kilometres of the project, with no information on their capacities, consultation outcomes and impacts on local facilities and residents
- the lack of substantive details on waste management of the project, relying heavily on post approval actions.

#### Response

##### Estimation of waste volumes

The indicative volumes of potential waste streams during construction presented in Table 18-2 of the EIS were based on the reference design, construction workforce and workforce accommodation camp infrastructure, and indicative construction methodology. Most anticipated waste streams are expected to fall under the classification of general solid waste (non-putrescible). To enhance accuracy, the estimated construction waste quantities, including spoil generation, reuse, and surplus, will undergo confirmation in the detailed design phase. This refined data will then be integrated into the CEMP for the project.

## Waste storage and handling on-site

Section 18.5 of the EIS provided an assessment of potential waste management impacts of the project during construction. Waste management for the project will align with the *Waste Avoidance and Resource Recovery Act 2001 (NSW)* (WARR Act) and all generated waste will be handled in compliance with the waste provisions in the *Protection of the Environment Operations Act 1997 (NSW)* (POEO Act).

Details regarding proposed waste handling and management measures construction waste streams was provided in Table 18-5 and of the EIS. The table identified the various management principles for each of the waste streams and would typically include:

- reuse on site (such as excess spoil and topsoil, where not identified as contaminated, and vegetation mulch)
- segregation for reuse or recycling (such as green wastes, paper, cardboard, plastics, glass, ferrous, and non-ferrous containers, and where appropriate, other general construction wastes such as steel or aluminium (either from redundant infrastructure or waste from new structures))
- collection and removal to an authorised off-site disposal location (which would be, subject to any specific legislative requirements, typically the closest local council recycling/transfer centre to the section of the alignment where the waste is generated).

All project generated waste will be assessed, classified, managed and disposed of in accordance with the NSW EPA's Waste Classification Guidelines (EPA, 2014) and the relevant requirements of the Protection of the Environment Operations (Waste) Regulation 2014 (mitigation measure WM4).

All waste streams will be segregated to avoid cross contamination of materials and maximise reuse and recycling opportunities (mitigation measure WM5). Waste sorting process ensures that throughout construction, waste would be segregated to minimise contamination or hazards to surrounds, and the appropriate storage and regular removal of waste from the construction area would manage impacts to soil, water and air. Further detail will be provided in the Construction Waste Management Plan, as stated in section 18.6.1 of the EIS.

With respect to the concern regarding the need for progressive waste management, waste materials requiring off-site disposal or recycling would typically require regular removal (i.e. off-site disposal or recycling etc).

Waste management facilities that accept waste and recyclable materials within the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs that the project is located within, are outlined in section 18.3 of the EIS. The recycling and disposal facilities for each waste type would be determined based on availability/capacity, waste licenced to be accepted, and confirmed waste classifications. Arrangements would be made with waste management facilities, prior to the delivery of waste and recyclables to any facility, to ensure that the waste types and quantities can be accepted as detailed in mitigation measure WM2 in Appendix B.

Wastewater produced during the initial establishment of the workforce accommodation camps are currently proposed to be collected and transported to a council wastewater treatment plant. This process would be in place during the site establishment works for the project and would cease once the main wastewater treatment facilities are operational.

It is noted that local council facilities such as Mudgee Waste Facility are at capacity and are unable to accommodate the waste generated by the project. Gulgong Waste Facility operated by Mid-Western Regional council does not accept commercial waste, and the Wellington Waste Transfer Station and Cassilis Waste Management Facility have limitations on receiving large volumes of waste. This would potentially require transportation of waste over longer distances to reach facilities where capacity is available.

All wastewater treatment plants produce sludge that requires disposal on regular intervals. Liquid waste sludge would be transported to a facility licenced to accept the waste. The wastewater treatment facilities would be designed to produce effluent that meets the water quality requirements for dust suppression and use for other construction activities within the construction area.

Waste generated during operation of the project is anticipated to be minimal and would mainly relate to the periodic maintenance activities (which would have the potential to generate some materials where elements of the project are required to be replaced or serviced), general domestic waste generated by maintenance personnel or vegetation management activities. The volume of waste generated during operation would be significantly smaller than the volumes generated during construction.

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## 4.17.2 Impacts on local landfill capacity

### Submission ID numbers

31, 38, 42, 66, 104, 109, 116, 141, 213, 217, 286, 319, 335, 363

### Summary of issues

Fourteen submissions commented on the waste generated from the project and its impacts on the local landfill capacity. Comments included:

- concerns that the challenges of waste management in the EIS was underestimated as there was inadequate local disposal options to handle the anticipated waste volume presented
- the need to expand facilities to accommodate waste and sewage from construction workers due to the lack of local disposal capacity for managing the expected increase.

### Response

As stated in mitigation measure WM6, only waste streams that cannot be re-used on site would be transported to appropriately licenced waste disposal or transfer facilities or other facilities lawfully able to accept materials. EnergyCo has undertaken ongoing consultation with each of the relevant local councils throughout the development of the project. This has included discussion regarding the ability of local landfill sites to accommodate the proposed quantities of waste that would be generated by the construction of the project.

It is noted that local councils, including the Mudgee Waste Facility, are at capacity and unable to accommodate the waste generated by the project. Furthermore, the Gulgong Waste Facility operated by the Mid-Western Regional council does not accept commercial waste, and the Wellington Waste Transfer Station and Cassilis Waste Management Facility have limitations on receiving large volumes of waste. Waste generated by the project would be disposed of at the nearest suitable licenced waste facility (where capacity is available), and would be at costs charged by the waste management facility operator. This would potentially require transportation of waste over longer distances to reach facilities where capacity is available.

The EIS acknowledges that the potential construction waste streams and quantities generated by the project are contingent on the current design and indicative construction methodology. To address this, for practical purposes, the estimated construction waste quantities, encompassing indicative volumes of spoil generation, spoil reuse, and spoil surplus, will undergo confirmation during the detailed design phase. This refined data will be integrated into the CEMP for the project. Waste classifications and the determination of reuse, recycling and disposal locations and alternative options will also be finalised during this stage, ensuring a detailed and through waste management strategy.

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## 4.18 Hydrology, flooding and water quality

### 4.18.1 Impact assessment approach

#### Submission ID numbers

256, 271, 283, 363

#### Summary of issues

Four submissions commented on the impact assessment approach undertaken in relation to hydrology, flooding and water quality. Comments included:

- the assessment lacked comprehensive investigation and analysis regarding water quality impacts, flood prone areas, stock and domestic water supplies
- there was a disproportionate focus on town water supplies and a minimal focus on stock and domestic water supplies, indicating lack of consideration of broader potential consequences
- the assessment did not adequately assess the potential impact on the neighbouring properties from diverting water from existing watercourses
- the assessment did not include operational impacts to floodwater flow patterns, accumulation of flood debris at the tower bases in flood-prone areas and flood impacts to farm fences in the vicinity of the transmission towers
- despite acknowledging the potential impact of the New Wollar Switching Station and energy hubs on flooding and drainage patterns, the EIS undermined the significance of the impacts.

#### Response

An assessment of the potential hydrology, flooding and water quality impacts of the construction and operation of the project was undertaken in accordance with the SEARs and with consideration of the requirements of relevant legislation, plans, policies and assessment guidelines. The detailed description of the methodologies of the technical assessments are provided in Chapter 3 of Technical paper 14 – Hydrology and water quality and Chapter 3 of Technical paper 15 – Flooding.

#### Flooding

The flooding assessment that is presented in Technical paper 15 – Flooding of the EIS includes an assessment of the impact the project would have on flood behaviour during its operation, including consideration of the proposed works associated with the energy hubs, switching stations and transmission lines. The assessment has identified potential impacts on flood behaviour in terms of changes in the depth, velocity, and duration of flooding.

Page ES5 of the Executive Summary of Technical paper 15 – Flooding of the EIS included the following with respect to the impact of the proposed transmission towers on flood behaviour:

“The footings of the transmission line structures would generally be constructed level with the existing ground but may protrude up to 0.5 metres above the existing ground levels in some locations. Due to the relatively small footprint of the footings and legs of the transmission line towers, their impact on the depth and velocity of floodwaters would be confined to a relatively localised area in their immediate vicinity. During detailed design, scour protection measures would be incorporated into the design of the transmission line towers where it is required to manage localised increases in flow velocities and scour potential around their footings.

With respect to impacts on farm fences, mitigation measure FL06 identifies the project would be designed to minimise adverse flood related impacts on:

- surrounding development for storms up to 1% Annual Exceedance Probability (AEP) in intensity
- critical infrastructure, vulnerable development or increases in risk to life due to a significant increase in flood hazard for floods up to the Probable Maximum Flood (PMF).

### **Flooding – Energy hubs**

The flooding assessment that is presented in Technical paper 15 – Flooding of the EIS indicates that the New Wollar Switching Station and energy hubs are located outside of the extent of mainstream flooding during a 1% AEP design storm event. Pages ES3 to ES5 of the Executive Summary of Technical paper 15 – Flooding contains a summary of residual impacts of the New Wollar Switching Station and energy hubs on local catchment runoff and identifies that further refinement of their associated drainage strategies would be carried out during detailed design, with the aim of managing increases in the depth, velocity and duration of inundation that would otherwise lead to adverse impacts in the receiving drainage lines. This is reflected in mitigation measures FL05 to FL09.

In particular, mitigation measure FL07 indicates that the energy hubs and switching stations would be designed to manage adverse impacts on the receiving drainage lines as a result of changes in the depth, velocity, extent and duration of flow during storms up to 1% AEP in intensity.

### **Water supply**

The assessment of potential impacts to water supply and water resources included a review of indicative demand for water from construction and operation of the project and a qualitative assessment of potential impacts to water availability from project. The water supply, water storage and existing water entitlements currently available for domestic, public utility and agricultural uses was taken into consideration in evaluating the potential water demands of the project to ensure the sourcing of water would not limit existing entitlements for stock and domestic use, and to understand the impact of the project on the catchment and watercourse health. A detailed explanation of the project's proposed water supply strategy is outlined in Section 4.18.4 below.

The water demand for the project was compared with surface water availability in the Upper Talbragar Water Source and Lower Talbragar Water Source during an average rainfall year and typical drought years (based on historical water usage data from the Cudgegong River Water Source). As data was not available for the Upper Talbragar and Lower Talbragar Water Sources, the Cudgegong River water source was used as a representative water source since the Cudgegong River catchment has similar land uses and climatic conditions as the study area and since data is available for this water source.

Water is not proposed to be diverted from neighbouring properties for the project. Road upgrades, along Merotherie Road and Spring Ridge Road, as described in the Amendment Report, would require work within Talbragar River and Laheys Creek respectively. Mitigation measures would be implemented to minimise impacts on these waterways.

EnergyCo has been in consultation with a water broker to identify surface and groundwater sources that can meet the projects water supply requirements. Based on a review of the market, there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard the preferred approach would be to source water from exiting entitlements. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the CWO REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the CWO REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the CWO REZ through safe, secure and accessible water supply.

### **Water quality**

The qualitative assessment of potential water quality impacts included a review of publicly available data and surface water samples taken during the geotechnical and contamination investigation program. An assessment of potential pollutants and their impact on water quality, along with an evaluation of the project's likely compliance with water quality criteria in the Australian and New Zealand Environment Conservation Council (ANZECC) Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2018) and the Murray-Darling Basin Plan, was conducted.

An updated hydrology and flood assessment of the proposed amendments, which have been identified since exhibition of the EIS, is included in the Amendment Report.

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## **4.18.2 Impacts to geomorphology**

### **Submission ID numbers**

39, 53, 85, 157, 254, 265, 324, 363, 367

### **Summary of issues**

Nine submissions commented on the project's impacts to geomorphology from flooding and proposed road upgrades particularly in areas around the energy hubs and the transmission towers. Comments included:

- impacts to the existing waterflow in the Talbragar River system due to the proposed road infrastructure upgrades, particularly due to access road upgrades to the Merotherie Energy Hub
- the existing soil landscape due to upgrades of culverts and drainage solutions, which may potentially lead to upstream flooding, erosion and creation of new drainage lines and waterways
- the potential for erosion due to earthworks altering the soil landscape during the construction of the proposed energy hubs and switching stations.

### **Response**

#### **Road upgrades**

The proposed road upgrades along Merotherie Road are primarily widening and surfacing activities. The design of the Merotherie Road upgrade has included provision for road drainage that caters for run-off from the road surface and immediate road corridor areas as required under design guidelines. This would include drainage and control measures such as cross bank, level spreaders, outlet scour protection and energy dissipation, to manage runoff and the impact it could have on scour to the road and surrounding areas during intense rainfall.

### **Impacts to watercourses – bridges**

The road upgrades on Merotherie Road also include the construction of a new bridge over the Talbragar River on Merotherie road (on the eastern side of the existing bridge) (as described in section 5.12.3 of the Amendment Report). In addition, road upgrades on Spring Ridge Road would require the construction of a new bridge over Lahey's Creek.

The construction of the bridges would involve works within the channel of the Talbragar River and Lahey's Creek. Bridge construction activities within the water course channels may be at a higher risk of impacts during flood events due to higher flow velocities in the main channels compared to surrounding areas. Temporary structures required to construct the bridges, such as temporary crossings, crane pads and temporary working platforms, have the potential to obstruct flows and result in erosion of sediments, or change flow paths within channels that are already degraded. Due to the existing poor condition of the Talbragar River and Laheys Creek, the construction of the new bridge crossings has the potential to result in erosion and changes in the shape of the channel both upstream and downstream of the works. Any changes to the morphology of the watercourses during construction would be remediated as part of construction demobilisation.

Once operational, any geomorphic changes to the watercourses, that would result from the introduction of bridge elements such as abutments, in-channel bridge piers and scour protection. These geomorphic changes would continue until each watercourse has reached a new geomorphic condition within the river channel and floodplain. Permanent changes to the geomorphology of the Talbragar River and Laheys Creek would be limited to the area immediately surrounding the permanent infrastructure.

With the implementation of mitigation measures (WA3, FL9, FL10 and FL11) potential impacts, during both construction and operation, to the geomorphology of these watercourses would be minimal.

### **Impacts to watercourses – transmission line towers**

As discussed in section 6.1 of Technical paper 14 – Hydrology and water quality, the project would have minimal and localised impacts on geomorphic conditions at the locations where the transmission line spans watercourses. For 1<sup>st</sup> and 2<sup>nd</sup> order streams, the placement of transmission line towers within the flood prone area could result in changes to low flow runoff behaviour. However, the potential minor and localised impact would be mitigated through the identified mitigation measures (specifically mitigation measure WA3).

Mitigation measure WA3 details management of impacts to watercourse geomorphology. During detailed design phase and construction of the project, permanent erosion control measures will be designed and implemented at relevant energy hubs, switching stations, transmission line towers and local roads, to minimise potential scour and erosion risks associated with surface water runoff. Further, localised increased in flow velocities at drainage outlets and waterway crossings would be mitigated through the provision of scour protection and energy dissipation measures (mitigation measure FL9).

### **Erosion at Energy Hubs and switching stations**

As detailed in Section 4.19.1 of this report, erosion controls would be implemented during construction, including at energy hubs and switching stations. This would include minimising the duration of soil disturbance, progressive rehabilitation and management of water discharges from construction areas (mitigation measure WA4). This would minimise any potential geomorphological impacts on downstream watercourses due to increased sedimentation or scour.

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## 4.18.3 Water quality impacts

### Submission ID numbers

85, 166, 288, 292, 379

### Summary of issues

Five submissions commented on impacts to water quality of nearby waterbodies, particularly during the upgrade of Merotherie Road. Comments included:

- concerns regarding the potential effect the project would have on the water quality of Talbragar River and Macquarie River, and associated creeks
- increased risk of erosion, impacting water quality in the Talbragar River, Macquarie River and the Macquarie Marshes
- impacts to health of the river systems, natural waterbodies and springs
- overall impact to salinity of the waterbodies
- concern about runoffs resulting in water quality impacts in the Cockabutta Creek Basin.

### Response

Impacts to water quality of the project (including to the Talbragar River) have been assessed in section 5.3 of Technical paper 14 – Hydrology and water quality. The likelihood and magnitude of potential water quality impacts would vary depending on the stage of construction, area of disturbance and presence of high rainfall or wind weather events. Construction activities that could potentially affect water quality in nearby were identified as vegetation removal, earthworks, stockpiling, watercourse crossings, concreting, and the establishment of construction compounds and workforce accommodation camps.

The potential for water quality impacts would be mitigated and managed through the implementation of a Soil and Water Management Plan that forms part of the CEMP and through the implementation of standard erosion management measures in accordance with *Managing Urban Stormwater Soils and Construction* (mitigation measure WA4).

A water quality monitoring program for construction will be prepared and implemented to monitor water quality conditions and would include water quality targets in line with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000* (ANZECC/ARMCANZ, 2000) (mitigation measure WA5). In the event of exceedances of the project water quality criteria, soil and water management measures adopted as part of the CEMP will be reviewed and revised accordingly.

A number of mitigation measures have also been included to respond to the contamination risk to soils and water by construction activities, and the risk due to the disturbance of contaminated soils or saline soils. This includes requirements for:

- implementation of controls where testing has confirmed the presence of saline soils in accordance with *Book 4 Dryland Salinity: Productive use of Saline Land and Water* (DECC, 2008) to prevent impacts from salinity (mitigation measure SC1)
- avoidance or minimisation of disturbance in areas of medium to high risk of contamination, the requirement to manage contamination in accordance with National or State guidelines, the completion of additional investigations into areas within 50 metres of a farm structure or farm dams, and implementation of an unexpected finds protocol (mitigation measures SC3, SC5 and SC7)
- construction materials, spoil and waste to be stored/managed in accordance with applicable EPA requirements to minimise the potential for the project to result in the contamination of soil, groundwater, and/or surface water quality (mitigation measure SC8)



- storage of all chemicals, fuels or other hazardous substances in accordance with the supplier's instructions and relevant legislation, Australian Standards, and applicable guidelines. The capacity of any bunded area will be at least 130 per cent of the largest chemical volume contained within the bunded area (mitigation measure SC9)
- incident response procedures in the event of a spill during operation and a requirement for environmental spills kits and staff training (mitigation measure SC10).

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## 4.18.4 Water supply and resources

### Submission ID numbers

32, 34, 42, 47, 53, 66, 83, 84, 95, 97, 104, 107, 109, 116, 127, 129, 138, 141, 147, 150, 171, 194, 195, 217, 220, 233, 237, 254, 263, 271, 272, 274, 277, 279, 283, 284, 285, 286, 287, 288, 289, 290, 292, 299, 301, 303, 305, 308, 317, 319, 324, 326, 335, 337, 338, 343, 361, 363, 369, 371, 379, 390

### Summary of issues

Sixty-two submissions commented on water supply and resources. Comments included:

- the strain on local and regional water resources due to the estimated demand of 700 megalitres of water required per year during construction, particularly during droughts and dry period (bushfire seasons)
- the sourcing of large quantities of water during construction would impact on agricultural water supplies (stock and irrigation) in the region worsening conditions for farmers
- uncertainties regarding the information provided in the EIS about the water sources for the project and the absence of alternative water supply considered
- feasibility of locally sourcing the water for the project and potential impacts on Talbragar River, existing groundwater bores, underground water tables and water supplies
- the limited capacity of the districts water supply and existing challenges such as water restrictions during dry periods
- anticipation of future water restrictions on the community's water usage being imposed to meet the project's water demand queries about the water supply for the workforce accommodation camps, expressing uncertainty about its source beyond the limited local water supply.

### Response

EnergyCo recognises the concerns raised in public submissions regarding the project's water demand, and the impact it may have on an important resource for the community. EnergyCo also recognises water availability is a critical matter for the community having experienced drought and bushfires in recent history.

Analysis undertaken for the EIS estimates the construction phase water need for the project at 700 megalitres of water per year during construction. Of this total quantity, approximately 450 megalitres would be potable water, with the remaining 250 megalitres being non-potable.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

The actual water usage is expected to vary during the construction period depending on the nature and extent of construction activities taking place. Water would be required for maintenance activities, but the operational water demand would be minor.

Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under water access licences for the project
- reuse of treated mine water (non-potable water), where it meets reuse requirements
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (non-potable water).

To supply the potable water demands of the project (associated with workforce personnel), and as a least preferable option for non-potable water supply, council-owned potable water supplies in Dunedoo and Coolah (in the Warrumbungle LGA) and Gulgong (in the Mid-Western Regional LGA) would be utilised where possible. Other sources would be investigated if these council owned supplies are not able to supply water to the project.

As per section 3.4 of Technical paper 14 – Hydrology and water quality, due to unavailability of water usage data for Upper and Lower Talbragar River, water source data from adjacent Cudgegong River catchment was used to assess the impacts of the project on water resources as it consists of similar land uses and climatic conditions. It is noted that for all construction years, the available water for extraction would be limited by the preceding rainfall. As per the data interpretation in the assessment, there is a high chance of water being available for all construction activities requiring for 2024 and 2027.

Analysis of rainfall data in Technical paper 14 – Hydrology and water quality notes that Lower Talbragar has a large volume of potential water available, hence causing minimal impact and suggests it to be the preferred source of water for the project during low rainfall periods.

Since exhibition of the EIS, EnergyCo has been in consultation with a water broker to identify available surface and groundwater sources that can meet the project's water supply requirements. Based on a review of the water trading market, it was found there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard EnergyCo has been advised sourcing water from exiting entitlements is a feasible and realistic option for the project. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming CEBP in the Central West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ through safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

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## 4.18.5 Flooding

### Submission ID numbers

34, 48, 53, 59, 85, 97, 102, 116, 213, 256, 299, 319, 321, 361, 363

### Summary of issues

Fifteen submissions commented on the information on the EIS with respect to flooding impacts. Comments included:

- potential changes to flood levels due to proposed road upgrades on Merotherie Road, which is located on a floodplain
- the construction of a new bridge over Talbragar River which may result in an alteration of the river's natural flow and irreversible damage
- site inappropriateness of Merotherie Energy Hub due to inundation from overland flow.

Seven of the submissions stressed the impacts to flood prone land and flood risks at Merotherie Road and Merotherie Energy Hub and expressed concerns regarding its selected location. The submissions voiced that the proposed upgrades including road infrastructure, culverts and drainage systems would have the potential to cause changes in flooding patterns in the area, impacting road access a great challenge.

One of the submissions raised concerns about the safety of local communities in flood prone areas due to the infrastructure and upgrades being carried out for the project, questioning how EnergyCo planned to guarantee resident safety in the event of a fallen transmission lines and tower.

### Response

#### Flooding Merotherie Road

The project as amended now includes the upgrade of a section of Merotherie Road. The flood impact assessment of this upgrade is detailed in the Amendment Report.

The amended flooding assessment (Appendix K of the Amendment Report) includes an assessment of the impact that the proposed road upgrades would have on flood behaviour. It is noted that the road upgrades are primarily a widening and surfacing of Merotherie Road and would include drainage control measures such as cross banks, level spreaders, outlet scour protection and energy dissipation to manage runoff and the impact it could have on scour to the road and surrounding areas during intense rainfall event.

Construction activities and associated construction sites on flood-prone land, including earthworks, material storage and stockpiling, workforce accommodation camps and construction compounds, have the potential to temporarily affect flooding behaviour. The depths of inundation within the construction area during the 10 per cent AEP event are generally shallow and of short duration. The exception is the Elong Elong construction compound, where flood depths would exceed one metre during the 10 per cent AEP event, and increase to more than two metres during a one per cent AEP event, due to mainstream flooding from Laheys Creek. To address the risk due to changes in flood behaviour, mitigation measure FL1 requires a number of considerations during detailed design to avoid or minimise obstruction of overland flow paths and implementing measures to not worsen flood impacts on the community, property and infrastructure during construction up to and including the one per cent AEP flood event, where practicable.

The Merotherie Energy Hub has been located so that the bench is not impacted by the 1% AEP event. Local drainage controls would be provided to manage overland flow. Mitigation measure FL07 indicates that the energy hubs and switching stations would be designed to manage adverse impacts on the receiving drainage lines as a result of changes in the depth, velocity, extent and duration of flow during storms up to 1% AEP in intensity.

The electrical components within the energy hub and switching stations would be located a minimum of 0.5 metres above the peak one per cent AEP flood level. Each energy hub and switching station would also be designed so that operations would not be impeded by peak flood levels during a 0.5% AEP event.

Impacts to flood extents due to the construction of switching stations, energy hubs and transmission towers would be localised and minor. Mitigation measures FL7, FL8, and FL9 require the project to address potential impacts on flood behaviour and flows to receiving drainage lines, as well as ensuring the resilience of the energy hubs and switching stations.

The new bridge at Merotherie Road would be designed to manage its impact of flood behaviour in the Talbragar River in comparison to the existing bridge arrangement. The Amended flooding assessment (Appendix K of the Amendment Report) includes an assessment of the impact that the proposed road upgrades would have on flood behaviour.

Transmission towers are to be designed to Australian Standards that require design loadings from floods and water flow to be included in the design. Transmission lines are commonly built within flood plain areas and the design of the towers and foundations are conducted so as to be suitable for flood loading.

Regular inspection and maintenance of network infrastructure would occur to minimise the risk of infrastructure failure.

Fault and emergency response would occur as required and in response to an emergency (such as a fallen transmission tower).

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## 4.18.6 Management and mitigation

### Submission ID numbers

102, 277, 363

### Summary of issues

Three submissions commented on the management measures provided in the EIS and emphasised:

- the need for EnergyCo to ensure resident safety during flood events during construction
- lack of flood prevention and management measures provided in the EIS
- resident safety during flood events which may lead to the falling of transmission lines and towers on resident properties and secure evacuation plans
- EnergyCo to consider installing tanks at transmission sites and waiting for catchments to be filled before project commencement to avoid conflicts with farmer's water access and supply
- the need for a detailed examination of risks and options considered for diverting water from existing watercourses.

One of the submissions queried EnergyCo's strategy for managing the region's water supply during severe droughts and floods, seeking clarity on how the project's water usage aligns with the region's scarce water supply and its sustainability. The submission also made inquiries regarding the EnergyCo's management of flooding and drainage issues, addressing potential impacts on water management plans for both the community and farming operations, with a focus on compensation for necessary adjustments.

## Response

A number of mitigation measures have been identified to address flood impacts during construction and operation (refer to Appendix B of this report).

Mitigation measure FL4 addresses flood emergency management and emphasises the preparation and incorporation of flood emergency management measures into relevant environmental and safety management documentation. These measures include contingency planning for facilities in areas susceptible to mainstream flooding during a 1% AEP event. For facilities within the floodplain, the plan identifies how flood-related risks to personal safety and potential damage to construction facilities and equipment will be managed. Additionally, procedures for monitoring accurate weather data and disseminating flood warnings to construction personnel are outlined.

Mitigation measure FL10 addresses flood risk associated with the construction of the new bridges over the Talbragar River and Lahey's creek. These measures include flood emergency management procedures, requirements for the construction of temporary working platforms, and the layout of temporary access roads, and working platforms.

Mitigation measure FL6 requires the project to be designed to minimise adverse flood related impacts on surrounding development for storms with intensities up to one per cent AEP. Additionally, critical infrastructure and vulnerable development will be protected from a significant increase in flood hazard, particularly for floods up to the PMF. These measures, integrated into the project's design and construction planning, underscore a proactive approach to flood risk mitigation.

Regarding the operation of the project, mitigation measures FL7, FL8, and FL9 have been implemented to address potential impacts on the receiving drainage lines and ensure the resilience of the energy hubs and switching stations. Mitigation measure FL7 underscores the design focus on managing adverse impacts on drainage lines caused by changes in the depth, velocity, extent, and duration of flow during storms up to 1% AEP in intensity.

The project will also be designed to ensure that the existing level of flood immunity of the road network is maintained, and that the increase in flood depths and hazards along the road network are minimised (mitigation measure FL8).

As detailed in Section 4.18.4 of this report, opportunities to minimise water demand would be identified during detailed construction planning and implemented where feasible. The use of non-potable water over potable would be preferred, however this is dependent on the location and nature of the water use activity as well as the quantity and quality of available water at the time. Water for construction of the project would be sourced according to the hierarchy as outlined earlier within this section, where feasible and reasonable, and where water quality and volume requirements are met.

The project does not propose to divert watercourses.

Where the positioning of transmission line structures and other associated permanent structures would impact farm dams, consultation would be undertaken with the affected landowner to identify opportunities to avoid or minimise these impacts, where practicable.

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## 4.19 Soils and contamination

### 4.19.1 Soil impacts – general

#### Submission ID numbers

38, 39, 63, 85, 254, 265, 299, 323, 324, 368

#### Summary of issues

Ten submissions commented on impacts to soils from the project. Comments included:

- concerns regarding the impact of erosion on waterways and agricultural properties including soil conservation efforts
- causes of erosion were highlighted, including:
  - the removal of vegetation, particularly in riparian zones
  - potential damage to contour banks and waterways established for soil erosion management
  - earthworks and establishment of new structures
  - unsealed access tracks
  - tower placements.

#### Response

Construction of the project would temporarily expose the natural ground surface and sub-surface through the removal of vegetation, earthworks activities and excavation of surface soils. The exposure of soil to surface water runoff and wind can increase soil erosion potential, particularly where construction activities are undertaken in soil landscapes susceptible to erosion. If not properly managed, the exposure of the natural ground surface may result in potential sedimentation of surrounding land, drainage lines or downstream watercourses and dams. To minimise the disturbance of the bed and banks of waterways, where the trimming of riparian vegetation is required, all trunk bases and understorey would be retained in-situ adjoining the watercourse banks.

The potential for erosion impacts would be minimised by implementing standard erosion management measures in accordance with *Managing Urban Stormwater Soils and Construction* (mitigation measure WA4). These would be set out in the Soil and Water Management Plan that would be prepared as part of the CEMP. Measures would include the implementation of surface water and erosion control practices, minimising the duration of soil disturbance and the progressive rehabilitation and stabilisation of disturbed areas, management of water discharges from construction areas in accordance with applicable criteria and stockpile management controls.

The operation of the project is not expected to have a significant impact on soils due to the minimal ground disturbance during ongoing activities. The potential for erosion of soils may be present around infrastructure (such as transmission line towers) located within the floodplain, where erosion and scour from water flow during flood events or high winds is more likely to occur, or where there is the potential for increased scour due to new impervious areas at energy hubs or switching stations. However, the project would be designed to manage water flow and the effects of wind and scour (where required). Access tracks would also be designed with appropriate drainage control measures to manage runoff and scour potential.

The final location and specification of each transmission line tower would be dependent on a range of engineering and environmental factors. Where transmission line towers occur within flood affected areas and/or in close proximity to watercourses, the footings and legs of the structures would obstruct floodwater at discrete locations and potentially lead to an increase in the depth and velocity of floodwaters in some areas.

Any change in the depth and velocity of flood flows would be confined to a relatively localised area around the footings and tower legs of each tower and are not expected to result in a significant impact.

Where relevant, permanent erosion control measures will be designed and implemented at relevant energy hubs, switching stations and transmission line towers to minimise potential scour and erosion risks associated with surface water runoff during operation (mitigation measure WA3).

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## 4.19.2 Contamination of soil or groundwater

### Submission ID numbers

63, 206, 248, 339

### Summary of issues

Three submissions commented on contamination of soil and groundwater in the prime farming region. Comments included:

- concerns regarding potential contamination due to oil and grease leakage from construction vehicles and machinery
- recommendation that adequate mitigation be added including notification requirements to the Appropriate Regulatory Authority and other relevant authorities for incidents that cause, or have the potential to cause, material harm to the environment (Part 5.7 of the POEO Act).

### Response

During construction, there is a potential risk of spills of chemicals and materials during construction activities and fuel leaks from construction vehicles, plant and equipment and use. These have the potential to contaminate soils and/or groundwater.

If not managed appropriately, the storage, use and disposal of dangerous goods and hazardous materials has the potential to expose surrounding soils to contamination. However, the risk associated with potential for the project to generate new sources of contamination is considered low and manageable through the implementation of standard environmental management measures as part of the CEMP and any relevant sub plans.

Environmental management of the project would comply with the POEO Act. Notification requirement will be described in the CEMP.

A Soil and Water Management sub-plan will be prepared as part of the CEMP for the project and contain appropriate measures in the event that groundwater is encountered during construction. The sub-plan will include, but not be limited to, the following management measures:

- appropriate design of fuel and oil storage areas
- use of nominated and bunded fuel and chemical storage areas
- provision of spill kits for cleaning up chemical, oil and fuel spillages
- regular maintenance of plant and equipment to minimise the potential for leaks and spills
- training for personnel
- procedures for managing any intercepted shallow groundwater
- procedures for soil storage (including any potential contaminated soil) and erosion control.

Environmental management of the project would comply with the POEO Act. Notification requirement will be described in the CEMP.

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## 4.20 Groundwater

### 4.20.1 Groundwater impact

#### Submission ID numbers

75, 116, 129, 228, 381

#### Summary of issues

Five submissions commented on potential groundwater impacts associated with the project. Comments included:

- general objection to the use of extracted groundwater for the project, and raised how use of groundwater could impact the water table
- queries how would the water table/groundwater levels be impacted by the dewatering activities associated with the project.

#### Response

Construction and operational activities would not result in permanent inflow or take of groundwater. The project is predicted to generally have a limited impact to groundwater, that would be further reduced with the implementation of mitigation measures outlined in the CEMP and the Soil and Water Management sub-plan (SWMP). In areas where groundwater is shallow, alternative construction methodologies and designs would be considered and implemented, where reasonable, to minimise interaction with groundwater during the works.

In the event surface water availability does not meet the project's non-potable water requirements during construction, groundwater supply would be established at the Merotherie and Elong Elong energy hubs. Installed water infrastructure would be subject to appropriate licensing, and all extracted water would be in accordance with a WAL, in accordance with legislative requirements (unless a valid exemption otherwise exists).

The assessment of groundwater extraction was provided in section 19.3.4 of the EIS and Technical paper 17 – Groundwater. The assessment predicted the level of additional drawdown that would occur at surrounding groundwater bores in the vicinity of the proposed bores if up to 76 megalitres of water was extracted in the peak year of construction (refer to Table 19-22 of the EIS). This assessment concluded that the proposed extraction over the four-year construction period would result in 'no more than minimal harm' (as defined by the Aquifer Interference Policy) to the groundwater resource and surrounding sensitive receivers, such as other groundwater users or GDEs, as both proposed bores would meet the assessment criteria for an acceptable level of impact.

In accordance with Technical paper 17 – Groundwater, if groundwater is encountered in any temporary shallow excavations, it would be very limited and for a short period. Therefore, the project would not result in changes in groundwater levels at sensitive receivers (such as GDEs and registered groundwater users).



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## 4.20.2 Management and mitigation

### Submission ID numbers

166

### Summary of issues

One submission suggested that a pumped sump with bunding should be installed in the Cockabutta Creek Basin during drilling works, to stop pressurised bore water from flowing across the Warrego Summer grass fields. The submission also suggested that bore water could be emptied into the adjacent drainage canal.

### Response

The transmission alignment would intersect Cockabutta Creek and piling for the transmission tower foundation may intercept the local water table where it is close to surface. However, as concrete would be poured into the excavated pile, and water removed from the pile as it is displaced by the concrete, there would be no permanent take of water. These works are likely to generate small amounts of a water. All waste materials would be captured and controlled onsite, with appropriate collection and disposal. There would be no wastewater discharge from site.

A Soil and Water Management sub-plan will be prepared as part of the CEMP for the project and contain appropriate measures in the event that groundwater is encountered during construction. Measures to manage potential water quality impacts during construction, including surface water and erosion control practices will be implemented.

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## 4.21 Air quality

### 4.21.1 Air quality impacts

#### Submission ID numbers

59, 230, 312, 324, 375

#### Summary of issues

Five submissions commented on potential air quality impacts including the potential for increased air pollution and reduced air quality in general, particularly due to earthworks and construction traffic.

Submissions also raised concerns that emissions from the substations have not been measured.

#### Response

The potential for dust generation and associated air quality impacts from the project would be highest during the construction phase. Where earthworks, civil construction and construction vehicle movements are considered to have medium to high emission magnitude potential, construction activities are expected to have an overall negligible to low risk rating (unmitigated) due to the distance between most sensitive receivers in the air quality study area. A range of mitigation measures (AQ1 to AQ5) have been identified to prevent or minimise dust generation and impacts to the local community and environment as described in Appendix B of this report.

Air quality impacts during operation of the project were assessed (refer to section 19.4.5 of the EIS). Sulphur hexafluoride (SF6) would be used as an insulating gas in high voltage infrastructure at energy hubs and switching stations, and would be emitted at trace levels. Impacts on the receiving environment as a result of these emissions are expected to be negligible. During operation, windblow dust may be generated from vehicle movements along unsealed roads within the operational area. The potential for dust generation is expected to be low, and of minimal impact to sensitive receivers, this is due to the infrequent and low number of vehicle movements expected.

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## 4.21.2 Management and mitigation

### Submission ID numbers

301

### Summary of issues

One submission suggested that dust suppression would be required during construction.

### Response

In accordance with mitigation measure AQ1, measures to prevent or minimise dust generation and impacts to the local community and environment would be implemented during construction and would include use of water sprays or dust suppression surfactants for dust suppression, where required and appropriate. Furthermore, vegetation clearing in the transmission easement would be partial and would not expose large areas of land.

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## 4.22 Climate change and greenhouse gas

### 4.22.1 Assessment approach

#### Submission ID numbers

57, 58

#### Summary of issues

Two submissions suggested the EIS did not include that an assessment that detailed how the project would reduce greenhouse gas (GHG) emissions. Both submissions suggested the EIS indicated that the project is required to achieve legislated targets, but no comprehensive data and assessment was provided as justification of the claim.

#### Response

Assessment of GHG emissions for the project was completed in accordance with relevant legislation, policies and assessment guidelines. The GHG assessment was prepared using:

- *International Standard ISO 14064-1:2018: Greenhouse gases — Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removal* (ISO, 2018)
- *International Standard ISO 14064-2:2019: Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements* (ISO, 2019)
- *National Greenhouse Gas Accounts Factors* (DCCEEW, 2021)
- *Greenhouse Gas Assessment Workbook for Road Projects* (TAGG, 2013).

Part of the assessment involved identification of mitigation measures to reduce GHG emissions, including GHG1 (Greenhouse Gas Scope 1) and GHG2 (Greenhouse Gas Scope 2) in the EIS. The project would have an overall benefit in reducing GHG emissions in the wider economy by enabling an increase in the generation of renewable energy in the grid, to replace carbon intensive fossil fuel generation.

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## 4.22.2 Greenhouse gas emissions

### Submission ID numbers

31, 47, 110, 154, 377, 381, 395

### Summary of issues

Seven submissions raised concerns about increased GHG emissions during construction. It was suggested that the EIS did not quantify, value and disclose the carbon contribution of the project infrastructure, in accordance with the National Greenhouse Accounts. Submissions also suggested that the proponent must include assessment of embedded emissions in infrastructure generation, storage and ancillary structures for the project.

Concerns about the cumulative impacts of production, transportation, construction and installation of the project would have on the production of greenhouse gas emissions including carbon dioxide (CO<sub>2</sub>). Submissions queried what emissions are generated from the use of steel and concrete for the project.

Concerns were raised about the extent of vegetation clearing for the project, in particular the removal of trees needed to reduce Australia's carbon footprint.

### Response

Assessment of GHG emissions was completed in accordance with relevant legislation, policies and assessment guidelines. The GHG assessment was prepared using the National Greenhouse Gas Accounts Factors (DCCEEW, 2021).

The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during project construction are estimated at 611,607 tCO<sub>2</sub>-e. A breakdown of GHG emissions for project construction is detailed in Table 19-34 of the EIS, and includes GHG emissions associated with production of materials, transportation of materials and construction. Table 19-34 also indicates emissions associated with the production of materials, including steel and concrete, are estimated at 516,554 tCO<sub>2</sub>-e.

In accordance with mitigation measure GHG1, a GHG assessment and design refinement would be completed during detailed design to identify opportunities to minimise GHG emissions during construction. Opportunities for consideration would include using low carbon concrete and steel in transmission line towers and civil infrastructure and minimising vegetation clearing during construction to preserve carbon sinks.

In accordance with mitigation measure GHG1, a GHG assessment and design refinement would be completed during detailed design to identify opportunities to minimise GHG emissions during construction. Opportunities for consideration would include minimising vegetation clearing during construction to preserve carbon sinks.

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## 4.22.3 Management and mitigation

### Submission ID numbers

381

### Summary of issues

One submission suggested there should be more emphasis on mitigation of CO<sub>2</sub> emissions for the project and new and emerging technologies.

### Response

In accordance with mitigation measure GHG2, a GHG assessment and design refinement would be completed during detailed design to determine opportunities to minimise GHG emissions during operation. Opportunities for consideration would include:

- designing and implementing energy-efficient transmission infrastructure to minimise energy losses during operation and lower GHG emissions
- investigating the use of non-SF6 technologies for transformers and switchgear. If SF6 is required, leak detection systems would be considered, and regular inspections and maintenance completed to reduce the risk of SF6 leaks
- incorporating solar energy technologies, such as installing solar panels at energy hubs and switching stations to reduce energy consumption within the NEM, that still includes fossil fuel generated electricity
- transitioning to zero-emission vehicles for operation and maintenance equipment, including battery electric vehicles or hydrogen fuel cell vehicles
- implementing advanced monitoring and control systems for transmission infrastructure to optimise energy efficiency and reduce energy losses
- implementing demand-side management strategies to actively manage electricity consumption, reduce energy.

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## 4.23 Cumulative impacts

### 4.23.1 Impact assessment approach

#### Submission ID

47, 62, 185, 239, 279, 280, 348, 361, 365, 375

#### Summary of issue

Ten submissions commented on the adequacy of the cumulative impact assessment for the project. Comments included:

- the cumulative impact assessment was considered inadequate and either lacking detail or underestimating the cumulative impacts. It was suggested that the project along with all the proposed connecting renewable energy projects be considered as one project as they are co-dependent
- existing renewable energy projects were not considered
- the Ungula wind farm was not considered

- the proposed renewable energy projects were assumed to be approved
- a detailed map of all projects in the Central-West Orana REZ was requested to show the location of the panels and wind turbines.

## Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

The broader declaration of the Central-West Orana REZ has been considered at strategic level by the NSW Government (refer to Section 4.1.1 of this report). The scope of the EIS and Amendment Report is focussed on the project. The cumulative impact assessment for the project assesses the potential impacts of the project alongside the potential impacts of other relevant proposed projects.

In accordance with the approach set out in the guideline, the cumulative impact assessment does not consider existing projects, only proposed projects, where an application has been lodged, and approved projects that have not started construction or that are currently under construction. This is because existing projects are considered to be part of the existing environmental conditions (for example the traffic from existing projects would form part of the existing road traffic conditions rather than be dealt with as a cumulative impact). In addition, the level of detail included in the cumulative impact assessment, was dependant on the level of detail and quality of information publicly available for each project. Less detail is available for relevant projects which are at an early stage of their planning application process (e.g. Scoping Report phase).

Ungula wind farm was considered in the cumulative impact assessment as identified in Table 20-1 in EIS Chapter 20 (Cumulative impacts).

For the purposes of ensuring the assessment of cumulative impacts is conservative and captures the potential range of cumulative impacts, projects currently under statutory environmental impact assessment where an application has been lodged are considered. However, the approval of these projects would be subject to the determination of the consent authority.

A map of the projects considered in the cumulative impact assessment are shown in Figures N-1 and N-2 in Appendix L of the Amendment Report. The location and extent of each project is shown but the level of detail does not provide details of layouts.

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## 4.23.2 General cumulative impacts

### Submission ID

58, 79, 83, 102, 130, 131, 132, 140, 146, 151, 157, 164, 169, 220, 280, 286, 343, 346, 352, 361, 365, 369, 376, 391, 396

### Summary of issue

Twenty-four submissions commented on the cumulative impacts of the project and other developments in the region. Comments included:

- the potential for overlapping construction schedules of multiple projects
- the long-term nature of the cumulative impacts.

## Response

Within the Central-West Orana region, a significant number of new developments are proposed, approved or under construction, including more than 30 major renewable energy generation and storage projects (of which 11 are proposed to connect to this project), as well as other infrastructure and mining projects. These developments are expected to result in substantial investment, economic benefits and job opportunities in the region however, cumulative social and environmental impacts would also occur.

Where construction schedules overlap, these projects would also potentially place pressure on existing communities and services such as accommodation, health services, retail, hospitality and emergency services, and waste facilities. Development of these projects would also have the potential for cumulative amenity impacts associated with biodiversity, visual, traffic, noise and air quality impacts during construction. Cumulative impacts during construction would be temporary and vary depending on the extent of activity occurring at each project concurrently. Each project would implement mitigation measures to minimise their potential impacts. Further discussion on mitigation of cumulative impacts is in Section 4.23.16 of this report.

Long-term cumulative impacts, such as land use, agriculture, and visual impacts, would occur when all the projects are operational. However they were assessed as unlikely to be significant.

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### 4.23.3 Cumulative agricultural impacts

#### Submission ID

36, 52, 57, 58, 65, 66, 80, 102, 112, 117, 119, 126, 156, 157, 164, 166, 169, 171, 172, 176, 177, 181, 185, 187, 190, 191, 196, 221, 225, 248, 250, 251, 301, 335, 351, 355, 361, 363, 371, 373, 375, 379, 382

#### Summary of issue

Concerns about the cumulative agricultural impacts of the project and other developments in the region were raised in 43 submissions.

Cumulative loss of agricultural land was raised as an issue including the loss of prime agricultural land and strategic agricultural land. This is considered significant with the potential to pose a risk to food security.

It was questioned who would determine the threshold for the level of cumulative impacts on agricultural land.

Other cumulative impacts to agriculture raised included:

- disruption to agricultural operations
- widespread biosecurity risks from construction and operation, such as pathogens, invasive weeds and feral animals
- risk to the safe operation of agricultural properties from being surrounded by hazardous infrastructure
- contamination and sterilisation of agricultural land.

It was requested that the cumulative agricultural assessment consider agricultural land converted to biodiversity offsets.

## Response

The Central-West Orana REZ has a long history of agricultural and mining activities, and while these land uses are expected to continue, it is recognised that the region is experiencing a shift as part of the larger energy transition. This shift is supported by the *Central West and Orana Regional Plan 2041* (DPE, 2022g), which recognises and supports the establishment of the Central-West Orana REZ, while aiming to ensure compatibility with existing land use practices and minimise the associated environmental and social impacts.

EnergyCo has sought to minimise cumulative land use and agriculture impacts when including the 330 kV network in the project. The coordinated approach resulted in a streamlined 330 kV network and reduced the number of lines being built. This approach reduced cumulative impacts to land use and agriculture.

The permanent loss of agricultural land for the amended project is equivalent to 0.04 per cent of the total area of agricultural land use in the four impacted LGAs. Most of the relevant future projects would have a relatively minor impact on agricultural production, as some agricultural activities would be allowed to continue across the respective project areas during operation, depending on the type of project and the type of agriculture. For example, wind farms would allow cropping to continue within the project footprint, whereas solar farms would remove existing arable land within their project footprints from future crop production. However, grazing could most likely continue within the project footprint of both solar and wind farms. As such, the projected loss of agricultural production due to the project is deemed negligible both regionally and nationally, with negligible implications for the long-term food supply of the region and the nation.

The NSW Agriculture Commissioner completed a review of the forecast growth in renewable energy development in Regional NSW with respect to the potential land use conflict with agricultural land. The review noted that the likely worst case scenario of land use changes from the energy transition up to 2051 would not materially affect agricultural production. It is estimated that up to about 0.1 per cent of rural land would be subject to rural change across NSW (NSW Agriculture Commissioner, 2022). Furthermore, under the SBP Scheme for new major transmission projects, private landowners hosting transmission infrastructure will receive \$200,000 per kilometre over 20 years. This would provide a regular income stream, which can be beneficial where agricultural operations are impacted during flood and drought periods.

Mining projects, such as Bowdens silver mine and Moolarben coal mine, would likely impact local agricultural productivity as they would collectively remove around 2,500 hectares of land currently used for agricultural production (typically grazing activities) throughout the life of the projects and rehabilitation periods. However a majority of this land is proposed to be rehabilitated and is unlikely to result in a significant impact on regional agricultural production. Considering the impacts of the project on regional agricultural productivity, the project in combination with these mining projects are unlikely to result in significant cumulative impacts on regional agricultural productivity. Therefore, the projected loss of agricultural production would have negligible implications for the long-term food supply of the region and the nation.

Where construction schedules overlap with other projects in the area, agricultural operations may also be temporarily impacted due to increased construction traffic, the generation of noise, damages/changes to farm infrastructure and increased biosecurity risks. Cumulative biosecurity risks are expected to be low once standard mitigation measures are implemented by each project.

A cumulative assessment of hazards and risks, from the operation of relevant future projects and the exhibited project infrastructure was completed. Cumulative EMF impacts due to the operation of the project infrastructure are not expected and cumulative bushfire risks would be managed through a range of mitigation measure for this project and other relevant projects.

Potential soil and contamination impacts of this project during construction are likely to be minor and localised to the construction area. While the relevant future projects may have contamination impacts and require management, none of the projects would have any contamination impacts within areas impacted by this project.

With the implementation of the mitigation and management measures for each project, this project in combination with the relevant future projects, are not expected to result in any material cumulative soil and contamination impacts during construction or operation.

With regard to project's biodiversity offset strategy, EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. The properties selected would generally be on land with relevant biodiversity values and opportunities for revegetation, as existing agricultural land requiring revegetation generates comparatively less offset credits. Biodiversity Stewardship Agreements would only be entered into where there is a willing landowner with requisite biodiversity values.

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## 4.23.4 Cumulative biodiversity impacts

### Submission ID

55, 57, 66, 72, 72, 83, 87, 101, 102, 119, 124, 138, 178, 192, 196, 198, 206, 216, 227, 250, 269, 279, 283, 301, 325, 339, 348, 361, 382, 386

### Summary of issue

Thirty submissions commented on the cumulative biodiversity impacts of the project and other developments in the region. Comments included:

- concerns about the cumulative amount of clearing occurring in the Brigalow Belt South Bioregion. The cumulative loss of vegetation and habitat and the associated disruption to habitat connectivity due to fragmentation of vegetation was raised as a significant issue. There are concerns the cumulative impacts on biodiversity will result in native fauna leaving the region
- cumulative impacts on threatened species and communities and the potential for SALLs was considered high. There is concern for the cumulative impacts on the following flora and fauna:
  - birds such as the Glossy Black Cockatoos Wedge-tailed Eagle, Swift parrot and Regent Honeyeater, eagles, cockatoos and parrots
  - koalas
  - rare wildflowers
  - insects
- the cumulative impact of transmission lines and wind farm turbines was raised as a risk to the bird population due to the increased likelihood of bird strike. There is also concern the potential cumulative water quality impact from the construction of projects in the region to impact aquatic ecosystems.

### Response

Where available, the total impact to native vegetation from each project is provided in Appendix L of the Amendment Report, along with a list of the TECs and threatened species that would be impacted. A broad approach has been taken due to the variance in impacts between projects and the total native vegetation impact is considered the simplest way to represent impact to threatened species habitats.

The total ecosystem credit and species credit requirement for each project is also provided to provide an overview of cumulative offset requirements. The species credit requirement provides a surrogate for the level of impact to threatened species. The estimated cumulative impacts on threatened flora and fauna species including birds, koalas, flowers and insects are described in Appendix L (section 3.3) of the Amendment Report.



The results from the review of available information on project indicate the following:

- the known or estimated cumulative native vegetation impacts equate to 24,251 hectares
- the cumulative ecosystem credit requirement equates to 198,868 credits
- the cumulative species credit requirement equates to 376,216 credits.

The full cumulative extent of proposed clearing across the Brigalow Belt South bioregion has not been completed for the project. The project would clear approximately 278 hectares of native vegetation in the Brigalow Belt South bioregion across the sub regions.

This project would contribute to the cumulative impacts to wildlife connectivity and habitat corridors and would potentially have one of the largest impacts to connectivity. This is due to this project bisecting native vegetation associated with Durridgere SCA and vegetation to the north and south of Tuckland State Forest. This project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected for all species. The cumulative impacts to connectivity area expected to be permanent, though minor. They are likely to reduce over time as biodiversity acclimatises to the presence of the new infrastructure.

The wind farm projects would result in some interruption of aerial habitat through the introduction of potential turbine strike and barotrauma. In terms of the risk of collision with transmission lines, while this type of indirect impact has the potential to lead to an increase in bird mortality, mitigation measures (including bird flappers/divertors) would be implemented to ensure the likely impacts are minimised. In addition transmission lines are likely to be below flight paths for most species. Cumulative impacts from the project on the increase likelihood of bird strike would be minor.

Aquatic ecology impacts from the project would primarily be limited to the construction period and would be readily manage through mitigation measures. The project's contribution to cumulative aquatic ecology impacts would be minor.

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## 4.23.5 Cumulative social impacts

### Submission ID

29, 31, 32, 38, 57, 66, 70, 79, 80, 83, 100, 102, 112, 117, 118, 130, 138, 140, 142, 152, 155, 172, 177, 185, 187, 191, 193, 198, 200, 206, 216, 225, 229, 232, 239, 245, 248, 250, 279, 280, 283, 319, 343, 345, 348, 353, 353, 369, 371, 382, 386

### Summary of issue

Fifty one submissions commented on the cumulative social impacts of the project and other developments in the region. Comments included:

- negative impacts on mental health and wellbeing due the overwhelming amount of development
- detrimental impacts to local cohesion due to unequal distribution of benefits from development
- detrimental impact to local culture due to loss of agricultural land and potential for the population to decrease
- cumulative amenity impacts affecting the sense of place and connection to land
- sense of safety and security is diminished due to the number of construction workers in the region
- increased pressure on local social and commercial services due to the number of construction workers in the region
- increased anxiety about cumulative risk associate with bushfire and EMF.

## Response

The cumulative impact assessment included the assessment of social impacts including those affecting agriculture and food production, community cohesion, sense of safety, capacity of health, food, and social services, sense of place and mental health impacts due to bushfire risk. This project's contribution to these impacts would range from minimal to moderate. The updated cumulative SIA was completed and is provided in Appendix L of the Amendment Report.

### **Mental health, wellbeing and social cohesion**

Out of the 34 relevant future projects, 15 have been identified in close proximity to the project. These include: five wind farms (Spicers Creek, Orana, Barneys Reef, Valley of the winds and Liverpool Range), eight solar farms (Dapper, Sandy Creek, Cobbera, Tallawang, Birriwa, Narrangamba, Ulan and Wollar solar farms), one BESS (Bellambi Heights) and one mining project (Wilpinjong coal mine Extension and Modification 2).

This means that it is possible that residents and other community members near to the project and the relevant future projects would experience uncertainty, fear, and concerns over changes to their lifestyle, the landscape, the value of their properties and loss of agricultural land (see Section 4.23.3 of this report). The project's contribution to diminished mental health amongst landowners is moderate considering the geographical extent of the project. The cumulative impacts to agricultural land and food production for future generations is possible. Community members leaving the area due to reduced wellbeing associated with objections and stress linked to the Central-West Orana REZ could lead to permanent changes on community cohesion in the local and regional area.

This project's contribution to this cumulative impact is moderate considering the geographical extent of this project.

Broader potential impacts from the project on the wider locality would be addressed through a range of mitigation measures listed in Appendix B of this Report. A CEBP for the Central-West Orana REZ will be administered by EnergyCo to deliver community projects and employment opportunities in recognition of the broader changes to the region as discussed in Section 4.23.16 of this report. These initiatives would be delivered separately to the project.

### **Cumulative amenity impacts affecting the sense of place and connection to land**

This project in combination with the relevant future projects are expected to result in cumulative impacts to the regions' landscape character and visual amenity as discussed in Section 4.23.6 of this report. All projects occurring on directly affected landowners' properties would likely alter the way these landowners use and enjoy their properties due to changes to access, amenity and aesthetic impacts.

As such, it is possible that there would be cumulative diminished sense of belonging due to losses of aesthetic values and biodiversity in the local social locality. It is anticipated that this project's contribution to this impact is moderate given its geographical extent and contribution to visual and biodiversity cumulative impacts.

### **Impacts to sense of safety due to a cumulative influx of non-resident workforce**

The influx of a large non-resident construction workforce may impact community cohesion and sense of safety. Between all the relevant future projects within the regional social locality there could be a temporary construction workforce exceeding 9,059 at peak times during the project's construction period (including this project). It is possible that there would be cumulative impacts to sense of safety (not to the actual level of safety) due to an influx of non-resident workforce. Given that the workforce required for the project represents around 20 per cent of the total cumulative workforce it is anticipated that it would have a moderate contribution to the cumulative impact on sense of safety.

Impacts to sense of safety due to an influx of the non-resident workforce will be mitigated by the development and implementation of a Workforce Management Plan (mitigation measure SI2) prior to construction, which will include a code of conduct for workers with a zero-tolerance policy relating to anti-social behaviour.

### **Impacted capacity of health, food, and social services**

It is likely that pressure on health, food and social services would be exacerbated by the large influx of non-resident construction workers that would be required to construct the relevant future projects within the regional social locality with an overlapping construction phase. The combined temporary construction workforce of the 22 relevant future projects may exceed 9,059 at peak times during the project's construction period.

The workforce accommodation camps for the project would provide sufficient accommodation for the project workforce, including during the peak construction period. Food, sporting and recreation facilities, first aid facilities, medical practitioners would be provided at the camps to minimise impacts of the construction workforce on local and regional health services. Internet connection would also be provided at the workforce accommodation camps.

The availability of accommodation has been identified as a constraint to mobilising additional medical resources to regional areas. EnergyCo has established a Memorandum of Understanding with Health NSW to investigate co-funding the delivery of key health worker accommodation in four locations including Coolah, Mudgee, Dubbo and Wellington.

It is likely that there would be cumulative impact to the capacity of health, food and social services to respond to an increased demand for services in the local social locality, and possibly at the regional social locality. It is anticipated that the contribution from this project to this cumulative impact would be moderate.

### **Stress from health and safety risks**

The cumulative operation of electrical infrastructure projects would likely enhance concerns regarding potential bushfire and EMF risks amongst the local social locality. As such, it is possible that the local social locality would experience cumulative stress due to bush fire and perceived EMF risks. The project's contribution to this impact is moderate given the geographical extent of this project.

As discussed in Section 4.23.8 of this report, cumulative impacts associated with EMF are not expected, and mitigations measures would be implemented by this project and other relevant projects to minimise the risk of bushfire.

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## **4.23.6 Cumulative visual impacts**

### **Submission ID**

57, 58, 64, 72, 79, 80, 102, 107, 108, 111, 113, 115, 116, 118, 119, 122, 126, 128, 132, 139, 151, 156, 157, 161, 163, 165, 175, 176, 178, 179, 180, 181, 185, 187, 192, 193, 197, 205, 210, 212, 215, 216, 217, 220, 225, 226, 229, 235, 239, 241, 243, 246, 247, 249, 277, 279, 339, 344, 345, 368, 380, 385, 394

### **Summary of issue**

Sixty-three submissions raise concerns on the cumulative landscape and visual impacts of the project and other developments in the region. Comments included:

- the transformation of the landscape from rural to industrial due to the number and scale of projects in development
- the poor aesthetics and large size of the proposed developments, in particular solar and wind farm projects

- the noticeable contrast of proposed development with the natural rural character of the surrounding landscape
- the degradation of scenic views from public locations in the region
- the light pollution from the projects in development.

## Response

The development of this project in combination the other relevant projects would lead to an increased presence of energy infrastructure in the region. This shift is supported by the Central West and Orana Regional Plan 2041 (DPE, 2022g), which recognises and supports the establishment of the Central-West Orana REZ, while aiming to ensure compatibility with existing land use practices and minimise the associated environmental and social impacts.

The assessment of cumulative landscape character and visual impacts has considered the potential for the project, together with other projects planned or approved and not yet constructed, to transform the landscapes in which is the projects are located. The cumulative impact assessment considered cumulative landscape character and visual impacts during the daytime and nighttime.

This included consideration of the aesthetic qualities of large-scale transmission infrastructure, their visual prominence, the level of contrast with the existing landscape character and impacts on scenic views. The potential for the transmission infrastructure to transform character of the landscape character and views has been described as the magnitude of change which is a part of the assessment process.

Opportunities to minimise the potential landscape and visual impacts of the project have been considered during project development as outlined in Section 4.8.3 of this report. This included locating the project with existing transmission infrastructure, locating it in disturbed land and locating it away from dwellings. However, the project in combination with the relevant future projects are expected to result in cumulative impacts to the regions' landscape character and visual amenity, noting the visual characteristics of solar and wind farm projects are not universally considered to be of visually unattractive, particularly wind farms.

The cumulative visual impact of the project in combination with other relevant project is described in section L3.2 in Appendix L of the Amendment Report. The most substantial cumulative landscape character and visual impacts would be experienced

- in the landscapes between Gollan and Dunedoo
- between Tallawang and Spicers Creek (the central and western sections of the project), where multiple renewable energy projects are proposed in combination with this project
- in the landscapes between Cassilis and Leadville (the northeastern section of the project), where two large wind farm projects are proposed in combination with this project.

Views of these projects would be prominent and contrast with the undulating rural and forested hills of the surrounding landscape, including at night, when some private dwellings would have views of operational lighting at switching stations, energy hubs and operations and maintenance buildings.

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## 4.23.7 Cumulative economic impacts

### Submission ID

57, 65, 79, 102, 152, 193, 197, 204, 205, 211, 229, 232, 241, 255, 279, 344, 348, 373, 395

### Summary of issue

Nineteen submissions commented on the cumulative economic impacts of the project and other developments in the region. Comments included:

- concerns that the development of this project in combination with renewable energy projects will have a detrimental impact on the local and regional economies.

The following issues regarding cumulative economic impacts during construction were raised:

- the cumulative economic benefits are limited to the construction periods
- labour shortages would increase and competition for employees will be more challenging for local businesses
- the cost of construction materials would increase.

The loss of agricultural land and increase in absentee farmers was raised as an issue that would negatively affect local businesses and job opportunities in the region during operation of the project.

Concern was also raised that the cumulative impacts on the amenity of the region will negatively impact tourism in the region.

### Response

Direct cumulative economic impacts to the region would be greatest during construction. This project, in combination with the relevant future projects, would generate a large demand for a suitably qualified construction workforce in regional areas. It is estimated that over 4,000 workers would be required for Central-West Orana REZ renewable energy generation and the project between mid-2025 and mid-2026 (EnergyCo, 2023b).

Workers (and their families) relocating to regional areas, even temporarily, or potentially workers from the region not emigrating from the region in search of work, may contribute to population growth, or reduce or prevent population decline. Population growth is an important driver of the health of regional economies, and creates an increased demand for goods, services and jobs. The employment of local workers would depend on the availability of workers in the local area which may be less than 10 per cent of the workforce.

This project, in combination with the relevant future projects, would substantially increase direct economic activity in the region as well as flow-on economic activity to businesses that are able to supply the goods and services required for project construction and operation, and by workers.

Any business that can provide the goods and services demanded for project construction and operation, and by workers, would benefit from the cumulative economic activity. The cumulative demand for construction workers would increase in the region due to the number of proposed developments. EnergyCo is collaborating with TAFE NSW to deliver a new online microskill course designed to boost the local workforce (EnergyCo, 2023d).

The project would contribute to a temporary increased demand for construction workers in the region and may lead to increased construction sector (and other sector) wages and attraction of workers from other relevant sectors of the economy over the short term, which may result in temporary labour shortages and associated shortages of goods and services and rising inflation. A temporary increased demand for construction materials, such as quarry materials and concrete, may also result in increased prices for these materials and potential shortages for other uses.

The extent of these short term impacts would depend on the balance of labour supply from within the region and outside the region, as well as adjustment of the overall labour market, and other markets, in response to increased demand from the project in combination with other projects under construction simultaneously. Over the medium term, markets would adjust to some extent (e.g. increased labour force participation, new quarry proposals to supply demand for aggregate etc), which would enable wages and prices to return to previous levels. Any price increases and suppression of other economic activities in the region represents the operation of the market system where scarce resources are reallocated to where they are most highly valued and where society would benefit the most from them. The project would also minimise its use of resources and produce materials on site through concrete batching plants and re-use of excavated material.

The project would contribute a relatively small amount (0.04 per cent of the four impacted LGAs) to the cumulative loss of agricultural land. There is potential for community members to leave the region or become absentee farmers due to cumulative impacts. It is not anticipated this would be a significant amount of the population. The project would also require around 50 to 60 personnel during operation which may attract new people to the region. Operational roles would primarily be based at the maintenance facility proposed near the Merotherie Energy Hub.

The top three tourism activities in the Central NSW Tourism region for domestic overnight travel are dining out a café/restaurant, visiting friends and relatives, and attending pubs and clubs (Destination NSW, 2023). No specific tourism infrastructure was identified as being impacted by the project. Direct impacts to tourist attractions, such as national parks, from the project are not anticipated. Amenity and traffic impacts from the project would primarily occur during construction and would be temporary. Cumulative visual impacts are anticipated based on the proposed projects as described in Section 4.23.6 of this report.

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## 4.23.8 Cumulative hazard and risk impacts

### Submission ID

52, 57, 66, 83, 102, 106, 127, 129, 193, 204, 211, 213, 216, 225, 226, 239, 279, 363, 366, 382

### Summary of issue

The cumulative risk raised in 20 submissions primarily focused on the potential increased risk of bushfire due to the cumulative presence of electrical infrastructure. There are concerns the presence of the project and renewable energy projects will result in an increased risk of a bushfire igniting and an increased risk of a catastrophic bushfire occurring.

Multiple construction projects occurring concurrently will significantly increase the risk of a bushfire being ignited.

There is also concern that the presence of these projects will impede firefighting in particular the ability to undertake aerial firefighting around wind turbines and transmission towers.

One of these submissions raised concerns about the cumulative EMF levels from multiple electrical infrastructure components in close proximity.

### Response

As a licenced transmission operator, the Network Operator will be required to implement an Electricity Network Safety Management System for the project to Australian Standard 5577 – Electricity network safety management systems, undertake hazard identification associated with bushfire risk, implement and maintain appropriate fire protection measures. As part of this, the Network Operator will collaborate with RFS to determine any additional resources required to manage bushfire risk to an acceptable level.

There would be an increased risk of bushfire ignition where construction and operation activities of this project would overlap with the relevant future projects on bushfire prone land. Mitigation measures would be implemented for each project to minimise potential hazards and risks for that project, including emergency protocols, in accordance with a safety management system, policies and guidelines. Minor road upgrades and access track works are proposed for most projects, which would assist with bushfire emergency response including adequate emergency egress and evacuation routes.

Transmission lines will not prevent aerial firefighting activities from being carried out. This project and the other renewable energy projects would also implement APZs around energy infrastructure and clearing within transmission lien easements to reduce the risk of fire spreading from these locations. With the implementation of the mitigation and management measures for each project, such as turning off wind turbines during emergencies, this project in combination with relevant future projects, is not expected to result in any material cumulative aviation impacts during construction or operation. It is noted that the RFS assesses each fire operation on a complete set of conditions for each individual occasion.

The assessment of EMF considered the project alongside other existing and proposed electrical infrastructure in close proximity. The predicted EMF levels at the boundary of the operation area are compliant with the current standards and guidelines administered by ARPANSA. Cumulative impacts associated with EMF are not expected in combination with the other relevant projects.

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## 4.23.9 Cumulative land use impacts

### Submission ID

57, 66, 102, 111, 112, 117, 130, 142, 177, 216, 226, 252, 279, 352, 382, 385

### Summary of issue

Concerns about the cumulative land use impacts of the project and other developments in the region were raised in 16 submissions including the:

- cumulative change of land use to industrial
- cumulative occupation of private land
- reduced ability to purchase land due to development in the region
- the decrease in property values due to the cumulative impacts.

### Response

The development of this project in combination the other relevant projects would lead to an increased presence of energy infrastructure in the region. This shift is supported by the *Central West and Orana Regional Plan 2041* (DPE, 2022g), which recognises and supports the establishment of the Central-West Orana REZ, while aiming to ensure compatibility with existing land use practices and minimise the associated environmental and social impacts. Once operational, the project would support future land use as envisioned by the *Central-West and Orana Regional Plan 2041*.

The project and other relevant projects would lead to an increase in the amount area of freehold land occupied by energy infrastructure. The project and renewable energy projects, such as wind farms, do not require the acquisition and occupation of entire lots. Transmission easements apply restrictions and conditions on land to ensure access and safe operation of the transmission infrastructure. However they do not prevent landowners from selling or using their property. The availability of properties on the market would be at the discretion of landowners.

The assessment of potential impacts on property values was not within the scope of the EIS. The property market is influenced by a range of factors outside the impacts of the project and therefore assessment of the potential cumulative impacts of the project would be uncertain.

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## 4.23.10 Cumulative water quality, flooding and water resource impacts

### Submission ID

102, 213, 279, 292, 299, 343, 371

### Summary of issue

Seven submissions raised concerns about cumulative impacts on water quality, flooding and water resources/supply including:

- cumulative pressure on limited water supplies in the region should multiple developments be constructed concurrently
- cumulative changes to flooding and drainage
- cumulative water quality impacts cumulative disturbance of land from developments.

### Response

Around 450 megalitres of potable and around 250 megalitres of non-potable water has been estimated for construction of this project, and would be sourced according to a hierarchy that prefers the use of harvested rainwater, recycled construction water, treated wastewater or groundwater inflows and treated mine water (where it meet water quality) over sourcing water via new entitlements from unregulated surface water sources.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

Only two of the relevant future projects are likely to have a substantial water demand overlap with this project during construction, based on publicly available information. All other relevant future projects would use either bore water or transport water from other water sources, or do not provide detail of the project water demands of the project or source of surface water supply.

Between 2024 and 2026, other projects would require 95 megalitres from the Upper Talbragar River Water Source and Lower Talbragar River Water Source, in addition to this project's water demand. There is currently sufficient water available in these surface water sources in an average rainfall year, to accommodate this additional demand.

No groundwater take has been identified for relevant future projects within five kilometres of the proposed groundwater bores at the energy hubs, and therefore no cumulative groundwater impacts are likely to occur. Furthermore, groundwater extraction requires a water supply work approval, that considers existing extraction from any surrounding approvals, and therefore cumulative demand is considered for each new approval application.

With regard to extracting water for the project, EnergyCo has been in consultation with a water broker to identify available surface and groundwater sources that can meet the project's water supply requirements. Based on a review of the water trading market, it was found there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard EnergyCo has been advised sourcing water from exiting entitlements is a feasible and realistic option for the project. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the CWO REZ construction period.



Where these projects can meet the eligibility requirements for the forthcoming CEBP in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Arana REZ by improving access to safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

The project is expected to have only a minor and localised impact on peak flood levels and flow velocities during the one per cent and 10 per cent AEP flood events. Due the localised nature of the potential flood impact from the project, cumulative impacts with other project are not expected.

Potential erosion and water quality impacts from this project during construction are likely to be minor and localised to the construction area. With the implementation of the mitigation and management measures for each project, this project in combination with the relevant future projects, are not expected to result in any material cumulative soil and contamination impacts during construction or operation.

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## 4.23.11 Cumulative Aboriginal heritage impacts

### Submission ID

102, 116, 198, 217, 279

### Summary of issue

Five submissions raised concerns about the cumulative Aboriginal heritage impacts of the project and other developments in the region. Specific issues raised included the:

- the impacts on Native Title Claims and the potential for future Native Title Claims
- protection of Indigenous trade routes and sites just outside project footprints on a regional level
- consistent consultation with Indigenous Groups and approaches to recording and salvage of artefacts across the region.

### Response

This project, in combination with the relevant future projects, would result in a potential cumulative unmitigated loss to Aboriginal site types in the region, including rockshelters (nine per cent), grinding grooves (22 per cent), culturally modified trees (four per cent) and moderate or high significant stone artefact deposits (23 per cent). Many of these sites within the construction area of the project would be avoided through application of mitigation measures. Sites adjacent to the construction area would also be avoided through mitigation measures.

The project would contribute to visual impact on two travelling routes. However they would not inhibit use of these routes due to the permeable nature of the transmission alignment. These travelling routes are also subject to existing disturbance from current land uses such as agricultural operations.

This project, in combination with the relevant future projects, would also result in the protection of numerous cultural heritage sites avoided through design and construction refinement.

While this project and the relevant future projects would result in some loss of cultural materials, it is acknowledged that increasingly, engagement on cultural heritage is seeking to move beyond the material to a more holistic consideration of heritage. The investigations for this project and relevant future projects have significantly improved our archaeological and scientific understanding of a previously poorly understood areas. The information obtained through each project's ACHA will be provided to proponents of other renewable energy generation projects and thereby assist in identifying key sites of local and regional value for a more holistic approach to the conservation of cultural materials across the REZ. Further potential cumulative Aboriginal heritage offsets include opportunities for Aboriginal heritage interpretation and engagement with Aboriginal communities during project assessment and development.

The Register of Indigenous Land Use Agreements did not identify any agreements that apply to the construction or operation area of the project. Representatives of the native title claimants for two known native title claims intersected by the project were consulted as part of the ACHAR and the project would not impact the three existing native title claims identified in EIS Chapter 7 (Land use and property). As the project would not impact Native Title claims, it would not contribute to cumulative impacts on Native Title claims.

Consultation requirements for this project and the relevant other projects would be undertaken in accordance with the relevant Heritage NSW guidelines. The management of recording and salvage of artefacts would be completed in response the specific impacts of each project and the inputs of Aboriginal stakeholders.

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## 4.23.12 Cumulative noise and vibration impacts

### Submission ID

66, 102, 205, 216, 225, 225, 226, 229, 375

### Summary of issue

Nine submissions raised concerns about the cumulative noise and vibration impacts of the project and other developments in the region including the:

- airborne noise impacts from concurrent construction traffic and construction activities from multiple developments
- airborne noise impacts from the operation of renewable energy developments and the project
- vibration impacts from the operation renewable energy developments and the project.

### Response

Relevant future projects located within two kilometres of this project have the potential to generate cumulative noise impacts during construction and operation. Cumulative vibration impacts are considered highly unlikely to arise from adjoining projects due to the large separation distances.

There is a medium to high risk of cumulative noise impacts during construction of this project, mainly during the transmission line works. Cumulative noise impacts have the potential to occur with 15 relevant projects. The greatest potential cumulative noise impacts would occur with other projects in close proximity to the project and sensitive receivers. Cumulative construction traffic along the construction routes may also generate increased road noise.

The extent and magnitude of cumulative noise impacts are highly dependent on the timing and overlap of individual construction activities. At any particular location, the potential impacts can vary greatly depending on factors such as the relative proximity of sensitive receivers, the overall duration of the construction works, the intensity of the construction activities, the time at which the construction works are undertaken and the character of the noise emissions.

Cumulative operational noise impacts may be noted receivers in the vicinity of the project and the proposed Tallawang Solar Farm, Barneys Reef Solar Farm and the modifications to Ulan Coal Mine and Wilpinjong Coal Mine. These potential cumulative impacts would primarily be during adverse weather conditions generating coronal noise. Under worst case conditions, cumulative noise levels may be up to 3 dB louder than the maximum predicted impact under either project. As per mitigation measure NV6, an Operational Noise Review would be prepared to confirm the predicted noise impacts during operation of the project.

The project would not cause vibration impacts during operation of transmission infrastructure, therefore no cumulative vibration impacts are predicted.

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### 4.23.13 Cumulative traffic impacts

#### Submission ID

47, 66, 71, 116, 166, 184, 216, 217, 232, 240, 245, 250, 251, 283, 299, 353

#### Summary of issue

Concerns about the cumulative traffic impacts of the project and other developments in the region were raised in 16 submissions. The potential cumulative traffic impacts from the construction of multiple projects concurrently were raised including:

- increased traffic disruptions and congestion particularly on the Golden Highway
- the impacts on local road condition from the amount of construction traffic from multiple projects
- risk to road safety
- increased OSOM vehicles affecting traffic.

#### Response

Developments with construction routes that overlap with this project have the potential to increase the number of construction vehicles on the road network. A quantitative cumulative impact assessment of potential traffic impacts including consideration of the Golden Highway was completed and is detailed in Appendix L of the Amendment Report.

The assessment indicates that the additional traffic volumes generated by the 18 relevant future projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS A for all routes) maintained on most roads.

Of the ten relevant projects, seven propose to also use sections of the Golden Highway to access their sites. Based on the available traffic information, the Golden Highway would remain at a high level of service (LoS A) under cumulative traffic volumes from other projects.

A moderate impact on capacity (reduction of LoS from A to B) is expected on Cope Road and Ulan Road due to the high traffic generation estimate produced by the Stubbo solar farm. At LoS B however, traffic would still be considered as free-flowing. The free-flowing conditions were mainly due to the current low traffic demand on these roads.

Each project would be responsible for their impact on local road conditions, which would mitigate the potential cumulative impact on road conditions. Prior to construction of the project, the Network Operator would be required to undertake pre-condition surveys of local roads along the construction route to record their condition along the construction routes on local council roads to confirm the existing condition of the road. Any rectification works that are required as a result of the project would be completed in consultation with the relevant council.

The cumulative increase in traffic due to multiple projects would increase interactions with the road network and also introduces risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact. A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

EnergyCo is proposing to upgrade certain roads, as described in the Amendment Report, that would be used to access the construction area to ensure they can support OSOM movements. These upgrades would assist in mitigating some of the potential cumulative impacts related to road safety and use of OSOM vehicles.

EnergyCo has also recently finalised an agreement with Transport for NSW to facilitate the upgrade of the State's road network to support OSOM movements between the Port of Newcastle and the Central-West Orana REZ. The upgrades delivered by these works would provide REZ-wide traffic and transport benefits.

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## 4.23.14 Cumulative waste impacts

### Submission ID

57, 116, 220, 226, 274, 279, 299, 306, 335, 339

### Summary of issue

Ten submissions raised concerns about the limited ability for local landfills to accommodate waste generated by the project and other developments in the region and the cumulative volume of waste at the end of operation of the project and associated renewable energy projects.

### Response

EnergyCo has undertaken ongoing consultation with each of the relevant local councils throughout the development of the project. This has included discussion regarding the ability of local landfill sites to accommodate the proposed quantities of waste that would be generated by the construction of the project. It is noted that local councils, including the Mudgee Waste Facility, are at capacity and unable to accommodate the waste generated by the project.

While there is only very limited information available about the quantities and types of waste generated by the relevant future projects, or their intended waste management strategies, waste generation by these projects would potentially impact on waste management facilities considered for this project. Potential waste management impacts of this project may therefore be significantly exacerbated by the potential cumulative waste management impacts of the relevant future projects. Furthermore, each relevant future project is accountable and responsible for recycling and managing waste generated at the end of the project's operational life.

Prior to construction, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project. Should capacity constraints arise, each project would be required to transport waste to a licenced waste facility capable of accommodating it.

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## 4.23.15 Cumulative greenhouse gas emissions

### Submission ID

57, 248

### Summary of issue

Two submissions questioned the cumulative greenhouse gases emission assessment of project in combination with the other proposed renewable energy projects.

### Response

During construction, the project and the relevant future projects would result in Scope 1, Scope 2 and Scope 3 greenhouse gas emissions. However, these emissions would be minimal in comparison with total greenhouse gas emissions in Australia. Each project would implement strategies and technologies during detailed design and construction planning to reduce greenhouse gas emissions during construction.

During operation, the project would result in greenhouse gas emissions due to electricity consumption to power the energy hubs and switching stations, energy losses during transmission, the operation of switchgear and the maintenance of project infrastructure. However, overall, the project would reduce greenhouse gas emissions in the wider economy by enabling an increase in the generation of renewable energy in the grid, to replace carbon intensive fossil fuel generation. The majority of the relevant future projects are renewable energy generation projects and would contribute to cumulative reduction of greenhouse gas emissions.

With the implementation of the mitigation and management measures for each project, this project in combination with the relevant future projects, are not expected to result in any material cumulative impacts on greenhouse gas emissions during construction or operation.

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## 4.23.16 Management and mitigation

### Submission ID

200, 240, 251, 274, 280, 301, 334, 343, 348, 353

### Summary of issue

Ten submissions raised concerns about the approach to mitigation and management of the cumulative impacts of the project and other identified projects. There are concerns that EnergyCo relies too heavily on each project managing their own impacts and therefore no measures have been identified to manage cumulative impacts on a broader scale.

The following measures were suggested:

- increased contributions to the community benefit fund
- provision of compensation to the community to address the cumulative impacts
- active management of the scheduling of construction for projects with the potential for cumulative impact
- contribution of funds to address impacts to road conditions
- completion of road upgrades to manage the increased traffic volumes
- changed land zoning around towns to protect them from development as part of the Central-West Orana REZ.

## Response

The approach taken to the assessment of cumulative impacts acknowledges that each project will be required to mitigate its own impacts to acceptable levels, minimising the overall contribution to cumulative impacts. However, it is also recognised that not all REZ related cumulative impacts can be addressed through a project-level approach alone, requiring a more strategic and collaborative approach between EnergyCo, renewable energy developers, councils and government agencies.

A Community and Employment benefit fund for the Central-West Orana REZ will be established to deliver community projects and employment opportunities. The fund will be administered by NSW EnergyCo in accordance with the *Electricity Infrastructure Investment Act 2020*. The Minister for Energy announced an initial fund of \$128 million to be allocated through the Community and Employment benefit fund. Upfront funding will come from the Transmission Acceleration Facility, and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ. Individual compensation payments from cumulative impacts are not proposed to be provided to the broader community.

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments. Five working groups were created reflecting the priorities identified during consultation comprising:

- housing and accommodation
- transport and logistics
- environmental services
- social services
- economic development.

A series of studies to establish benchmark levels of service or infrastructure provision across a number of Social Licence themes have been organised to inform decision making.

In addition, the DPHI's *Draft Energy Policy Framework* (DPE, 2023) proposes local benefit sharing that would also apply to renewable energy projects (wind and solar), including those that may connect to the new transmission line. These projects would require an access right and pay an access fee of:

- \$850 per megawatt per annum for solar energy development, or
- \$1,050 per megawatt per annum for wind energy development.

DPHI estimates this could deliver around \$132 million in additional local benefits to regional communities in the Central-West REZ over a 25-year period (DPE, 2023).

Ongoing engagement with the renewable energy projects connecting the project would be conducted to gather information to support cumulative impact initiatives and opportunities for co-funding positive initiatives in the region.

Changes to land zoning are not proposed as part of the project to address the cumulative impacts associated with the project.

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## 4.24 Environmental management

### 4.24.1 Environmental management – compensation

#### Submission ID numbers

138, 277

#### Summary of issues

Two submissions suggested compensation for impacts from the project should not be restricted to host landowners. It was requested compensation be provided to surrounding landowners and the local community.

#### Response

Compensation payments from project impacts are not proposed to be provided to broader local . Unlike private developers, the commercial negotiations that transmission network operators undertake with landowners for transmission infrastructure must be in accordance with the Just Terms Act. Neighbouring properties with moderate to high visual impacts that cannot be readily mitigated would be eligible for compensation through a Neighbour Agreement (a commercial arrangement between the project and neighbour that recognises the possible impacts of the project on the neighbour).

A Community and Employment benefit fund for the Central-West Orana REZ will be administered by NSW EnergyCo separately to the project to deliver community projects and employment opportunities. Upfront funding will come from the Transmission Acceleration Fund, and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ.

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## 4.25 Justification and conclusion

### 4.25.1 General comments

#### Submission ID

31, 53, 57, 58, 64, 143, 166, 169, 185, 244, 245, 246, 250, 267, 302, 348 365, 373, 381, 381, 386, 388

#### Summary of issue

General comments on the justification for the project were provided in 21 submissions. These submissions raised concerns about the justification noting the project is considered unjustifiable or inadequately justified. In particular, the justification of the project:

- is not supported by the broader justification for the Central-West Orana REZ which is inadequate
- does not reflect the preferences of the local and wider community
- does not take into account the extent of cumulative impacts
- is not valid as the environmental and social impacts are too high
- does not consider the principles of ecologically sustainable development
- does not apply the precautionary principle appropriately as the full extent of biodiversity impacts are not determined

- is not substantiated by scientific studies
- is not financially feasible.

Submissions commented that the justification for the project's location is unclear, as the renewable generation projects generally state they are selecting their sites due to the opportunity to connect to the Central-West Orana REZ Transmission project, however the project's EIS states that the project is being constructed to provide connection to projects already proposed in the area (i.e. the justification between the project and generator projects appears to be a circular argument).

There are also concerns the project assumes the connecting renewable energy projects will be approved.

## Response

### Strategic context and community preferences

The strategic need for the project and the Central-West Orana REZ is discussed in Section 4.1 of this report. The NSW Government identified the CWO REZ after an independent was carried out in 2018 to identify the best locations for potential REZs in NSW using the following criteria:

- Energy resource and geography – the level of solar, wind and bioenergy resources available and other factors impacting generation capacity.
- Cost-effectiveness – proximity to existing transmission infrastructure to minimise the extent of new transmission infrastructure (noting due to the lack of capacity in the existing network new transmission infrastructure would be needed in any location).
- Environmental, heritage and land-use considerations – potential land-use conflict or presence of environmental and heritage constraints, including Biophysical Strategic Agricultural Land (BSAL).
- Contribution to a strong and diversified economy – alignment with regional development priorities, as well as local and state-wide economic growth goals.
- Investor and community support – proximity to where investors have demonstrated interest in developing renewable energy projects, and proximity to regions with community support for renewable energy projects, as identified through the NSW Regional Plans.

The Central-West Orana REZ boundary was then identified based on consideration of the quality of the energy resource, economic considerations, investor and community support and considerations of environmental, heritage and land-use constraints.

REZs, including Central-West Orana REZ, have been declared by the NSW Government to ensure security and reliability of the NEM in the wake of the reduction in coal-powered electricity and to reduce carbon emissions to meet legislated targets. The project is needed to support the establishment of the Central-West Orana REZ. As the existing 330 kV transmission network in the Central-West Orana region is not capable of transferring the amount of electricity expected to be generated from new renewable energy generation and storage projects in the Central-West Orana REZ, the development of new transmission infrastructure is required to provide additional electricity transfer capacity in the region to connect these projects to the NEM.

Community and stakeholder feedback has been an essential part of the project development process to make sure the best outcomes for local communities and energy consumers is delivered. Project development and engagement is described further in Sections 4.1.4 and 4.5.2 of this report.



## Consideration of potential impacts

A project of this scale and geographical spread would inevitably have impacts on the local environment and community, particularly during construction. The most significant impact to the biophysical environment arising from the project would be on biodiversity due to the extent of vegetation clearing required to facilitate construction and operation of the project. Biodiversity offsets would be required for unavoided impacts to threatened communities, species and/or populations. Offsets would be secured in stages to reflect the progressive delivery of the 500 kV and 330 kV network infrastructure.

Cumulative impacts were assessed for the project and considered in the broader justification for the project. A cumulative impact assessment is detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts).

Having regard to all the matters considered in the EIS, the Amendment Report and this Submissions Report, it is considered that the project is justified, as the need for, and the benefits of the project would outweigh the residual impacts.

During the continued development of the project design and the construction methodology, opportunities to further minimise potential impacts will be investigated, and ongoing input from stakeholders and the community will be considered. The potential residual construction and operational impacts of the project are considered manageable with the implementation of the proposed mitigation and management measures.

## Ecologically sustainable development (including the precautionary principle)

Consideration of ecologically sustainable development was provided in section 23.2.6 of the EIS. The precautionary principle (as defined as in clause 193(2) of the EP&A Regulation) provides that '*...if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*'.

Biodiversity field investigations commenced early in the project development phase with the aim of gathering data on the existing environmental condition of key locations, such as the proposed energy hub sites, to integrate environmental considerations into project development decisions and to provide a scientific evidence base for impact assessment in the EIS. The assessment of potential biodiversity impacts considered the potential direct and indirect impacts of the project on native vegetation and habitats, threatened species, protected areas and key threatening processes. This included assessment of potential SAIIs on threatened species, populations, or ecological communities. Furthermore, where access constraints have limited survey coverage within the study area, the biodiversity assessment has assumed presence for threatened species or has relied upon existing mapping and aerial photography for Plant Community Types (PCTs) until surveys can be completed. This approach adopts a worst case, consistent with the precautionary principle.

The assessments undertaken and documented in the EIS, technical papers and the Amendment Report are consistent with accepted scientific and assessment methodologies and have considered relevant statutory and agency requirements and guidelines.

## Location of the project in relation to most feasible renewable energy generation projects

The project study corridor for the project was initially identified in 2020 by Transgrid based on an assessment of renewable energy resources in the Central-West Orana REZ and a call out for expressions of interest from potential renewable energy developers.

After EnergyCo was appointed as the Infrastructure Planner to lead the delivery of the project in 2021, a revised study corridor for the project was prepared. To further refine the corridor, EnergyCo completed an expression of interest process in June 2022 to identify potential renewable energy generation projects in the Central-West Orana REZ that were able to generate at least 250 megawatts alternating current of energy. Through this process, 11 major renewable energy generation projects were identified as the most feasible to progress. These projects, subject to approval, are planned to have a 330 kV transmission connection from the project.

The locations of these projects were mapped relative to the revised study corridor to identify potential broad locations for energy hub sites. Preferred locations were identified at or near Uarbry, Merotherie, and Elong Elong as they reflected concentrated areas of renewable energy generation projects in the Central-West Orana REZ and were shown in the February 2022 revised study corridor.

By positioning the energy hubs close to commercially feasible renewable energy projects proposed in the area, EnergyCo has been able to rationalise the number and length of transmission line connections. This has contributed to a reduction in the impact of project infrastructure on the community and the environment, while also providing a cost-effective design solution.

The project would also influence the location of future proposed renewable energy projects as it provides a connection to the NEM.

### **Approval of renewable energy generation projects in the REZ**

A range of proposed renewable energy generation projects located in the Central-West Orana REZ would connect to the project, subject to planning approvals and the outcomes of the Consumer Trustee's competitive tender process for rights to access the new transmission infrastructure.

The development of renewable energy generation projects in the Central-West Orana REZ is the responsibility of private generators and subject to separate planning and environmental approvals. The project scope includes delivery of a number of 330 kV connections to facilitate connection of the generation projects to the NEM. However, if a generator is not successful in the tender access rights, and there are no other generators connecting to the line, that section of the 330 kV transmission line would not be built.

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## **4.25.2 Benefits of the project**

### **Submission ID**

36, 40, 41, 57, 58, 110, 121, 175, 179, 235, 237, 242, 243, 249, 274, 306, 325, 345, 376, 379, 381, 383, 386, 392, 393

### **Summary of issue**

Twenty-five submissions commented on the benefits of the project. Comments included:

- the perceived benefits of the project are considered directly linked to the benefits of the Central-West Orana REZ
- the negative impacts of the project are considered to outweigh the benefits, particularly for the local community
- the ability of the project to facilitate the transfer of reliable and sustainable energy onto the grid was questioned
- scepticism the project would facilitate the reduction of the greenhouse gas emissions targeted by the Australian and NSW Governments
- concerns the project would not lead to improved electricity prices.

### **Response**

The project supports the delivery of the Central-West Orana REZ and therefore the benefits are linked. The strategic context of the energy transition to renewable energy technologies and the benefits of REZs is outlined in Section 4.1.1 of this report.

During operation, the project would deliver broader social benefits linked to the delivery of the Central-West Orana REZ associated with increased access to renewable energy sources, lowering of carbon emissions and cheaper energy. Development of new electricity generation and storage projects in the Central-West Orana REZ requires new high voltage transmission infrastructure in the region.

The transition towards renewable energy technology responds to the need to reduce the emission intensity of the energy sector and to secure alternatives sources of electricity supply to replace coal-fired power plants, which are scheduled to close. The project would have an overall benefit in reducing greenhouse gas emissions in the wider economy by enabling an increase in the generation of renewable energy in the grid, to replace carbon intensive fossil fuel generation.

Baseline emission projections and net zero emissions pathway modelling by the NSW Government informed the *Net Zero Plan Stage 1: 2020–2030* (DPIE, 2020b). The actions in this Plan were forecast based on neutral (best estimate) assumptions to reduce annual NSW emissions by 35.8 megatonnes by 2030, with annual emissions reduced by 35 per cent on 2005 levels. Actions driving the uptake of proven emission reduction technologies, including REZs, contribute much of the forecast emission reduction. An independent peer review found the baseline and forecast assumptions, method and modelling approach to be appropriate and reasonable, targeting the greatest impact across sectors.

The project would enable 4.5 gigawatts of new network capacity to be unlocked by the mid-2020s and enable renewable energy generators within the Central-West Orana REZ, who are successful in their bids to access the new transmission infrastructure, to export electricity to the rest of the network.

A project of this scale and geographical spread would inevitably have impacts on the local environment and community, particularly during construction. The most significant impact to the biophysical environment arising from the project would be on biodiversity due to the extent of vegetation clearing required to facilitate construction and operation of the project. Amenity and traffic impacts from the project would be greatest during construction. However these impacts would be temporary with the exception of visual impacts of permanent infrastructure, and will be minimised through a arranged of mitigation measures as detailed in Appendix B of this report.

The SIA acknowledges that there will likely be an unequal distribution of unmitigated impacts and benefits associated with the project. It is anticipated that landowners neighbouring infrastructure will experience heightened impacts and that project benefits will be distributed amongst landowners hosting infrastructure and more broadly by businesses and workforce across the local and regional social locality. Mitigation measures have been identified to minimise impacts based on their scale and nature.

Construction and operation of the project would provide positive economic activity to the regional and NSW economy through expenditure and the generation of jobs. The direct and indirect impacts on the regional economy during construction are estimated at up to \$512 million in average annual output (the gross value of business turnover in a region).

REZs and the NSW Electricity Infrastructure Roadmap will deliver multiple benefits for NSW. Reduced wholesale electricity costs will result in energy bill savings (compared to costs if the Roadmap was not implemented). An updated electricity market model is being developed as described in the *NSW Electricity Infrastructure Roadmap benefits modelling report* (Office of Energy and Climate Change, 2022). This analysis will be updated regularly over time and will inform the evaluation of the policy as part of a statutory review in 2026/27. Further information is included in the 2023 Infrastructure Investment Objectives report, prepared by AEMO Services as the NSW Consumer Trustee.

The delivered cost of energy from wind and solar in combination with storage from pumped hydro and batteries is anticipated to be lower than the cost of generation from new coal or natural gas when the existing coal generators retire.

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### 4.25.3 Ability to meet objectives

#### Submission ID

57, 144, 347, 363, 395

#### Summary of issue

Five submissions commented on the ability of the project to meet the objectives described in the EIS. Comments included:

- insufficient evidence that the project can meet the objectives is provided
- the project has not been fully investigated and planned
- the project is not appropriately sized to meet the objectives and will need to continue to expand.

#### Response

The project has been developed to meet the objectives described in EIS Chapter 2 (Strategic context). A range of investigations and options assessments have been completed in developing the project since 2018 as summarised in EIS Chapter 2 (Strategic context).

The project would enable 4.5 gigawatts of new network capacity to be unlocked by the mid-2020s and enable renewable energy generators within the Central-West Orana REZ, who are successful in their bids to access the new transmission infrastructure, to export electricity to the rest of the network. The project has been developed to enable delivery of the Central-West Orana REZ. Any planned extensions to the transmission network, as discussed in Section 4.1.8 of this report, would be further investigated and developed in accordance with the Network Infrastructure Strategy for NSW.

As part of the design refinement process undertaken to develop the project corridor, EnergyCo continued to undertake additional consultation with renewable energy generators that were identified as having the greatest potential to access the new transmission line infrastructure (subject to the Consumer Trustee's competitive tender processes). The key purpose of this consultation was to gain a more comprehensive understanding of each project's design to ensure the transmission project would effectively support the delivery of these projects.

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### 4.25.4 Economic assessment and value for money

#### Submission ID

53, 57, 75, 236, 292, 349, 381, 386, 395

#### Summary of issue

Nine submissions commented on the project's economic assessment and value for money.

Concerns were raised that the project is not cost effective and the budget for the project would be exceeded in line with other recent major infrastructure projects in NSW.

#### Response

Construction and operation of the project would provide positive economic activity for the regional and NSW economy. The positive impact of the project on the regional economy during construction is estimated to be up to \$512 million in average annual output (the gross value of business turnover in a region). The impacts on the regional economy during project operation are estimated at up to \$134 million in average annual output.

Under the EII Act, the Australian Energy Regulator (AER) is required to determine the costs of implementing the NSW Electricity Infrastructure Roadmap including construction of transmission infrastructure.

The EII Act sets out how NSW Electricity Infrastructure Roadmap costs are to be managed through the Electricity Infrastructure Fund. Distributors pay their contributions into this fund, based on the AER's contribution determination. Distributors then recover the costs from consumers as part of the network charges on electricity bills. As such the cost of the project would be borne by energy consumers rather than the taxpayer more generally.

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## 4.26 Other

This section summarises submissions which only noted either support or objection to the project without further context.

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### 4.26.1 Support for project

#### Submission ID numbers

86

#### Summary of issues

One submission voiced their support for the project.

#### Response

The position of the submission is noted.

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### 4.26.2 Opposition for project

#### Submission ID numbers

82, 90, 93, 105, 120, 170, 231, 253, 299, 329, 342, 350, 359

#### Summary of issues

Thirteen submissions voiced their objection for the project.

#### Response

The position of these submissions is noted.

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## 4.27 Issues beyond the scope of the EIS

### 4.27.1 Impacts of renewable energy projects

#### Submission ID numbers

30, 37, 47, 57, 58, 63, 102, 103, 113, 119, 127, 128, 130, 131, 133, 135, 137, 138, 146, 147, 153, 158, 159, 173, 176, 177, 178, 191, 194, 195, 198, 202, 206, 209, 213, 214, 216, 218, 219, 222, 223, 224, 226, 227, 229, 253, 260, 262, 267, 268, 274, 275, 277, 292, 301, 308, 309, 310, 311, 317, 320, 323, 324, 325, 330, 334, 335, 339, 340, 344, 345, 347, 351, 355, 356, 361, 365, 376, 377, 382, 385, 392, 395

#### Summary of issues

Objections or specific concerns on the impacts of renewable energy projects, such as wind and solar farm projects were raised in 83 submissions, including:

- the reliability of renewable energy projects to supply energy
- the environmental, social and economic costs of renewable energy projects
- the loss of agricultural land and impacts to livestock
- land use and property impacts
- visual and landscape impacts, primarily due to the presence of wind turbines in a rural landscape as well as shadow flicker concerns
- low-frequency noise generated by wind turbines, and vibration impacts
- biodiversity impacts, such as land clearing and bird strike from wind turbines
- impacts to local infrastructure (primarily roads)
- social and economic impacts, including impacts to community cohesion and wellbeing (including mental health of local communities), lack of long-term community benefits (e.g. employment), impacts to tourism, and sustainability of communities due to loss of agricultural families in the region
- soil and water impacts due to the release of pollutants during construction or operation, and security of water supply
- hazards and risk issues, including EMF and bushfire
- waste management, including disposal of solar panels and wind turbines
- changes to local climatic conditions or patterns by wind turbines (rain) and solar (heat)
- lack of compensation or sufficient compensation for non-hosting landowners.

Submissions also expressed concern about the engagement and assessment process for renewable energy projects, specifically:

- level and quality of engagement by proponents
- lack of transparency and independence in the impact assessments for renewable energy projects
- the adequacy of DPHI guidelines for wind farm projects, including requests for buffer areas around wind farm turbines to remove land use and property conflicts.

Submissions questioned the cost-effectiveness and sustainability of renewable energy projects due to the embedded energy costs and lifespan of infrastructure (20–30 years), the loss of biodiversity and agricultural land, and the resulting waste once infrastructure has exceeded its lifespan.

Some submissions also expressed concern about foreign ownership as well as the use of slave labour in the overseas manufacture of infrastructure required for wind and solar projects.

## Response

The strategic context for the planned energy transition to a combination of renewable energy, energy storage, backup supply and peaking and increased transmission is outlined in Section 4.1.1 of this report, including discussion of the cost and reliability of renewable energy.

The development of renewable energy generation projects in the Central-West Orana REZ does not form part of the project and those projects are subject to separate assessment and planning approvals. The environmental and social impacts of each project would be assessed and determined in accordance with Commonwealth and NSW planning legislation. The impacts specific to renewable energy projects are outside the scope of the assessment for this project.

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). The cumulative impact assessment considered impacts from the project in combination with other relevant future projects in the area that are anticipated or reasonably foreseeable. The cumulative impact assessment involved the assessment of environmental, social, economic and other impacts which would result from a project when added to other relevant future projects. The cumulative assessment considered renewable energy over 30 renewable energy projects.

The cumulative impact assessment is detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). A supplementary cumulative impact assessment of the amendments made to the project since exhibition has been undertaken, and is provided in Appendix L of the Amendment Report.

# 5 Response to organisation submissions

This section outlines the issues raised in submissions from private and community organisations and provides responses. The issues raised in these submissions have been summarised and grouped generally under the same issue categories as the public submissions.

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## 5.1 APA Group

The APA Group provided a response to the public exhibition of the EIS (Undated). The submission referred to previous comments provided during project development (October 2022) with no further details in the EIS of concern to APA. APA are satisfied that the project is located at around six kilometres from the Central Rangers Gas Pipeline easement (an APA asset), however noted the location of the pipeline should be included in project mapping.

### Response

APA Group's comments are noted. Due to the distance of the pipeline from the project, it has not been included in the mapping in the Amendment Report.

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## 5.2 Coolah District Development Group

The Coolah District Development Group provided a response to the public exhibition of the EIS (undated). The submission outlined concerns with respect to the EIS and supporting technical papers. This section provides a summary of the issues raised within the submission and consideration of those issues.

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### 5.2.1 Statutory context

#### Details in the EIS

#### Summary of issues

Concerns were raised on the details in the EIS, with the view that a number of details (unspecified in the submission) remain unconfirmed or not fully planned, therefore risks are unknown and not being disclosed for public comment or government oversight.



## Response

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

During detailed design, if a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. Approval for any modification would be sought in accordance with the requirements of Division 5.2 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

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## 5.2.2 The project – Operation

### Decommissioning

#### Summary of issues

Concerns were raised that the EIS did not contain details on the decommissioning and rehabilitation for infrastructure sites.

#### Response

The project has been designed and developed with the intention that it would be operational over a long period of time (at least 35 years as a minimum). As such, the nature and timing of any potential decommissioning of the project is difficult to predict. Should decommissioning of project infrastructure be required in the future, the infrastructure would be removed, and the operation area would be stabilised and appropriately rehabilitated in consultation with the landowner and government agencies, such as local councils (as required). Decommissioning of the project would be conducted in accordance with the conditions of the project approval. Waste generated during decommissioning would be handled based on its potential for reuse, recycling or disposal, in accordance with legislation, policy and guidelines at the time of decommissioning.

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## 5.2.3 Community and stakeholder engagement

### Consultation during preparation of the EIS

#### Summary of issues

Concerns were raised that local history groups were not consulted.

#### Response

The non-Aboriginal heritage assessment has been prepared to address the Secretary's Environmental Assessment Requirement (SEARs) as they relate to non-Aboriginal heritage, and in accordance with the relevant guidelines which provide a framework for identifying and managing historical significance under the *Heritage Act 1997 (NSW)*. A detailed description of the methodology is provided in Technical paper 6 – Non-Aboriginal heritage.

Local historical groups were not directly consulted during preparation of the EIS, however, were provided the opportunity to provide feedback as part of the exhibition of the EIS. Background research that formed part of the desktop assessment included a literature review of previous heritage studies, including the *Warrumbungle Shire Community Based Heritage Study (2019)*, as well as general histories of relevance to the study area. Desktop assessments were also further validated by field investigations.

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## 5.2.4 Land use and property

### Property acquisition/leasing general

#### Summary of issues

Concerns over the compulsory acquisition of land, with the view that landowners are unwilling to have transmission infrastructure on their lands.

#### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

Compulsory acquisition would only be carried out in accordance with the Just Terms Act where the parties are unable to reach an agreement. The process of compulsory acquisition provides the landowner with the benefit of an independent third party to determine appropriate compensation having regard to all relevant facts. EnergyCo compensates landowners for any reasonable fees associated with obtaining advice from a lawyer to help inform decisions during the acquisition process.

### Compensation for property acquisition and property valuations

#### Summary of issues

The submission raised concerns that:

- landowners were being offered inadequate compensation for damage, loss of productivity, impacts to property values and amenity
- concerns that landowners needed to pay for legal support and valuations upfront, and seek reimbursement (within a specific budget), and needed permission to increase the budget
- some landowners being forced to pay for the removal of infrastructure and no surety of being reimbursed.

#### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the Project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation

- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo have encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process. EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

An Acquisition Manager has been dedicated to each property identified for an easement or acquisition. This person acts as a point of contact throughout the acquisition process for each landowner.

To progress the acquisition process, each party is encouraged to exchange valuation reports before attending meetings/discussions between EnergyCo, the landowner, independent valuers, and any legal representative. This allows for discussions on any differences between the respective valuer's reports, with a view to reaching an agreement on compensation for the acquisition of the required property interests.

Unlike private developers, the commercial negotiations that transmission network operators undertake with landowners for transmission infrastructure must be in accordance with the Just Terms Act. However, given the scale and urgency of delivering new transmission infrastructure to facilitate the transformation of our energy system, the NSW Government considers that private landowners who host this infrastructure should receive a greater share of the benefits of building and operating new transmission lines than what is afforded under the Act. The NSW Government is implementing a Social Impact Management Plan, Scheme that will deliver additional financial benefits to private landowners hosting new major transmission projects.

## **Changes in land use (general)**

### **Summary of issues**

Concerns that the landowners will have their use of land restricted within the transmission line easement, and the transmission line easement would impact the ability to mortgage the land.

### **Response**

#### **Land use change during project construction**

As described in section 7.4 of the EIS, at the commencement of construction, the current land use within the construction area would cease, either permanently at locations where permanent infrastructure would be required, or temporarily while construction activities are being carried out. This includes at brake and winch sites, construction compounds, workforce accommodation camps and the transmission line easements.

Construction of the project, including land requirements, would have a range of potential impacts on agricultural areas at different stages of construction and in different areas, depending on the intensity of construction activities required and the construction activities being undertaken at any given time. To assess these impacts, the EIS has conservatively assumed the entire construction area would be temporary unavailable for agricultural use for the duration of construction (3 years). However, construction activities would be completed at different times within the construction area and at different intensities.

The assessment, highlighting worst case impacts to agricultural lands (3,755 hectares as outlined in the Amendment Report) would result in the loss of 0.2 per cent of the total agricultural land in the four Local Government Areas (LGAs) within which the project is located. It is noted this includes around 1,760 of direct impacts, and 1,995 hectares of indirect impacts.

During construction, landowner access to the construction area would be temporarily restricted, including where the transmission line easement is located on their land holding. The impacts of these temporary restrictions would be dependent on the location of the construction area in relation to property boundaries and paddock configurations. While these restrictions are likely to be of short duration due to the progressive nature of construction along the transmission line alignment, they may require the landowners to use alternative routes at times to access parts of their property. As per mitigation measure AG3, individual Property Management Plans will be developed in consultation with each landowner, and would detail alternative access routes, communication protocols and outline any temporary restrictions on use of the construction area.

At the completion of construction, areas not required for permanent infrastructure would be rehabilitated and return to their pre-construction land use.

### **Land use change during project operation**

Operation of the project would result in a permanent change to the operation area from the existing land use to electrical infrastructure, where energy hubs, switching stations and transmission line towers are located. This change would directly impact around 795 hectares of agricultural land, within a total operation area of around 2,665 hectares (as outlined in section 5.2 of the Amendment Report). The permanent change in land use from agricultural to electrical infrastructure consists of around 0.04 per cent of the total agricultural land use within the LGAs impacted by the project.

The remaining portion of the operation area would consist of the transmission line easement. The area of direct impacts represents around 32 per cent of the operational area, while the transmission line easement (comprising the remaining 68 per cent) and land immediately would continue to be able to be used for agricultural activities subject to certain restrictions for safety and operational reasons. As such, the easement area does not equate to a complete change in land use.

Properties with transmission line easements may be sold, noting the easement would be attached to the property. The presence of a transmission line easement does not restrict the property from being mortgaged or leased. For areas within the easements, most agricultural operations and activities would continue, with only some activities restricted.

## **Property value impacts**

### **Summary of issues**

Concerns regarding the loss of property values for host properties and the negative flow on effects to neighbouring properties and the district. The submission states there are estimates of up to 30 per cent losses in property values for hosting transmission infrastructure, and even losses of up to 10 per cent just for having the easement on a property.

### **Response**

While submissions have raised concerns about perceived impacts on property values transmission lines may have little impact on dynamic changes in house prices over time (Han & Elliott, 2013). Furthermore, anecdotal evidence in the region suggests that land that is proximate to the proposed transmission infrastructure with strong renewable energy resources has the potential to generate value significantly greater than their current value as agricultural land.

In terms of landowners hosting the project, agricultural operations can largely continue subject to the easement conditions. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land due to the project in accordance with relevant legislation. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

Additionally, landowners directly hosting transmission lines are entitled to receive Strategic Benefit Payments (SBPs), which are in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land and are in recognition for hosting this infrastructure.

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## 5.2.5 Agriculture

### Impacts to stock movements – construction

#### Summary of issues

The submission highlighted that as a rural area, local roads are occasionally used for livestock movements, and the increased traffic associated with the project will result in a safety risk. The concern was also raised that EnergyCo may not fence off construction areas, and as such landowners would have to remove livestock from paddocks.

#### Response

As discussed in Section 4.7.2 of this report, construction of the project may result in temporary restrictions on the movement of landowners, agricultural workers, livestock, or equipment within and across the construction area. The severity of these impacts would depend on the location, scale and intensity of construction activities at any time in the construction period, relative to the location, extent and activities of the landholding.

The movement of livestock along roads and Travelling Stock Reserves (TSRs) used by the project have the potential to be temporarily affected by restricted access. However, these road access restrictions are expected to be brief and managed in coordination with landowners. Regarding safety impacts to livestock movement, as detailed in Section 4.16.5 of this report, mitigation measure T4 addresses driver-related safety concerns and includes the development and implementation of a Driver Code of Conduct to define acceptable driver behaviour, promoting road safety and minimising the impacts of construction related vehicle movements on local roads and community. The mitigation measure also accounts for load limits and fatigue management and an establishment of a Driver Fatigue Management Plan, integrated to the Construction Environmental Management Plan (CEMP) to address driver fatigue risks, planning regular breaks and mapping locations of drivers rest areas along the proposed construction routes.

There would be some restrictions on livestock grazing and movement, and movement of agricultural plant and machinery across the transmission corridor during construction. This would potentially impact a landholding beyond the immediate construction area, due to the presence of construction worksites and associated personnel, plant and machinery and construction vehicles.

These impacts are expected to be minimal, and (as outlined in section 5.4 of Technical paper 2 – Agriculture) it is unlikely construction activities would substantially limit the movements of landowners, agricultural workers and equipment, and livestock within the construction area for extended periods.

Where there are potential perceived impacts, including the potential for unfenced land to impact use by livestock, Property Management Plans would be prepared in consultation with landowners to arrange access arrangements and communicate programmed construction activities and timing. This is detailed in mitigation measure AG3 and AG4 in Appendix B of this report.

Furthermore, as per Mitigation measure T11, a Vehicle Movement Plan will be prepared which identifies the construction vehicle routes (including OSOM routes) and will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

## **Direct property impacts – construction**

The submission included the view that land impacted will be potentially three times greater than stated, affecting amenity, productivity, and district income.

### **Response**

Construction of the project would impact on a total 4,050 hectares land (an increase of 70 hectares as a result of the amendments), including 3,755 hectares of agricultural land. The level of impacts on agricultural land use and productivity would vary depending on the scale and intensity of construction activities. In areas where permanent infrastructure is proposed, such as the location of transmission line towers, agricultural activities would be impacted and permanently removed from use.

Loss of agricultural land and income during the construction and operation of the project have been calculated and detailed in section 5.3.3 of the Amendment Report. The amendment and project refinements would result in a small decrease in the assessed loss of agricultural productivity (around 2.3 percent) in the assessed loss of agricultural productivity, with a total productivity loss of around \$3.95 million or \$1.32 million per annum. This loss is equivalent to approximately 0.2 per cent of the total gross value of agricultural production across the four impacted LGAs over the same impact period. The assessed reduction in impacts to agricultural productivity, is due to a more detailed assessment of impacts to agricultural land use, using land use mapping, and a more details consideration of cropping and grazing lands within the construction area.

Once operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure (the operation area is subject to ongoing refinement and would be finalised as part of continued design development). The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used by agricultural operations for grazing, and cropping activities, subject to easement restrictions. As such, the project is not expected to result in consequential job losses, or impact to regional agricultural productivity.

Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation

- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

Impacts to amenity is discussed in Section 4.12 of this report. The level of impacts on agricultural land use and productivity would vary depending on the scale and intensity of construction activities. In areas where permanent infrastructure is proposed, such as the location of transmission line towers, agricultural activities would be impacted and permanently removed from use.

## **Impacts to agricultural practices – operations**

Concerns that impacts to agricultural land would extend beyond the area identified in the EIS, as people would move from their homes, resulting in less agricultural production, increasing weeds and feral animals. In addition, the project would impact agricultural and food production.

### **Response**

As discussed above, once operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure. The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used by agricultural operations for grazing, and cropping activities, subject to easement restrictions. As such, the project is not expected to result in consequential job losses, or impact to regional agricultural productivity.

Members of the community that place importance on local landscape value and vistas could experience a diminished sense of belonging due to concerns about potential and perceived visual impacts and the perceived ‘industrialisation’ of the local and regional area as a result of the project in combination with the energy generation projects being planned for the REZ. It was perceived that this may lead to people relocating to other areas.

The project has been developed to minimise potential impact on the environment and the community. A range of mitigation measures, as listed in Appendix B of this report, have been identified to further minimise impacts from the project on the community.

## **Biosecurity/management and mitigation**

### **Summary**

General concern over biosecurity risks and the need for a stringent biosecurity plan.

### **Response**

Construction and operation of the project has the potential to introduce or spread animal and plant diseases, feral pests and weeds, if not properly managed. There are a number of weeds, pests, and animal and plant diseases, which pose a high risk to agricultural production in the wider study area which have been identified in Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture).

Section 4.7.8 of this report discusses biosecurity risks in detail.

As per mitigation measure AG5, a Biosecurity Management Plan will be developed for construction and be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas. The specific controls applicable to a property will take into account existing property-specific protocols and will be documented in the relevant Property Management Plan.

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## 5.2.6 Landscape character and visual amenity

### Summary of issues

Concern that the large construction area will impact the visual amenity of the district, and once operational the large number of transmission lines would impact visual amenity and downgrade the landscape character of the area.

### Response

During construction, the project would result in negligible to moderate impacts to the landscape and representative public viewpoints during the day. Moderate impacts would occur in locations where views are close to the construction area, where there are:

- views of concentrated construction activity (such as at energy hubs)
- clear views to construction activities
- where the removal of vegetation and temporary construction activities would contrast with the existing landscape character of these areas.

Moderate impacts would occur in locations where views are close to the construction area, where there are views of concentrated construction activity (such as at energy hubs), where there are clear views to construction activities and/or where the removal of vegetation and temporary construction activities would contrast with the existing landscape character of these areas. Moderate landscape character impacts would be experienced within landscape character zones within the forested hills, rural valley and undulating rural hills landscape character types. These impacts would be temporary and transient along the transmission line alignment. It is expected that some of these impacts would be reduced during construction through the implementation of mitigation measures outlined within the CEMP and the Landscape and Visual Management sub-plan.

The main visual impacts during operation would be from the introduction of large-scale structures including transmission towers and energy hubs. Operation of the project and the presence of permanent project infrastructure would have moderate-low to moderate landscape character impacts within the identified landscape character zones during the daytime. The exception to this is within the Ulan mining landscape character zone (M-01) where the project would have a negligible impact given the very low sensitivity of this area. The project would result in a range of visual impacts to selected public viewpoints such as roads, however given the prominence of the project within the rural landscape, and the lack of existing large scale structures, most assessed viewpoints would experience a moderate to high magnitude of change.

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## 5.2.7 Biodiversity

### Summary of issues

General concern regarding the loss of biodiversity.

### Response

While efforts have been made to avoid biodiversity impacts, some impacts have not been able to be avoided and will be addressed through biodiversity offsets. Actions taken to minimise and avoid impacts to biodiversity during project development include:

- locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines
- avoiding areas of dense vegetation associated with the Goulburn River National Park
- locating energy hubs on land mostly devoid of TECs and with little to no native vegetation.



Key impacts on biodiversity during construction include the clearing of native vegetation, the removal of threatened species and/or their habitats, and indirect impacts that can impact adjacent vegetation or habitats due to disturbance by construction nearby or as a result of the spread of a weed or pathogen.

An updated Biodiversity Development Assessment Report (BDAR) is provided in Appendix G of the Amendment Report.

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## 5.2.8 Non-Aboriginal heritage

### Summary of issues

Concern that the non-aboriginal heritage assessment is inadequate and does not actively preserve monuments or items sufficiently.

### Response

The non-Aboriginal heritage assessment has been prepared to address the SEARs as they relate to non-Aboriginal heritage, and in accordance with the relevant guidelines which provide a framework for identifying and managing historical significance under the *Heritage Act 1997* (NSW). A detailed description of the methodology is provided in Technical paper 6 – Non-Aboriginal heritage of the EIS.

The cemetery located on the eastern edge of the proposed Elong Elong Energy Hub, adjacent to Laheys Creek was referred to as Laheys Creek Cemetery (CWO-22-HH06) in Technical paper 6 – Non-Aboriginal heritage. It was acknowledged in Technical paper 6 – Non-Aboriginal heritage that there are up to 40 unmarked graves at the Laheys Creek cemetery site and associated Falconer Family Graveyard. This was considered in the assessment, with mitigation measures HH10 requiring an exclusion barrier (e.g. fence or suitable barrier) to be installed prior to construction to provide a minimum 100 metre exclusion buffer around the cemetery to avoid direct or indirect impacts to any unmarked graves.

Section 4.11 of this report provides further discussion regarding the approach to the assessment, potential impact and the proposed mitigation measures identified for the project. Section 4.11.3 of this report provides a specific discussion related to potential impacts to cemeteries during construction.

Following consultation with local stakeholders at Tallawang, two potential cemeteries were identified within the construction area. During preparation of Technical paper 6 – Non-Aboriginal heritage, limited information was available to confirm the specific location of these cemeteries. Therefore, a program of sub-surface investigation using Ground Penetrating Radar (GPR) was completed in September 2023 to potentially identify these sites. The GPR survey suggest the presence of graves and buried architecture on the church lots and makes further recommendations regarding avoidance of these sites. The findings of the GPR survey is provided in section 5.7 of the Amendment Report.

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## 5.2.9 Social

### Impact assessment approach

### Summary of issues

The submission included the view that the Social Impact Assessment (SIA) was inadequate, pointing out the number of interviews was less than one per cent of the area's population, the view that EnergyCo has not addressed the issues raised by those interviewed, and that the project does not have a social licence within the community.

## Response

The SIA as detailed in Technical paper 7 – Social, was prepared in accordance with the SEARs and *Social Impact Assessment Guidelines* (DPE, 2023b). Engagement for the SIA focused on those who would most likely be affected by the project, and on providing opportunities for stakeholders to raise concerns and provide feedback, while also being mindful of avoiding consultation fatigue.

Three main engagement methods were used to inform the SIA, comprising:

- face-to-face interviews over three weeks in November 2022. While 23 in-person meetings were conducted, this number is not reflective of the number of people who attended each interview. In most instances, there were at least two people present in meetings, and in interviews with community organisations, often larger groups were present
- phone and online interviews. A total of 21 interviews were completed. Several attempts were made to interview public services and First Nations representatives, some of which chose to decline a formal interview
- online survey. The online survey provided an opportunity for landowners located adjacent to and within the construction area to provide feedback and insights regarding the project. The survey was open between 10 November and 8 December 2022, with 104 responses received.

Based on the engagement for the SIA, it was found that in-depth and detailed information was provided by those landowners, community members and Councils that were interviewed, including in survey responses. It was found that key concerns, aspirations, ideas, and interest were commonly repeated across stakeholders interviewed, indicating a general ‘saturation of information’ (i.e. that further interviews would not lead to better information). Interview findings were consistent with online survey findings and further complemented and were cross-checked against EnergyCo stakeholder engagement findings. The SIA further contextualised the project with a review of relevant Council and community strategic planning documents within the regional social locality, which gave further context regarding key priorities and views of the diverse communities surrounding the project.

## Potential impacts – construction

### Summary of issues

The submission broadly highlighted social concerns such as impacts on community cohesion, sense of safety, diminished sense of place, impacts to the capacity of health, food and social services, the way people enjoy the environment, diminished sense of belonging, and worry about future generations ability to farm. More specifically, the submission identified concerns related to the temporary workforce required on the project and issues such as security risks for the community, and negative social impacts which would affect community cohesion, and thus the functioning of the community and wider district.

The submission also raised concerns over the 24-hour operation of the accommodation camps, and their impact on nearby residences, including the size being greater than the population of Dunedoo, as well as the larger camps operating like ‘satellite towns’ with supermarket, alcohol outlet and police presence.

### Response

Impacts to mental health, well-being, stress, and social cohesion in the community are assessed in Technical paper 7 – Social in accordance with the SIA guidelines (DPE, 2023b). While the SIA identified that those impacts will be more heavily experienced by landowners hosting infrastructure and adjacent neighbours, it also acknowledged that community members across the local social locality (i.e. the local area) could experience some of these social impacts. Health and wellbeing impacts and diminished sense of belonging during operations are expected to be mitigated by plans, systems and strategies developed for the project (refer to Section 4.12.5 of this report for more information).

The SIA acknowledged the influx of a large non-resident workforce could lead to changes to sense of safety within the local social locality, especially for vulnerable groups such as the elderly, women and children. While the construction workforce would reside in the workforce accommodation camps where food services, recreational facilities and entertainment would be provided, workers would be permitted to visit the local towns outside of shifts. Changes to sense of safety would be experienced to a higher degree by the communities in Merotherie and Turill where the workforce accommodation camps are located.

Operation of the project would affect around 2,440 hectares of agricultural land in total. This mainly comprises land within easements where agricultural activities could continue, but also includes permanent loss of around 795 hectares of land where permanent infrastructure would be located. The impact of land take associated with individual transmission towers on agricultural activities is expected to be minor due to the relatively small size of the tower footprints and the distance between the towers. For areas within the easements, agricultural operations and activities would continue, with only some activities restricted. The height above ground of the transmission line would be sufficient to achieve safe clearance for the operation of most farming vehicles, livestock movement and machinery under the powerlines. As such, the operation of the project is expected to result in limited and temporary reduction in available use of agricultural lands for future generations. During the construction period, the accommodation camps will be housing the construction workforce, requiring its continuous 24-hour operation.

Impacts to sense of safety due to an influx of the non-resident workforce will be mitigated by the development of a Workforce Management Plan (mitigation measure S12) prior to construction, which will include a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour.

The Network Operator will conduct screening background checks as part of the onboarding process. In addition, as part of the commencement of employment (or subcontractor engagement), all workers will complete project induction training when they commence work on the project. The induction outlines expectations with respect to worker behaviours, project rules and consequences. This includes behaviour expectations of being a good neighbour.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce (updated mitigation measure S15). Further consideration of issues raised with respect to the impacts to agriculture and farming is provided in Section 4.7 of this report.

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## 5.2.10 Economic

### Agricultural land displacement

#### Summary of issues

The submission identified concerns over the annual loss of agricultural income during construction (\$1.35 million) and operation (\$317,000 per year).

#### Response

As detailed in Section 4.13.3 of this report, the construction of the project would result in a reduction in the land available for agricultural activity. The agricultural impacts of the project during construction are less than 0.2 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project. The stated impact is conservative as it assumes the total construction area, consisting of 3,755 hectares of agricultural land would be restricted from agricultural use throughout the construction period. Construction activities will be intermittent throughout the construction period, allowing for sections of agricultural land to be available for use periodically.

Section 5.8.3 of the Amendment Report details economic impacts due to displacement of agricultural land. It is noted that impacts associated the displacement of agricultural land would result in a marginal increase in the assessed loss of productivity increasing from \$1.35 million per annum to \$1.37 million per annum.

Following construction, the project would result in a smaller reduction in agricultural land due to the comparatively smaller operational area. A majority of agricultural land within the amended operation area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions. As such, any economic loss is expected to be relatively minor.

The agricultural impacts of the project during operation are less than 0.04 per cent of agricultural economic activity in the region and on fraction of the economic activity gains from the project. The proposed amendments would result in a marginally reduced loss of productivity due to direct impacts, which is estimated to be around \$309,900 over a year, based on the 2022 economic environment.

The projected loss of agricultural production due to the project is deemed negligible both regionally and nationally.

## **General economic impacts**

### **Summary of issues**

Concern that the construction workforce living within the workforce accommodation camps would not result in flow on economic benefits, as local purchases may be limited, and construction prices are likely to increase in the region.

### **Response**

The housing of workers in accommodation camps and the provision of food and beverage services would reduce the amount of money construction workers would spend in local towns in the region. However, mitigation measures have been identified to ensure local suppliers are considered during construction.

As per mitigation measure SI4, an Industry Participation Plan will be prepared in accordance with the Renewable Energy Sector Board Plan (Office of Energy and Climate Change, 2022) and implemented which will:

- identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery)
- identify the capacity of local and Indigenous business and suppliers to be ready for potential additional demand
- provide local and Indigenous procurement targets
- identify tailored 'meet-the-contractor' events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project
- monitor the availability of key goods and services to the local community when procured locally.

Further details on the economic impacts are provided in Section 4.13.2 and Section 4.13.4 of this report.

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## 5.2.11 Noise and vibration

### Noise impacts (construction and operation)

#### Summary of issues

Concern regarding the noise impacts for some properties, stating that they would be unliveable over time, and providing examples of noise impacts including during construction at workers accommodation camps, and during operation, due to corona noise from transmission lines.

In addition, the view that construction working hours are likely to be extended, providing little relief to affected residences, which over the three years would be detrimental to the community.

#### Response

During construction, noise impacts would generally be minor during standard work hours; however, the project has the potential to impact noise sensitive receivers (generally residences) in the vicinity of the project due to noise or vibration intensive activities such as earthworks.

The description of predicted noise impacts from the Merotherie workforce accommodation camp and Neeleys Lane workforce accommodation camp are detailed in section 3.1.9 and 3.1.11 of Appendix I of the Amendment Report, respectively. During OOH work, exceedances are predicted at up to four receivers during the noisiest works from the Merotherie workforce accommodation camp and three receivers from the Neeleys Lane workforce accommodation camp. The application of mitigation measures would minimise these predicted impacts.

Construction of the project was intended to be carried out during recommended standard hours as defined by the Interim Construction Noise Guideline (ICNG) where possible. However, due to the remote nature of the work, and the requirement to accommodate a rostered fly-in fly-out and drive-in drive-out workforce, there would be a need to extend construction hours across a seven-day work week between 7:00 am and 7:00 pm. To support construction activities during these extended hours, operation of the main construction compounds would also be required. The workforce accommodation camps would be operational 24 hours a day, seven days a week to provide accommodation for the workforce. Additionally, for OOH work that would result in noise that is clearly audible or higher at sensitive receivers, respite periods will be offered, as mitigation measure NV2. The respite offer provides breaks from high noise generating activities. For example, work would be carried out in blocks not exceeding three hours each, followed by a minimum one-hour respite period, to ensure receivers have relief from the impact.

The operation of high voltage transmission lines may generate audible noise as a result of the accumulation of pollution and water droplets on the conductor surface of the transmission lines, which can result in corona discharge noise. Audible corona noise would not be a constant occurrence but would be present during mild, wet and misty conditions.

The description of predicted noise impacts during operation are detailed in Appendix I of the Amendment Report. The impacts are also summarised in section 5.9 of the Amendment Report. Noise impacts from operation of the transmission line, associated with corona noise discharges, have been predicted to potentially affect up one sensitive receiver during the evening and night.

Further noise assessment has also been undertaken as part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to submissions. The additional construction and operational noise assessment is detailed in Appendix I of the Amendment Report.

## Management and mitigation – construction

### Summary of issues

Concern over the adequacy of noise mitigation measures, including merely ‘advising’ only as one measure.

### Response

There is potential for construction noise impacts at the identified sensitive receivers. The construction schedule and equipment are subject to further refinement as detailed planning progresses however, a Construction Noise and Vibration Management Plan (CNVMP) would be prepared as part of the CEMP which would identify feasible and reasonable measures to reduce potential noise impacts during construction of the project. Mitigation measures NV1 to NV3 address predicted noise impact during construction as described in Appendix B of this report. These include a range of material and administrative measures, not limited to advisory.

Examples of materials measures (outlined in mitigation measure NV1) include (but not limited too) actions such as the use of portable noise screens, turning off construction machinery when not in use, and the use of spotter, or ‘smart’ reverse alarms.

Examples of administrative measures (outlined in mitigation measure NV2) include (but not limited too) actions such as the avoidance of simultaneous construction near Energy Hubs and limiting noise generating works to less sensitive construction hours.

Additionally, as detailed in Table 15-30 in the EIS, additional OOH noise mitigation measures would be implemented during construction of the project, including respite offers for sensitive receivers predicted to experience OOH construction noise that is clearly audible (5–15 dBA above Noise Management Level (NML)), moderately intrusive (15–25 dBA above NML) and highly intrusive (>25 dBA above NML).

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## 5.2.12 Hazards and risks

### Impact assessment approach

#### Summary of issues

Concern that EIS contains insufficient bushfire mapping of some areas, and the history of bushfire has only been considered back to 2006, which excludes some severe bushfires which have occurred in the region.

#### Response

In Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk), mapping of bushfire prone land across the project area was included and it was acknowledged that bushfires are a common occurrence in the central west region and the broader landscape has a history of large bushfires. Bushfires between 2011 and 2012, and 2016 and 2017 were referenced and mapped across the project in Appendix 2 of Technical paper 10 – Bushfire. It was noted that regardless of the fire history affecting the study area and the broader surrounding area, bushfires can occur at any time of the year, and as such, further documenting of historic fires will not necessarily inform the assessment of bushfire risk.

## Bushfire impacts – Operation

Concern regarding the presence of transmission infrastructure including overhead transmission lines that would increase the risk of bushfire ignition.

### Response

Ignition of bushfires as a result of the project's operation has the potential to occur during maintenance of project infrastructure and from the infrastructure itself. The potential sources of ignition resulting from the operation of the project have been identified in Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk). The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. Asset Protection Zones (APZs) would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations. Vegetation within transmission line easements would be managed to ensure safe electrical clearances would be achieved during operation.

Additionally, a comprehensive Bushfire Emergency Management and Evacuation Plan would be prepared to outline emergency response plan for the project and the Fire Management Plan (FMP) during operation. The Bushfire Emergency Management and Evacuation Plan would be prepared in consultation with NSW Rural Fire Service (RFS) and be provided to the relevant Local Emergency Management Committees prior to construction and when updated.

There are no identified difficulties in accessing and suppressing fires that could occur within the operation area. The project has existing and new connections to the surrounding road networks that service the region.

Details on management of bushfire risks is discussed in Section 4.15.7 of this report.

## Management and mitigation

Concern that the stated water supplies for firefighting and firefighting requirements have been underestimated.

### Response

Firefighting equipment will be installed at construction compounds and workforce accommodation camps. As outlined in mitigation BF5, firefighting equipment will be maintained and made available for use during the construction phase in accordance with Planning for Bushfire Protection 2019 (RFS, 2019) including the following:

- static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes
- 38 millimetre metal Storz outlets with a gate or ball valve will be provided as an outlet on each of the tanks
- non-combustible water tanks and fittings will be used
- firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.

Switching stations and energy hubs would be designed and constructed in accordance with AS3959 – 2018 Construction of Buildings in Bushfire Prone Areas including installation of fire systems.

## Electric and magnetic fields

### Summary of issues

Concerns with respect to Electric Magnetic field (EMF) with the view that the assessment of EMF (refer to in the submission as EMR) is inadequate and does not fully address the safety issues for landowners, animals and workers. The submission also expressed the view that the decision not to underground transmission lines, was based on cost, but questioned, the cost of safety.

### Response

A detailed assessment of EMFs from the project was carried as detailed in Technical paper 12 – Electro Magnetic Field Assessment and summarised in EIS Chapter 16 (Hazard and risk). The assessment of potential EMF risks from the project was carried out in accordance with the International Commission for Non-Ionizing Radiation Protection (ICNIRP) Guideline for Limiting Exposure to time-varying electric, magnetic and electromagnetic fields (ICNIRP, 2010).

According to health authorities, including the World Health Organisation (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), EMFs from electrical transmission lines are not considered a risk to human health. EMF levels were assessed for energy hubs, switching stations and transmission lines. The ICNIRP (2010) set limits on electrical and magnetic fields induced in the body by EMF. The ICNIRP sets ‘Basic Restrictions’, which are the limitations of exposure that may lead to established health effects. The ICNIRP (2010) guideline then defines Reference Levels for continuous exposure to the public, which are set below the Basic Restriction limits with additional margin.

The EMF assessment within the EIS has been based on the EMF exposure at the edge of the easement. EMF assessments significantly depend on characteristics of the individual transmission line. Different transmission line designs may result in different setback requirements. Setback requirements also may or may not be related to compliance with EMF limits. The EMF assessment found the electromagnetic field levels at the edge the transmission line easement and boundary of energy hubs is compliant with the Reference Levels contained within the ICNIRP. The Reference Levels assume an exposure by a uniform (homogenous) field. For transient effects such as passing under the transmission lines, the EMF exposure limits are slightly higher than the Reference Levels but in all cases are below the basic restrictions limits with an upper limit of 9 kV/m set within the design.

The alignment has, where possible, been developed to maintain a 500 metre buffer distance between dwellings and the transmission infrastructure, which will further ensure that no dwelling could be exposed to EMF levels exceeding the Reference Level.

Section 4.1.4 of this report provides a detailed discussion on EMFs and risks associated. It is noted that EMFs are a natural part of the environment and are produced wherever electricity or electrical equipment is used. According to health authorities, including the WHO and ARPANSA, EMFs from electrical transmission lines are not considered a risk to human health.

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## 5.2.13 Traffic and transport

### Construction traffic impacts

#### Summary of issues

General safety issues associated with construction traffic.

#### Response

The traffic impact assessment was undertaken in accordance with the SEARs and with reference to the requirements of relevant legislation, policies and/or assessment guidelines, as detailed in Technical paper 13 – Traffic and transport. Further traffic assessment has also been undertaken as



part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to Transport for NSW comments. The additional traffic assessment is detailed in Appendix J of the Amendment Report.

Construction vehicle movements would occur across the road network as vehicles travel to/from construction compounds, workforce accommodation camps and the construction area more broadly. The increase in traffic due to the project would increase the number of interactions with other road users and introduce risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact.

A discussion on the potential construction traffic impacts of the project, including road safety and its management is provided in Section 4.16.2 of this report.

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## 5.2.14 Waste management

### General waste management

#### Summary of issues

Concerns that the issue of waste disposal has not been fully addressed in the EIS. Highlighting capacity constraints in local waste disposal locations, and a lack of details on waste.

#### Response

Section 18.5 of the EIS provided an assessment of potential waste management of the project during construction. Waste management for the project will align with the *Waste Avoidance and Resource Recovery Act 2001* (NSW) (WARR Act) and all generated waste will be handled in compliance with the waste provisions in the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act), including conditions from the Environment Protection Licence (EPL) for scheduled activities. Similar concerns regarding waste management were raised by the community and have been discussed in Section 4.17.1 of this report.

Engagement with the relevant councils has indicated that local waste facilities are reaching capacity and would not be able to accept waste generated from the construction of the project, and commercial waste is not accepted at the Mid-Western Regional council-operated Gulgong Waste Facility. In addition, the Wellington Waste Transfer Station and Cassilis Waste Management Facility do not accept large volumes of waste. As required by mitigation measure WM1, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

Regarding details on waste, indicative volumes of potential waste streams during construction is presented in Table 18-2 of the EIS and were based on estimated potential construction waste streams and quantities. The estimates are based on the exhibited project design and indicative construction methodology. Most anticipated waste streams are expected to fall under the classification of general solid waste (non-putrescible). To enhance accuracy, the estimated construction waste quantities, including spoil generation, reuse, and surplus, will undergo confirmation in the detailed design phase. This refined data will then be integrated into the CEMP for the project.

The amendments and refinements would not involve changes to the construction methodology or operation of the project such that there would be a change to waste management as assessed in the EIS.

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## 5.2.15 Hydrology, flooding and water quality

### Impact assessment approach/impacts to geomorphology

#### Summary of issues

Concerns related to the impact assessment approach, as well as impacts to water courses. These included the view that the flooding assessment was insufficient as parts of the district are prone to flooding and associated damage in wet years. In addition, concern that increasing paved areas, installing culverts, and changing water courses would have a wide range of effects on watercourses both upstream and downstream.

#### Response

##### Flooding – impact assessment approach

An assessment of the potential hydrology, flooding and water quality impacts of the construction and operation of the project was undertaken in accordance with the SEARs and with consideration of the requirements of relevant legislation, plans, policies and assessment guidelines. The detailed description of the methodologies of the technical assessments are provided in Chapter 3 of Technical paper 14 – Hydrology and water quality and Chapter 3 of Technical paper 15 – Flooding.

The flood impact assessment involved modelling a range of predicted flood events and determining the potential flood impacts during construction and operation of the project. Changes to flood behaviour was modelled and mitigation measures to minimise potential flooding changes were identified.

Additional assessment has been undertaken to identify changes to potential hydrology and water quality and flooding impacts associated with the amended project and detailed in section 5.12.1 and Appendix K of the Amendment Report. The additional flood impact assessment involved for the amended project involved:

- for construction, a revised qualitative assessment of flood risks to the amended project and the potential impact on existing flood behaviour during the one per cent AEP event. This included impacts to mainstream flooding and localised overland flooding
- for operation, a quantitative assessment of the impacts of the new bridges over the Talbragar River and Laheys Creek (proposed as part of the upgrades of Merotherie Road and Spring Ridge Road) on flood behaviour for a range of flood events, with AEPs between 10 per cent and 0.2 per cent, and the Probable Maximum Flood (PMF).

Additionally, mitigation measure FL1 to FL3 indicate the need to identifying and applying measures to not worsen flood impacts on the community and on other property and infrastructure during construction up to and including the one per cent AEP flood event where reasonable and feasible. Where warranted by the scale and nature of the proposed works this would include flood modelling and assessment to assess the extent of potential impacts and therefore the scope of mitigation measures that may be required.

The increase in impervious area associated with switchyard pads, buildings, access roads and other hardstand areas would increase the rate and volume of runoff, which in turn has the potential to increase the rate and volume of runoff being conveyed in the receiving drainage lines. Measures to manage impacts on flooding depth, velocity or duration of inundation external to the site would be identified during detailed design.

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## 5.2.16 Groundwater

### Groundwater impacts

#### Summary of issues

Concerns over the impacts to groundwater, highlighting the limited availability of water, the reliance on groundwater, concern over the project's water requirements, the capacity of water sources and the impacts on the groundwater table.

#### Response

Construction and operation of the project would not result in permanent inflow or take of groundwater. In the event surface water availability does not meet the project's non-potable water requirements during construction, temporary groundwater supply would be established at the Merotherie and Elong Elong energy hubs. The proposed bores would be subject to appropriate licensing, and all water would be extracted in accordance with a Water Access Licence (WAL).

The assessment of groundwater extraction at the energy hubs was provided in section 19.3.4 of the EIS and Technical paper 17 – Groundwater. The assessment (refer to Table 19-22 of the EIS) concluded that the extraction proposed over the four-year construction period would result in 'no more than minimal harm' (as defined by the Aquifer Interference Policy) to the groundwater resource and surrounding sensitive receivers, such as other groundwater users or Groundwater Dependent Ecosystems (GDEs) as both proposed bores would meet the assessment criteria for an acceptable level of impact.

The water demand for the project was compared with surface water availability in the Upper Talbragar Water Source and Lower Talbragar Water Source during an average rainfall year and typical drought years (based on historical water usage data from the Cudgegong River Water Source). As data was not available for the Upper Talbragar and Lower Talbragar Water Sources, the Cudgegong River water source was used as a representative water source since the Cudgegong River catchment has similar land uses and climatic conditions as the study area and since data is available for this water source.

Water is not proposed to be diverted from neighbouring properties for the project. Road upgrades, along Merotherie Road and Spring Ridge Road, as described in the Amendment Report, would require work within Talbragar River and Laheys Creek respectively. Mitigation measures would be implemented to minimise impacts on these waterways.

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## 5.2.17 Cumulative impacts

The submission raised concerns over the cumulative impacts of the project, identifying visual, biodiversity and traffic and transport and issues.

### Cumulative impacts – visual

#### Summary of issues

Concerns over the cumulative visual impact of the project with multiple other projects within the REZ would negatively impact the districts visual amenity, changing it from natural vistas to an industrial one.

## Response

The assessment of cumulative landscape character and visual impacts has considered the potential for the project, together with other projects planned or approved and not yet constructed, to transform the landscapes in which the projects are located. The cumulative impact assessment considered cumulative landscape character and visual impacts during the daytime and nighttime.

This included consideration of the aesthetic qualities of large-scale transmission infrastructure, their visual prominence, the level of contrast with the existing landscape character and impacts on scenic views. The potential for the transmission infrastructure to transform character of the landscape character and views has been described as the magnitude of change which is a part of the assessment process.

The visual characteristics of solar and wind farm projects are not universally considered to be of visually unattractive, particularly wind farms.

The most substantial cumulative landscape character and visual impacts would be experienced

- in the landscapes between Gollan and Dunedoo
- between Tallawang and Spicers Creek (the central and western sections of the project), where multiple renewable energy projects are proposed in combination with this project
- in the landscapes between Cassilis and Leadville (the northeastern section of the project), where two large wind farm projects are proposed in combination with this project.

Views of these projects would be prominent and contrast with the undulating rural and forested hills of the surrounding landscape, including at night, when some private dwellings would have views of operational lighting at switching stations, energy hubs and operations and maintenance buildings.

The cumulative visual impact of the project in combination with other relevant projects is described in section L3.2 in Appendix L of the Amendment Report.

## Cumulative impacts – biodiversity

### Summary of issues

Concern regarding biodiversity including impacts to and removal of wildlife corridors, the removal of over 1,000 hectares of native vegetation for the project, as well as biodiversity impacts (removal of wildlife, native vegetation, and habitat) from multiple other projects in the district.

### Response

Where available, the total impact to native vegetation from each project is provided in Appendix L of the Amendment Report, along with a list of the TECs and threatened species that would be impacted. The total ecosystem credit and species credit requirement for each project is also provided to provide an overview of cumulative offset requirements. A broad approach has been taken due to the variance in impacts between projects and the total native vegetation impact is considered the simplest way to represent impact to threatened species habitats. The species credit requirement provides a surrogate for the level of impact to threatened species.

The results from the review of available information indicate the following:

- the known or estimated cumulative native vegetation impacts equate to 24,251 hectares
- the cumulative ecosystem credit requirement equates to 198,868 credits
- the cumulative species credit requirement equates to 376,216 credits.

The estimated cumulative impacts on threatened flora and fauna species including birds, koalas, flowers and insects are described in Appendix L (section L3.3) of the Amendment Report.

Cumulative biodiversity impacts were assessed and the likely credits. Each project would be responsible for offsetting their own biodiversity credits.

## Cumulative impacts – traffic and transport

### Summary of issues

Concern related to the construction traffic impacts on local roads, highlighting additional traffic movements impacting the local community over three years.

### Response

Developments with construction routes and timeframes that overlap with this project have the potential to increase the number of construction vehicles on the road network. A quantitative cumulative impact assessment of potential traffic impacts including consideration of the Golden Highway was completed and is detailed in Appendix L of the Amendment Report.

The assessment indicates that the additional traffic volumes generated by the 18 relevant future projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS A for all routes) maintained on most roads.

A moderate impact on capacity (reduction of LoS from A to B) is expected on Cope Road and Ulan Road due to the high traffic generation estimate produced by the Stubbo Solar Farm. At LoS B however, traffic would still be considered as free flowing. The free-flowing conditions were mainly due to the current low traffic demand on these roads.

Each project would be responsible for its own impacts on local road conditions, which would mitigate the potential cumulative impact on road conditions. Prior to construction of the project, the Network Operator would be required to undertake pre-condition surveys of local roads along the construction route to record their condition along the construction routes on local council roads to confirm the existing condition of the road. Any rectification works that are required as a result of the project would be completed in consultation with the relevant council.

## Cumulative impacts – Aboriginal heritage

### Summary of issues

Concern that the project, in combination with relevant future projects, would result in a potential cumulative loss of 5–16 per cent of identified Aboriginal cultural heritage sites within the construction area would be severely affected.

### Response

This project, in combination with the relevant future projects, would result in a potential cumulative unmitigated loss to Aboriginal site types in the region, including rockshelters (nine per cent), grinding grooves (22 per cent), culturally modified trees (four per cent) and moderate or high significant stone artefact deposits (23 per cent). Many of these sites within the construction area of the project would be avoided through application of mitigation measures. EnergyCo is continuing to explore the potential avoidance of sites of high and moderate significance within the construction area.

No cumulative impacts are expected on Aboriginal heritage as a result of the operation of this project in combination with the relevant future projects.

While this project and the relevant future projects would result in some loss of cultural materials, it is acknowledged that increasingly, engagement on cultural heritage is seeking to move beyond the material to a more holistic consideration of heritage. The investigations for this project and relevant future projects have significantly improved our archaeological and scientific understanding of a previously poorly understood areas. The information obtained through each project's ACHA will be provided to proponents of other renewable energy generation projects and thereby assist in identifying key sites of local and regional value for a more holistic approach to the conservation of cultural materials across the REZ. Further potential cumulative Aboriginal heritage benefits include opportunities for Aboriginal heritage interpretation and engagement with Aboriginal communities during project assessment and development.

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## 5.3 Central West Cycle Trail Inc

Central West Cycle Trail Inc provided a response to the public exhibition of the EIS (Undated). The submission raised several concerns with respect to the impacts of the project on the Central West Cycle Trail, which is a 400 km cycle loop which includes Mudgee, Mendooran, Dubbo, Wellington, and Gulgong. The concerns raised generally related to impacts from construction traffic (such as road safety) on the existing cycle trail. This section provides a summary of the concerns/issues raised within the Central West Cycle Trail submission and responses.

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### 5.3.1 Traffic and transport

#### Summary of issues

Concerns over the high number of construction vehicles using Birriwa Bus Route South and Merotherie Road (which forms part of the Central West Cycle Trail), and the subsequent safety and access issues. The submission highlighted the existing speed limits, and narrow road verges with limited space for the legislatively required 1.5 metre gap between cyclists and vehicles.

Other concerns raised related to the EIS assessment, stating that the EIS should have assessed alternatives for cycling access through this area to reduce impacts, including how to maintain access to 'Mayfield' an 'iconic' feature located midway along Birriwa Bus Route South.

The submission also proposed some potential opportunities address their concerns:

- integrating with the Birriwa Solar Farm (which is located north of Birriwa Bus Route South) which has existing mitigation measures
- allowing access to the rail corridor for cyclists
- upgrades could be made to the Upper Barneys Reef Road between Merotherie Road and Birriwa bus route (known as the Slap Dash Adventure Route) to make it suitable for cycling, and
- if alternative trails are not considered viable, then consider lowering speed limits to limit dust impact to cyclists (submission details outlined in Section 5.3.2).

#### Response

Some construction routes use roads that form part of the Central West Cycle Trail. This part of the trail is known as the Gulgong to Dunedoo route and passes through sections of Barneys Reef Road, Merotherie Road and Birriwa Bus Route South. Merotherie Road and Birriwa Bus Route South in particular would be actively used by construction traffic with the Merotherie Energy Hub and main camp site located off these roads.

Furthermore, as per mitigation measure T4 Driver Code of Conduct will be developed and implemented to outline required road safety practices. The code will define acceptable driver behaviour for proposal personnel to promote road safety and ensure that the impacts of construction-related vehicle movements on local roads and the local community are minimised. The mitigation measure also accounts for load limits and fatigue management and an establishment of a Driver Fatigue Management Plan, integrated to the CEMP to address driver fatigue risks, planning regular breaks and mapping locations of drivers rest areas along the proposed construction routes.

The project will actively consult with local bicycle groups, such as Central West Cycle Trail during construction, particularly regarding construction routes proposed on CWC's cycling route between Gulgong to Dunedoo (mitigation measure T10). The consultation process will particularly focus on construction routes intersecting CWC's cycling route from Gulgong to Dunedoo. Safe pedestrian and cyclist access will be maintained at points where the project interacts with existing pedestrian and cyclist routes. In instances where this isn't feasible, temporary alternative access arrangements

will be established following consultation with affected stakeholders and the relevant roads authority.

Safe pedestrian and cyclist access will be maintained where the project interacts with existing pedestrian or bicycle facilities. Where this is not feasible, temporary alternative access arrangements will be provided following consultation with affected stakeholders and the relevant roads authority. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact.

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## 5.3.2 Air Quality

### Summary of issues

Concern over the generation of dust on construction routes, which would impact cyclists.

### Response

Construction vehicles would generate dust on unsealed roads along the construction routes. During high wind conditions (wind speeds greater than 8 metres per second), reduced speed limits for project heavy vehicles on unsealed roads will be implemented in the vicinity of sensitive receivers (mitigation measure AQ5).

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## 5.4 Cassilis District Development Group Inc

The Cassilis District Development Group Inc provided a response to the public exhibition of the EIS (Undated). The submission outlined concerns with respect to the EIS and supporting technical papers. This section provides a summary of the issues raised within the submission and consideration of those issues.

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### 5.4.1 Strategic context

#### Renewable energy zones

##### Summary of issues

The submission outlined that, while agreeing meeting long term carbon dioxide emission reductions is positive in nature, for citizens in the REZ, there appears to be no equity in the development of renewable energy and no willingness to use technology in urban areas, leaving rural Australia to carry the weight of this policy for NSW.

Disappointment was expressed towards EnergyCo and the NSW Government, as there is little consideration for the long-term viability, contribution to the environment and wellbeing of rural enterprises and their service industries in the Central-West Orana REZ.

##### Response

Australian Energy Market Operator's (AEMO) 2018 Integrated System Plan (ISP) notes the most cost-effective replacement of coal-fired energy generation, based on current cost projections, is a portfolio of utility-scale renewable generation, energy storage, distributed energy resources, flexible thermal capacity including gas-powered generation, and transmission' (AEMO, 2018).

The transformation of the National Energy Market (NEM) to a modern electricity system that embraces new and emerging generation, storage and demand management is accepted at the State and Australian government levels, supported by the current policies and legislation relating to electricity supply. REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources.

The NSW Government initially identified potential locations for REZ's in NSW based upon independent analysis completed in 2018. The analysis overlaid 25 data layers to identify the best locations for potential REZs in NSW. Locations were nominated based the following key criteria:

- Energy resource and geography – the level of solar, wind and bioenergy resources available and other factors impacting generation capacity.
- Cost-effectiveness – proximity to existing transmission infrastructure to minimise the extent of new transmission infrastructure (noting due to the lack of capacity in the existing network new transmission infrastructure would be needed in any location).
- Environmental, heritage and land-use considerations – potential land-use conflict or presence of environmental and heritage constraints, including Biophysical Strategic Agricultural Land (BSAL).
- Contribution to a strong and diversified economy – alignment with regional development priorities, as well as local and state-wide economic growth goals.
- Investor and community support – proximity to where investors have demonstrated interest in developing renewable energy projects, and proximity to regions with community support for renewable energy projects, as identified through the NSW Regional Plans.

Potential impacts were taken into account when developing the potential priority REZs in NSW. The Central-West Orana REZ boundary was then identified based on consideration of the quality of the energy resource, economic considerations, investor and community support and considerations of environmental, heritage and land-use constraints.

## **Governance and management of the Central-West Orana REZ**

### **Summary of issues**

Concerns over the mitigation of cumulative impacts of the Central-West Orana REZ, which remains outstanding in the EIS to the degree that it is required. There has been no discussion on the Golden Highway from Sandy Hollow to Cassilis, no consultation with local organisations despite the NSW Government announcement at the last election that 12 million dollars would be allocated to a study of the Golden Highway and the cumulative impacts, specifically around Merriwa.

In addition, the submission highlighted the view that there is a lack of government understanding of rural communities.

### **Response**

The project assessed cumulative impacts using the approach set out in the NSW *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). This approach requires a project's EIS to consider publicly available information from other project EISs in the region and to assess the potential for cumulative impacts. The assessment found the contribution of the project's impacts can be managed adequately through the implementation of mitigation measures. However, as noted in the EIS it is recognised that not all REZ related cumulative impacts can be addressed through a project-level approach alone, instead requiring a strategic and collaborative approach between EnergyCo, renewable energy developers, council and government agencies.



As the Infrastructure Planner for the Central-West Orana REZ, EnergyCo is responsible for coordinating the delivery of the REZ, working with Candidate Foundation Generators (CFG) on initiatives to minimise cumulative impacts and delivering community and employment benefits in the REZ.

EnergyCo has been investigating how potential cumulative impacts will be mitigated within the REZ while also providing long-term community and employment benefits. These investigations include engagement with communities, local councils, government agencies and other key stakeholders to understand key local issues and priorities in the REZ in addition to data gathering and research to inform decision making.

The proposed renewable energy generators would use common routes to transport oversize and overmass (OSOM) components from the Port of Newcastle to the Central-West Orana REZ. Accordingly, the NSW Government has requested that EnergyCo identify and carry out required upgrades to a number of intersections along the State Road Network to facilitate the transportation of OSOM components. The Port to Central-West Orana REZ (P2R) OSOM road infrastructure intersection upgrades project is, however, separate to the construction and operation of new electricity transmission infrastructure proposed as part of this project. This project is not reliant on the P2R road upgrades, program of works which are a separate development and purpose. EnergyCo will continue engaging with Transport for NSW on the P2R program of works separately. Cumulative traffic impacts with respect to the project are discussed in Section 5.4.15 of this report.

## **Route selection – Transmission lines (above vs below ground)**

### **Summary of issues**

Concerns relating to the route selection process, specifically the EIS has not effectively considered the undergrounding of transmission lines.

### **Response**

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. Based on the factors outlined in section 2.7.3 of the EIS, locating high voltage transmission lines underground is not considered to be a viable option for this project.

Undergrounding the transmission lines would involve excavation of a trench, or multiple parallel trenches where more than one high voltage transmission circuit is required, over the entire length of the alignment. Reactor switching stations the size of New Wollar Switching Station would be required around every 40 kilometres along the underground transmission alignment. A reactor switching station is a facility where underground cables emerge from the ground and are connected to an above ground structure and terminated. They are used to ensure safe voltages and operating conditions are maintained. These have the potential for significant disturbance to agricultural activities, biodiversity and heritage as well as increasing project costs for construction and maintenance, compared to overhead transmission lines.

An underground transmission line would have a more favourable impact in terms of visual amenity (as most of the transmission line infrastructure would be placed underground), aerial operations, easement width and avoidance of bird and bat strikes (and associated biodiversity impacts). However, it would have a number of greater negative impacts relative to the project as proposed. Environmental and engineering constraints associated with undergrounding of project transmission infrastructure include:

- 500 kV or 330 kV transmission lines underground requiring more extensive clearing of vegetation associated with trench excavation. As a result, underground transmission lines would have a significantly greater impact on biodiversity than overhead transmission infrastructure with additional cost to offset impacts significant visual impacts associated with vegetation removal and the presence of the large reactor switching stations

- an easement where land use is more restricted when compared to overhead transmission lines, as there would be restrictions on vehicles mass, depths of excavation or ploughing, depths of planted material, placement of fill material. Agricultural impacts would be further exacerbated by vegetation growth in the easement being restricted by the shallow depth of soil and heat emanating from the underground transmission lines
- repairing a cable fault can be challenging and time-consuming compared to an overhead line resulting in increased time required to restore the power supply
- noise levels associated with above ground reactor switching stations would introduce a new noise source. It is important to note that the noise and vibration assessment for the project as proposed identified one dwelling as experiencing a negligible level of exceedance during the night time period for corona noise. There were no exceedances of operational noise levels for switching stations or energy hubs.

The Legislative Council's Standing Committee on State Development conducted an inquiry into the feasibility of undergrounding transmission infrastructure for renewable energy projects due to the rapid transformation of the NSW electricity system. A report from the inquiry was published in August 2023. The findings included that undergrounding transmission infrastructure would involve higher costs and a longer construction period (Legislative Council, 2023).

The Select Committee on the Feasibility of Undergrounding Transmission Infrastructure for Renewable Energy Projects was established in September 2023 to inquire and report on the feasibility of undergrounding. EnergyCo's submission to the Select Committee set out the physical challenges, operational reliability, maintenance requirements, environmental and economic impacts associated with placing transmission infrastructure underground (EnergyCo, 2023f).

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## 5.4.2 Statutory context

### Details provided in the EIS/Adequacy of the EIS/Planning approval process

#### Summary of issues

Concerns relating to the statutory context for the project. Specifically, issues related to the detailed provided in the EIS, the adequacy of the EIS and the overall planning approval process.

Concerns/issues raised in the submission included:

- the technical language and length of the EIS has made it inaccessible for some of the community, including those heavily impacted by the project. In addition, the community has not been provided with sufficient time to read and analyse the document, and the community needs to be technically savvy to provide submissions, or to participate
- compliance with project SEARS, including a lack of a detailed evaluation of alternative energy sources or the opportunity cost of the project, to understand the economic, social and environmental costs as well as an explanation of any benefits for consumers (including cheaper energy)
- concerns that EnergyCo does not understand rural communities, and place greater value on land managed by NPWS, Crown lands and Local Land Services (LLS), over agricultural land.

#### Response

The concerns of the community regarding the scale and complexity of the EIS are noted. The level of information contained in the documentation is necessary to meet the SEARs for the project and relevant guidelines. The EIS includes a description of the project, and all components and activities required to construct and operate it, along with a level of assessment of the likely impacts appropriate to the degree of impact, and in sufficient detail to ensure that the community and stakeholders can understand and assess its impacts.

The assessments included in the EIS was prepared, reviewed and validated by experienced professionals, and where relevant was based on data gathered from field investigations throughout the preparation. The technical papers prepared to support the EIS, including a SIA and an agricultural impact assessment, were completed considering all relevant procedures and guidelines required by government agencies.

To facilitate the community's understanding of the information contained, the EIS summarised all specialist technical reports. In addition, a summary document containing a succinct overview of the key findings was included as part of the document, and a 'digital EIS' (which allowed easy navigation of the documents and effective mapping and summary information) was placed online. Community events were also held during the EIS exhibition period to allow members of the community to seek information and raise questions with the project team.

As Critical State Significant Infrastructure (CSSI), the project is subject to a statutory requirement for an exhibition period of 28 days. The EIS and accompanying technical papers were placed on exhibition from Thursday 28 September 2023. As a result of community feedback early in the 28-day exhibition period, the exhibition period was extended by an additional two weeks until Wednesday 8 November 2023, to allow more time for the community and stakeholders to review the EIS and make a submission.

EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project. The feedback and suggestions received from the community and stakeholders have informed the development of the EIS.

Corridor planning considered opportunities to avoid impacts by routing the corridor through previously disturbed land such as mining areas and existing transmission easements, as well as coordinating transmission connections to renewable energy generation and storage projects to minimise the overall length of generator connections. During the corridor development phase, mapped areas of BSAL, residences, and vegetated areas of threatened ecological communities such as Box Gum Woodland, were considered to be key avoidance areas. When considering other factors such as the location and layout of renewable energy developments, topography, and infrastructure such as roads, the transmission line alignment utilised areas of open space such as grazing land

The project has been developed to support the Central-West Orana REZ, which has been declared. The transformation of the NEM to a modern electricity system that embraces new and emerging generation, storage and demand management is accepted at the State and Australian government levels, supported by the current policies and legislation relating to electricity supply. REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources.

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### 5.4.3 Community and stakeholder engagement

#### Consultation on the project

##### Summary of issues

The Cassilis DDG raised general concerns relating to community and stakeholder engagement, in addition to a number of concerns related to consultation, during project development, during the preparation of the EIS, and during public exhibition of the EIS.

The submission outlined the view that consultation with the community of Cassilis (and district) does not meet the project SEARS, specifically outlining the view that:

- EnergyCo have not provided equitable and accessible engagement across impacted communities as per statements in the EIS
- no pop-in sessions were undertaken in the village of Cassilis prior and after the public exhibition of the EIS, consequently little consultation and engagement has occurred
- no explanatory workshops, or question and answer sessions
- the EIS does not address concerns raised by the community in late 2022, only describing them. This early consultation also occurred before there was knowledge of a temporary workforce accommodation camp that was utilising Cassilis Road via the village of Cassilis
- the EIS states consultation with local councils was undertaken, however in the Agricultural technical paper it appears no consultation was undertaken with the Upper Hunter Shire Council, meaning no consultation about the Cassilis area and impacts associated (including on agriculture impacts).

## Response

EnergyCo is committed to continuing engagement with landowners, the community and stakeholders throughout all project stages and to build and maintain strong relationships within the communities where the proposed transmission infrastructure would be located.

EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ, including stakeholders in the Upper Hunter LGA.

There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils. In response to calls for more consultation with the community in Cassilis, EnergyCo held a pop-up outside the Community Hall on 17 October 2023 during exhibition of the EIS.

Preferences for locating the workforce accommodation camps varies amongst stakeholders, with some preferring the camps to be located within existing urban areas, and others preferring a location outside. EnergyCo's key considerations for selecting workforce accommodation camp locations was influenced by logistics, minimising environmental impacts and minimising the number of camp needed to service the project.

The feedback and suggestions received from the community and stakeholders, including local councils, have informed the development of the EIS. Specific engagement for the purpose of the agricultural assessment, detailed in Technical paper 2 – Agriculture, was undertaken with seven landowners. Appendix D of EIS provides a breakdown of the feedback provided by community and stakeholders and how this has been addressed in EIS.

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## 5.4.4 Land use and property

### Property acquisition/leasing – general

#### Summary of issues

Concerns relating to the acquisition of land for those landowners directly impacted by the project, and also considered that the process has not been undertaken with a transparent, meaningful and inclusive approach for those landowners in the Cassilis community.

## Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo has encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process. EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

An Acquisition Manager has been dedicated to each property identified for an easement or acquisition. This person acts as a point of contact throughout the acquisition process for each landowner.

To progress the acquisition process, each party is encouraged to exchange valuation reports before attending meetings/discussions between EnergyCo, the landowner, independent valuers, and any legal representative. This allows for discussions on any differences between the respective valuer's reports, with a view to reaching an agreement on compensation for the acquisition of the required property interests.

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## 5.4.5 Agriculture

### Summary of issues

Concerns regarding the impact of the project on agriculture, this included the approach to impact assessment, impacts to agricultural practices during construction and operation (including biosecurity), as well as concern over the proposed mitigation measures. Specifically, the submission included:

- concerns with respect to the number of farmers interviewed (seven) as part of the agricultural assessment to gain an understanding of potential impacts across the study area. Equating to simplistic conclusions across the region
- no assessment of the impacts of offset country purchases on agriculture
- inadequate assessment of biosecurity issues, specifically the management of St Johns Wort (Mid-Western Council) or Coolatai Grass (Upper Hunter LGA)

- concern over productivity impacts to the use of GPS technology, drones to spray noxious weeds or muster animals (which is becoming more common), and concern that solutions to these issues are being left up to the farmers to address
- loss of agricultural land, which is increasingly playing an important part of carbon sequestration in Australia
- unrealistic mitigation measures, based on better understanding of agricultural issues.

## Response

### Landowner interviews

The assessment methodology for the agricultural impact assessment, as detailed in section 8.2.2 of the EIS, and Technical paper 2 – Agriculture, was developed to meet the requirements of the project SEARs. Section 4.7.1 of this report details assessment methodology and impact assessment approach.

As noted in Section 4.7.1 of this report, the selection of seven properties for landowner survey was considered to ensure representation across various geographical locations, project impacts, and types of agricultural enterprises. The interviews were structured to obtain information on the agricultural enterprises at each property such as usual crops grown, crop areas, normal livestock numbers, types of livestock, types of pastures and property areas, as well as their perceived impacts of the project. It was generally considered that additional interviews would not necessarily increase the level of knowledge of the general issues of the project area.

However, further consultation with individual landholders of host properties would be undertaken in the development of property management plans (as detailed in mitigation measure AG3) to identify property-specific impacts on agriculture and opportunities for mitigation.

### Offset

Offsets for full and partial clearing of native vegetation would be required. With regard to biodiversity offset strategy, EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. The properties selected would generally be on land with relevant biodiversity values and opportunities for revegetation. The properties subject to biodiversity stewardship agreements are outside the scope of the EIS and Amendment Report and would be managed separately. Further discussion regarding offsets are detailed in Section 4.9.8 of this report.

### Biosecurity issues

It is noted that construction and operation of the project has the potential to introduce or spread animal and plant diseases, feral pests and weeds, if not properly managed. There are a number of weeds, pests, and animal and plant diseases, which pose a high risk to agricultural production in the wider study area which have been identified in Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture). The weeds, St Johns Wort and Coolatai Grass, were identified as biosecurity risks present in the area. As per mitigation measure AG5, a Biosecurity Management Plan will be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas.

### GPS interference

GPS operates on higher frequencies than transmission lines and therefore should not be disrupted by the project. Mitigation measure AG8 commits to investigating and managing impacts and interruptions to agriculture operations, particularly impacts on precision farming GPS signals. As per the mitigation measure, such interference would be investigated further and will be addressed in consultation with the affected landowner. This may also include measures such as signal boosting equipment or antenna enhancements where applicable and required.

Use of drones would be undertaken in accordance height restrictions within the transmission lines easement and in accordance with Civil Aviation Safety Regulations and required easement conditions.

### **Loss of agricultural land**

The project would require the use of agricultural land either permanently for operation or temporarily until construction activities are completed. Once operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure. The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions.

Carbon farming is the current approach to farming that involves managing the land to reduce the amount of carbon entering the atmosphere (NSW Government, 2023). One of the methods of carbon farming is carbon sequestration through vegetation or soil. Vegetation within the transmission easements with growth heights of two metres and above (largely trees and shrubs) would be removed by the Network Operator prior to and during operation, whereas native vegetation with growth heights less than two metres would be retained. This may impact landowners' ability to undertake carbon sequestration activities in and adjacent to the transmission easement.

### **Mitigation measures**

Agricultural mitigation measures have been developed to work in coordination with landowners. Individual Property Management Plans will be developed in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities (mitigation measure AG3). EnergyCo will work with landowners during the easement negotiations to identify any specific constraints related to land use. Landowners will not be wholly responsible to identifying solution to potential restrictions.

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## **5.4.6 Landscape character and visual amenity**

### **Summary of issues**

Concerns over the loss of the peaceful rural landscape were raised. It was expressed the landscape and natural attributes have been undervalued by EnergyCo.

### **Response**

Operation of the project and the presence of permanent project infrastructure would have moderate-low to moderate landscape character impacts within the identified landscape character zones during the daytime. Further discussion of the visual impacts of the project are discussed in Section 5.2.6 of this report.

The design development of the project from the identification of the revised study corridor through to the current EIS study corridor has aimed to avoid or minimise potential impacts. Where practicable, the alignment has been located at least 500 metres from existing dwellings to minimise impacts to visual amenity. It is acknowledged that in some locations along the project alignment the transmission line easement is within 300 metres of dwellings due to competing environmental and technical constraints. Where this occurs EnergyCo have adopted a balanced approach to corridor planning to determine the most appropriate project alignment.

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## 5.4.7 Biodiversity

### Impact assessment approach

#### Summary of issues

Concern over the accuracy of the biodiversity assessment, including the percentage of the survey coverage of the construction area. Based on a construction area of 3,980 hectares and field survey area of 1,300 hectares, it was commented that the field work coverage is closer to 32 per cent than 70 per cent as noted in the EIS. The submission also highlights the importance of critically endangered Grey Box, Yellow Box and Red-Blakely Gum Woodland.

Concern the construction site APZ's were not included in biodiversity impact calculations.

#### Response

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with Commonwealth and State legislation and the Biodiversity Assessment Method (BAM) (DPIE, 2020a). The BAM calculator (BAM-C) specifies the type and extent of surveys required for a biodiversity assessment.

The field surveys targeted land subject to a development, activity, clearing, biodiversity certification or a biodiversity stewardship proposal. Land within the construction area which would not sustain native vegetation (e.g. roads and active mining areas) was excluded from the field surveys. Category 1-exempt land (as defined in Part 5A of the *Local Land Services Act 2013 (NSW) (LLS Act)*) was also excluded from the assessment, other than for prescribed impacts (as defined in clause 6.1 of the Biodiversity Conservation Regulation 2017 (BC Regulation)). For clarification 70 per cent of the relevant subject land was surveyed as part of the EIS and BDAR.

Since the exhibition of the EIS, additional biodiversity field surveys within the amended construction area have been undertaken to account for the revised construction area associated with the proposed amendments, as well as additional parcels of land where access was not possible during preparation of the BDAR to support the EIS. An updated BDAR is provided in the Appendix G of the Amendment Report.

While efforts have been made to avoid biodiversity impacts, for example, by locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines, some impacts have not been able to be avoided and will be addressed through biodiversity offsets.

Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. The BDAR recognises that there is a risk that the impacts to White Box-Yellow Box-Blakelys Red Gum Grassy Woodland would be a Serious and Irreversible Impact (SAIL). Opportunities to further reduce the impacts to native vegetation, particularly TECs, would be considered during detailed design.

The impacts of clearing of the APZs for construction and operation were included in the calculations for the biodiversity assessment.



## Management and mitigation

### Summary of issues

Concerns over the management and mitigation measures, including:

- how the clearing/removal of native vegetation would be managed, with reference to previous projects where vegetation was placed in piles, encouraging pest species (including feral animals)
- biosecurity management, especially where road upgrades are to take place and the presence of noxious weeds in existing road verges
- general biosecurity matters, and a lack of biosecurity planning in the EIS. Disconnect between EnergyCo and sub-contractors and the management of vehicle washdowns.

### Response

Biodiversity impacts would be managed in accordance with a Biodiversity Management sub-plan (BMP), which would be prepared and implemented as part the CEMP. The BMP would include at a minimum:

- the location and extent of areas of vegetation clearance and habitat disturbance, as well as procedures for clearing of vegetation, including pre-clearing surveys and procedures for the relocation of flora and fauna
- the location and extent of areas to be protected, and procedures for the removal of vegetation and protection of retained vegetation, including vegetation adjacent to construction areas
- weed management protocols
- procedures for unexpected TECs or threatened flora and fauna found during construction, including stop work procedures
- monitoring requirements and compliance management.

Biosecurity controls will be implemented during construction to minimise the risk of transport or spread of disease, pests or weeds. A Biosecurity Management Plan will be developed addressing the following protocols/matters including:

- review of the latest publicly available weed data including relevant Regional Strategic Weed Management Plans
- consideration of information on weeds identified in biodiversity studies undertaken for the project
- weed management controls, including inspection and cleaning of plant and equipment, and management of earthworks and clearing activities
- development of specific controls where high biosecurity risks are identified. For example appropriate measures will be implemented with respect to foot and mouth disease to control any risk of introduction of the pathogen as a result of project activities
- a monitoring program to track the effectiveness of the controls identified in the Biosecurity Management Plan
- consultation with the owners of organic certified properties will be carried out to identify the specific risks and controls required to be implemented
- notification of relevant councils of new infestations of priority weeds listed in the relevant Regional Strategic Weed Management Plans if identified.

The specific controls applicable to a property will be consistent with approved property biosecurity plans where they are in place. Agreed Property-specific protocols will be documented in the relevant Property Management Plans Biosecurity Management Plan.

The Biosecurity Management Plan will be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas.

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## 5.4.8 Social

### Potential impacts – construction

#### Summary of impacts

Concern that social impacts have not been addressed for the community of Cassilis, although some were rated as ‘high’. This included the mental health impacts of the community, landowners and businesses and a lack of services to assist.

#### Response

Impacts to mental health, well-being, stress, and social cohesion in the community are assessed in Technical paper 7 – Social in accordance with the SIA guidelines (DPE, 2023b).

While the SIA identified that these impacts would be more heavily experienced by landowners hosting infrastructure and adjacent neighbours, it also acknowledged that community members across the local social locality could experience some of these social impacts. Cassilis was assessed as part of the social locality, which reflects the area expected to experience the greatest level of social change associated with the project during construction and/or operation.

As per new mitigation measure S10, EnergyCo has provided a mental health support telephone service to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned. A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support in the local community.

Further discussion on the potential impacts to mental health, well-being, stress, and social cohesion in the community is provided in Section 4.12.1 of this report.

### Management and mitigation

#### Summary of impacts

Concern that a lack of mitigation measures were identified in the EIS to address the additional workers, and the impacts on local services (except for the medical centre at worker accommodation camps). The submission highlighted previously identified community requirements (during previous engagement), which have not been included in the EIS.

#### Response

The construction workforce is proposed to be housed in the workforce accommodation camps to minimise pressure on housing and accommodation availability in the region. It is anticipated that at the commencement of construction, prior to the operation of the workforce accommodation camps, a small number of construction workers would utilise existing local hotel, motel and rental accommodation. These numbers would generally be limited primarily to those required for the establishment of workforce accommodation camps, as well as a small number of project management personnel.

Construction material and supplies, including food supplies for workforce accommodation camps, would be sourced locally and in consultation with resource providers, where practicable, to benefit the local economy. Materials and supplies that are not available locally or are not available at the required quantity would be sourced from other locations within NSW.

The development and implementation of management plans and strategies for the project will provide a structured and accountable approach to managing social and environmental performance. A Workforce Management Plan (mitigation measure SI2) to be implemented during construction will include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc.

A detailed discussion regarding the approach to mitigation and management of potential social impacts of the project, including development of the Social Impact Management Plan and Communication and Engagement Plans, is provided in Section 4.12.7 in this report. Further discussion regarding the management of workforce accommodation camps is also provided in Section 4.3.2 of this report.

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## 5.4.9 Economic

### Regional economic impacts

#### Summary of issues

General concern on the impacts to local businesses and the lack of financial compensation.

#### Response

During construction, increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and rising inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to response to increased demand. In addition, the excess demand for resources for construction, such as quarry materials, concrete, and other construction materials, can result in rising costs for these resources and potentially shortages for other uses.

Compensation would be provided to landowners hosting project infrastructure on their properties. However financial compensation is not local businesses. However, as per mitigation measure S14, an Industry Participation Plan will be prepared in accordance with the Renewable Energy Sector Board Plan (Office of Energy and Climate Change, 2022) which details mitigation measures to manage impacts on local businesses during construction.

Further details on mitigation measures identified to manage impacts on local business during construction are outlined in Sections 4.13.2 to 4.13.4 of this report.

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## 5.4.10 Noise and vibration

### Impact assessment approach

#### Summary of issues

Noise Catchment Areas (NCAs) in the EIS do not cover Cassilis, and there are no current measured noise levels to assess the impact of traffic noise. In addition, concern that no assessment of the noise impacts on the Cassilis school, and the impacts on the learning environment for students. Highlighting impacts were assessed for Ulan Public School.

## Response

The noise assessment considers the noise impacts to Cassilis as part of NCA 9. The background noise levels for Cassilis were determined using attended and unattended noise monitoring in the area. The unattended noise monitoring was undertaken at a property located off the Golden Highway in Cassilis. The Rating Background Level (RBL) for NCA 9 was used to assess the potential noise impact and determine the level of mitigation. The Cassilis Public School would not experience noise impacts from construction activities for the project due to its distance from the construction area, which is about 3.7 kilometres. The noise impacts were assessed for the project along identified construction routes, including through Cassilis, as summarised in section 15.5.3 of the EIS. No traffic noise exceedances were predicted in Cassilis.

## Management and mitigation

### Summary of issues

Concern over a lack of mitigation measures with regards to traffic noise impacts in Cassilis, and the statement in the EIS that mitigation measures would be investigated where traffic noise levels increase by more than 2 dBA. Questions were raised over how this would occur without background noise monitoring.

### Response

Construction traffic noise management measures would be included as part of the Construction Noise and Vibration Management sub-plan to mitigate predicted road noise impacts including:

- driver training and measures to ensure driver awareness and adherence to speed limits and designated routes
- limiting traffic movements to daytime periods as far as reasonable and feasible
- minimising traffic movements by ensuring full loads
- restriction of heavy vehicle movements to standard (daytime) hours where feasible.

The mitigation measures would target where noise exceedances along the construction routes are predicted in the EIS and Amendment Report. Noise monitoring along construction routes is not proposed.

Mitigation measure NV3 details opportunities to reduce the impacts associated with construction noise levels through the implementation of proactive community consultation will be examined, confirmed and implemented where reasonable and feasible. If noise complaints are received, the complaint will be offered the opportunity for noise monitoring to be carried out to confirm the noise level at the receiver. Where noise monitoring confirms that the applicable noise predictions are being exceeded, the construction methodology will be reviewed and changes implemented to reduce construction noise levels to be compliant with noise predictions where reasonable and feasible.

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## 5.4.11 Hazards and risks

### Impact assessment approach

#### Summary of issues

Concern the assessment of bushfire risk was inadequate, stating it does not include consultation with local and regional rural fire fighting personnel with recent experience in the area, including Cassilis RFS personnel.

## Response

The bushfire assessment of the project, as detailed in Technical paper 10 – Bushfire, was prepared in accordance with *Planning for Bushfire Protection 2019* (RFS, 2019). The EIS and Technical paper 10 – Bushfire have been reviewed by RFS and they have provided comments as summarised in Section 7.12 of this report. The final design of the project and associated APZs will also be developed in consultation with RFS.

RFS would be the lead agency for combating bush fires in the region regardless of whether they were started by the project. Transmission lines will not prevent aerial firefighting activities from being carried out. It is noted that the RFS assesses each fire operation on a complete set of conditions for each individual occasion. Helicopter access to dams within the transmission easement would be restricted due to aviation safety requirements. Where the positioning of transmission line structures and other associated permanent structures will impact farm dams (likely in two to three instances along the project alignment), consultation will be undertaken with the affected landowner to identify opportunities to avoid or minimise these impacts, where practicable (mitigation measure AG2). Water within key locations including the energy hubs and switching stations would be provided during operation, and would be available for firefighting purposes in the event of a bushfire.

A comprehensive Bushfire Emergency Management and Evacuation Plan would be prepared to outline emergency response plan for the project and the FMP during operation. The Bushfire Emergency Management and Evacuation Plan would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated.

There are no identified difficulties in accessing and suppressing fires that could occur within the operation area. The project has existing and new connections to the surrounding road networks that service the region.

## Bushfire impacts – construction/operation

### Summary of issues

Concern over the resourcing of firefighting personnel in the event of a fire, noting recent Sir Ivan bushfire. It was questioned whether:

- EnergyCo will provide additional fire units and personnel at construction sites
- staff would undergo RFS training with local brigades each year
- the Network Operator would provide ongoing support once construction is finished
- concerns were also raised over communication methods (due to service constraints) if there is a fire during construction.

### Response

The Bushfire Emergency Management and Evacuation Plan would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. The plan would be prepared in accordance with NSW RFS's *Guide to Developing a Bushfire Emergency Management Plan* (RFS, 2014) and meet the requirements of *Australian Standard AS3745-2010 Planning for emergencies in facilities* and would include training to inform workers of bushfire risks and preventative actions, including risks associated with the operation (and maintenance) of vehicles, plant and equipment.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services will be undertaken for the project to establish processes for managing potential increased demands due to non-resident workforce (mitigation measure SI5).

## Management and mitigation

### Summary of issues

Concern over a lack of mitigation measures (beyond the establishment of a bushfire management plan) to address the risk of transmission lines arcing, causing bushfire.

### Response

The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe.

In addition to a comprehensive Bushfire Emergency Management and Evacuation Plan, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident which could ignite a fire. As per updated mitigation measure BF1, APZs for appropriate components of switching stations, energy hubs including the maintenance facility, construction compounds and workforce accommodation camps will be established in accordance with the requirements of the RFS's documents Planning for Bushfire Protection 2019 (Appendix 4) and Standards for APZs. The final design and associated APZs of appropriate components of switching stations and energy hubs (including the maintenance facility), will be developed in consultation with RFS.

## General hazards and risks – construction

### Summary of issues

Concerns over the presence, and use of dangerous goods and substances during construction, and the potential for the contamination of land and livestock. Issues raised, included how the of dangerous goods and substances would be managed (including the training of employees, and the documentation of use), and how information on their use would be communicated to landowners.

### Response

The use and types of hazardous materials used during construction are temporary and variable. Hazardous materials associated with the construction phase of the project are not expected to be significant quantities. The storage of these materials at the construction compounds would be sited and arranged so that hazardous materials are stored in accordance with all hazardous material standards and legislation, and at a suitable distance from any nearby sensitive receivers. All personnel required to work with dangerous goods and other hazardous materials will be trained in their safe use and handling (mitigation measure HA1). Spill kits for cleaning up chemical, oil and fuel spillages will also be provided in the construction area.

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## 5.4.12 Traffic and transport

### Impact assessment approach

#### Summary of issues

Concern and disagreement with the level of service (LoS) thresholds used in the traffic impact assessment in the EIS. Specifically, the assessed LoS of Ancrum Street, Cassilis, where residents park along the road verge, reducing traffic to one way flow and consideration of Coolah Road being a dual lane unsealed road capable of 100 kilometre per hour travel, however not considering local traffic use (e.g., farm vehicles), topography or road conditions.

## Response

The traffic impact assessment was undertaken in accordance with the SEARs and with reference to the requirements of relevant legislation, policies and/or assessment guidelines, as detailed in Chapter 3 of Technical paper 13 – Traffic and transport. Further traffic assessment has also been undertaken as part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to Transport for NSW comments. The additional traffic assessment is detailed in Appendix J of the Amendment Report.

The LoS adopted in the assessment of road network performance (mid-block) focuses on the volume to capacity ratio (V/C ratio) of the roads used as part of construction vehicle routes. This has been selected as the most appropriate method of assessment, with traffic volume metrics being the most accessible data consistently available throughout the study area. This LoS applies to mid-block sections of road and not intersection performance.

The posted speed limits included throughout the traffic impact assessment for local roads are obtained from Transport for NSW's Open Data. Selection of construction routes was informed by review of the project construction area, prioritising roads that connect to the construction compound, workforce accommodation camps and broader road networks. Further evaluation of the construction routes will be undertaken during detailed construction planning. In order to address and manage safety impacts on the roads, including Ancrum Street, a road safety audit will be conducted to identify and implement appropriate controls.

## Construction traffic impacts

### Summary of issues

Road safety concerns due to the preferred construction route for the transmission line and M1 switching station passing through the village of Cassilis (Cassilis Road, Ancrum Street, and Coolah Road). Issues highlighted included:

- the school zone not identified in the EIS, a lack of turning lands for parents, and a lack of pedestrian paths for school children
- the steepness of Ancrum Street, and potential for traffic build up and blocking of the narrow bridge over the Munmurra River (which is only suitable for one vehicle and is also part of the local walking track to access open space and facilities across the river).

### Response

The traffic impact assessment was undertaken in accordance with the SEARs and with reference to the requirements of relevant legislation, policies and/or assessment guidelines, as detailed in Technical paper 13 – Traffic and transport. Further traffic assessment has also been undertaken as part of the Amendment Report to assess proposed amendments to the project since exhibition of the EIS and in response to Transport for NSW comments. The additional traffic assessment is detailed in Appendix J of the Amendment Report.

A discussion on the potential construction traffic impacts of the project, including road safety and its management is provided in Section 4.16.2 of this report.

In order to address and manage safety impacts on the roads, including Ancrum Street, a road safety audit will be conducted to identify and implement appropriate controls prior to construction.

## Management and mitigation

### Summary of issues

Concern regarding a lack of mitigation measures to address the points above (such as pedestrian bridge over the Munmurra River, warning light at the school, or a pedestrian footpath for students) or consideration of an alternative construction route to access the northern section of the alignment.

## Response

Mitigation measure T4 addresses driver-related road safety concerns and includes the development and implementation of a Driver Code of Conduct to define acceptable driver behaviour, promoting road safety and minimising the impacts of construction related vehicle movements on local roads and community. The mitigation measure also accounts for load limits and fatigue management and an establishment of a Driver Fatigue Management Plan, integrated to the CEMP to address driver fatigue risks, planning regular breaks and mapping locations of drivers rest areas along the proposed construction routes.

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

Further consideration of the issues related to road safety risk from the project are detailed in Section 4.16.7 of this report.

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## 5.4.13 Waste management

### General waste management

#### Summary of issues

Concerns relating to the waste management for the project. Specifically highlighting the limited opening hours of some smaller waste facilities. Which may then require additional transport and additional vehicle movements, which may not have been included in traffic assessment for the project.

#### Response

As stated in mitigation measure WM6, only waste streams that cannot be re-used on site would be transported to appropriately licenced waste disposal or transfer facilities or other facilities lawfully able to accept materials. EnergyCo has undertaken ongoing consultation with each of the relevant local councils throughout the development of the proposal.

The estimates of project traffic movements have taken into consideration material transfers to and from the construction area throughout the day.

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## 5.4.14 Climate change and greenhouse gas emissions

### Greenhouse gas emissions

#### Summary of issues

Concerns about the lack of information on the carbon emissions for the current Central West REZ development.

#### Response

Assessment of greenhouse gas (GHG) emissions was completed in accordance with relevant legislation, policies and assessment guidelines. The GHG assessment was prepared using the National Greenhouse Gas Accounts Factors (DCCEEW, 2021).



The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during project construction are estimated at 611,607 tCO<sub>2</sub>-e. A breakdown of GHG emissions for project construction is detailed in Table 19-34 of the EIS, and includes GHG emissions associated with production of materials, transportation of materials and construction. Table 19-34 also indicates emissions associated with the production of materials, including steel and concrete, are estimated at 516,554 tCO<sub>2</sub>-e.

Further consideration of the issues raised regarding greenhouse gas is provided in Section 4.22 of this report.

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## 5.4.15 Cumulative impacts

### Traffic and transport

#### Summary of issues

Concerns on the assessment of cumulative impacts on the Golden Highway, and townships of Merriwa and Cassilis. These include general concerns over the traffic and transport impacts, the impact assessment approach, and management and mitigation measures. Specifically, the submission disagreed with the outcomes of the assessment, and included:

- a lack of detailed information on total vehicle numbers on the Golden Highway (Port to REZ), with unclear figures, proposed developments not included and failure to consider the increase in traffic during harvest season
- a lack of information on the impacts of OSOM and heavy vehicle movement on the town of Merriwa (including safety risk and impacts to community and business) and view that a holistic approach to the traffic and transport corridor has not been undertaken (i.e. outside the Central-West Orana REZ boundary).

#### Response

Developments with construction routes that overlap with this project have the potential to increase the number of construction vehicles on the road network. A quantitative cumulative impact assessment of potential traffic impacts including consideration of the Golden Highway was completed and is detailed in Appendix L of the Amendment Report.

The assessment indicates that the additional traffic volumes generated by the 18 relevant future projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS A for all routes) maintained on most roads including the Golden Highway.

Each project would be responsible for their impact on local road conditions, which would mitigate the potential cumulative impact on road conditions. Prior to construction of the project, the Network Operator would be required to undertake pre-condition surveys of local roads along the construction route to record their condition along the construction routes on local council roads to confirm the existing condition of the road. Any rectification works that are required as a result of the project would be completed in consultation with the relevant council.

The cumulative increase in traffic due to multiple project would increase interactions with the road network and also introduces risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact. A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

EnergyCo is proposing to upgrade certain roads, as described in the Amendment Report, that would be used to access the construction area to ensure they can support OSOM movements. These upgrades would assist in mitigating some of the potential cumulative impacts related to road safety and use of OSOM vehicles.

EnergyCo has also recently finalised an agreement with Transport for NSW to facilitate the upgrade of the State's road network to support OSOM movements between the Port of Newcastle and the Central-West Orana REZ. The upgrades delivered by these works would provide REZ-wide traffic and transport benefits.

## Social

### Summary of issues

Concerns over the cumulative impacts on the social fabric of the local community, specifically highlighting the cumulative impact of the workforce accommodation camp and the proposed worker camp by TILT renewables on Cassilis Road.

### Response

The cumulative impact assessment included the assessment of social impacts including those affecting agriculture and food production, community cohesion, sense of safety, capacity of health, food, and social services, sense of place and mental health impacts due to bushfire risk. This project's contribution to these impacts would range from minimal to moderate.

The updated cumulative SIA provided in Appendix L of the Amendment Report includes the assessment of the following potential cumulative impacts:

- stress amongst neighbouring landowners due to perceived uncertainty in the local property market
- unequal distribution of impacts and benefits for landowners neighbouring project infrastructure
- tourism impacts due to reduced accommodation and changes to landscape and character
- stress amongst landowners due to perceived health and safety risks associated with electromagnetic fields
- changes to community cohesion due to community members leaving the region.

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## 5.4.16 Issues beyond the scope of the EIS

### Impacts of renewable energy projects

#### Summary of issues

Disagreement with agricultural practices and energy infrastructure co-existing. Specifically, the co-location of sheep grazing with solar farming, a lack of long-term evidence of this working, and implications for farm insurance costs.

#### Response

The development of renewable energy generation projects in the Central-West Orana REZ does not form part of the project and those generation projects are subject to separate planning and environmental approvals. The environmental and social impacts of each project would be assessed and determined in accordance with Commonwealth and NSW planning legislation. The impacts specific to renewable energy projects, such as solar farms, are outside the scope of the assessment for this project. The management of grazing practices at solar farm would be at the discretion of the landowner and solar farm proponent.

If landowners are experiencing difficulties obtaining insurance or experiencing increased insurance premiums as a result of the project, EnergyCo will work with the affected landowner to resolve this issue.

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## 5.5 Central West Environment Council

The Central West Environmental Council provided a response to the public exhibition of the EIS dated 7 November 2023. The submission highlighted the need for renewable energy and the rapid transmission away from fossil fuels, however, stated concern over the scale and concentration of the Central-West Orana REZ in the region. Specifically highlighting the impacts of the project on Biodiversity. This section provides a summary of the issues raised within the CWEG submission and consideration of those issues.

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### 5.5.1 Strategic context

#### Route selection – transmission lines (above vs below ground)

##### Summary of issues

Concern the assessment fails to assess alternatives such as an underground easement or investment in microgrids (in comparison to large scale transmission).

##### Response

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. Based on the factors outlined in section 2.7.3 of the EIS, locating high voltage transmission lines underground is not considered to be a viable option for this project.

Undergrounding the transmission lines would involve excavation of a trench, or multiple parallel trenches where more than one high voltage transmission circuit is required, over the entire length of the alignment. Reactor switching stations the size of New Wollar Switching Station would be required around every 40 kilometres along the underground transmission alignment. A reactor switching station is a facility where underground cables emerge from the ground and are connected to an above ground structure and terminated. They are used to ensure safe voltages and operating conditions are maintained. These have the potential for significant disturbance to agricultural activities, biodiversity and heritage as well as increasing project costs for construction and maintenance, compared to overhead transmission lines.

An underground transmission line would have a more favourable impact in terms of visual amenity (as most of the transmission line infrastructure would be placed underground), aerial operations, easement width and avoidance of bird and bat strikes (and associated biodiversity impacts). However, it would have a number of greater negative impacts relative to the project as proposed. Environmental and engineering constraints associated with undergrounding of project transmission infrastructure include:

- 500 kV or 330 kV transmission lines underground requiring more extensive clearing of vegetation associated with trench excavation. As a result, underground transmission lines would have a significantly greater impact on biodiversity than overhead transmission infrastructure with additional cost to offset impacts
- significant visual impacts associated with vegetation removal and the presence of the large reactor switching stations

- an easement where land use is more restricted when compared to overhead transmission lines, as there would be restrictions on vehicles mass, depths of excavation or ploughing, depths of planted material, placement of fill material. Agricultural impacts would be further exacerbated by vegetation growth in the easement being restricted by the shallow depth of soil and heat emanating from the underground transmission lines
- repairing a cable fault can be challenging and time-consuming compared to an overhead line resulting in increased time required to restore the power supply
- noise levels associated with above ground reactor switching stations would introduce a new noise source. It is important to note that the noise and vibration assessment for the project as proposed identified one dwelling as experiencing a negligible level of exceedance during the night time period for corona noise. There were no exceedances of operational noise levels for switching stations or energy hubs.

The Legislative Council's Standing Committee on State Development conducted an inquiry into the feasibility of undergrounding transmission infrastructure for renewable energy projects due to the rapid transformation of the NSW electricity system. A report from the inquiry was published in August 2023. The findings included that undergrounding transmission infrastructure would involve higher costs and a longer construction period (Legislative Council, 2023).

The Select Committee on the Feasibility of Undergrounding Transmission Infrastructure for Renewable Energy Projects was established in September 2023 to inquire and report on the feasibility of undergrounding. EnergyCo's submission to the Select Committee set out the physical challenges, operational reliability, maintenance requirements, environmental and economic impacts associated with placing transmission infrastructure underground.

AEMO published the 2023 Electricity Statement of Opportunities (ESOO), which provides technical and market data for the NEM over a 10-year period to inform the planning and decision-making of market participants, new investors, and jurisdictional bodies. This includes consideration of rooftop solar, home battery storage systems and micro grids (electricity networks that can be operated independently of the grid). While the 2023 ESOO Central scenario includes rapid uptake of home and business based energy generation and storage devices, AEMO does not forecast that sufficient coordination of these devices will be successfully enabled to meet electricity demands. Utility scale energy generation is needed meet peak demand forecasts as opposed to micro-grids. While there is some policy support and expectations of cost reductions in the long term, there remains a large degree of uptake and coordination uncertainty, relying on homeowners to both install battery storage systems and to sign up for these to provide grid services.

AEMO is collaborating with market bodies and industry on a range of initiatives aimed at encouraging and enabling home and business-based energy generation and storage devices over the forecast horizon, and efficiently, securely and reliably integrating these into the NEM. The Australian Government Renewable Energy Agency (ARENA) are also funding a Regional Microgrids Program. However, to meet the legislated targets in the timeframes needed utility scale generation is needed as opposed to micro-grids.

## **Route selection – transmission lines (alternative alignment)**

### **Summary of issues**

Concern the proposed transmission line easement bisects the Durridgere SCA (a protected area of dense woodland vegetation), when there is cleared lands nearby, which the Central West Environmental Council support as a preferred route.

## Response

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares.

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## 5.5.2 Biodiversity

### Impact assessment approach

#### Summary of issues

Concern the assessment does not include the final estimate of vegetation clearing for the project for the detailed design and is missing the offset of offset credits for the Wilpinjong Coal mine easement area.

Concern the EIS does not fully describe the loss of threatened species habitat, as the final route of the transmission line is incomplete, and additional information has been left to the detailed design stage. Highlighting this stage will not be available for public comment.

#### Response

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with the BAM (DPIE, 2020a). Additional field surveys have been completed since exhibition of the EIS as summarised in section 5.5. of the Amendment Report.

The project as presented in the EIS and Amendment Report has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

The disturbance area would be confirmed during finalisation of the project design and construction methodology and would be developed with the aim of avoiding and minimising potential impacts to biodiversity, where practicable.

The Biodiversity Assessment Method does not provide for additionality, such as offsetting an offset. For these reasons the BDAR and revised BDAR do not include offset credits for this type of impact. However as identified in the EIS, and described more fully in the Amendment Report, EnergyCo applied a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives. These related to protecting minimum areas and restoring and enhancing ecosystem function including TECs, habitat for threatened species and wildlife corridors that connected to national park reserves.

EnergyCo has acquired a 684 hectare property adjacent to Goulburn River National Park. The land predominantly contains native vegetation in high to very high condition, around 80 hectares of Box Gum Woodland (compared to around 55 hectares impacted in mining offset areas), contains potential habitat for threatened species such as large forest owls and woodlands birds, is around six times the offset area impacted, and contains around 40 hectares of land needing restoration.

Given the size and biodiversity values present the land provides residual value for the project's offset liability which has been calculated in accordance with the BAM.

It is EnergyCo's intention to subsume the land into the adjacent Goulburn River National Park.

In addition, Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater.

If the project is approved, biodiversity offsets would be required to be obtained by the Condition of Approval for the project which would be based on the updated BDAR in Appendix G of the Amendment Report.

## Impacts to terrestrial biodiversity

### Summary of issues

Concern for the impacts to the critically endangered Regent Honeyeater were raised as potential cause extinction to this species.

### Response

EnergyCo established a transmission line corridor through the mining areas in response to strong community feedback on the previous study corridor that was developed by Transgrid that traversed high value agricultural lands on the Merriwa Cassilis Plateau. In doing so, EnergyCo sought to maximise the use of previously disturbed areas and co-locating with existing transmission infrastructure, to minimise environmental and land use impacts.

As noted in section 2.7.1 of the EIS, EnergyCo considered Wollar as being the best location to connect to the NEM given it connected to a 500 kV network. This connection point to the NEM, the need to avoid Goulburn River National Park, Munghorn Nature Reserve, and to utilise disturbed mining areas, set the trajectory of the transmission line alignment in this section of the project.

Complete avoidance of Regent Honeyeater habitat is not possible given the dispersed nature, and the need to also avoid intervening vegetated areas, and retain minimum buffers to dwellings. To minimise impacts it was decided to co-locate the project with the existing transmission line infrastructure.

The project would impact around 111 hectares of mapped 'important habitat' for the Regent Honeyeater, which represents around 0.37 per cent of the species' geographical range. This would result in localised fragmentation of the species habitat. However, the population is not currently considered to be severely fragmented (based on *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) criteria and regulations), and therefore there is no evidence that the population would become unviable as a result of the project's construction. The impacts to Regent Honey Eater habitat would be offset.

Mitigation measures B1 and B4 aim to minimise impact to minimise vegetation clearing. Sensitive areas will be avoided during detailed design and sensitive area plans will be prepared using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater. EnergyCo intends to transfer the land into the adjacent national park.

## Offsets

### Summary of issues

Concern the lack of a Biodiversity Offset Strategy in the BDAR or EIS demonstrates that biodiversity impacts are too great and cannot be justified or adequately mitigated.

## Response

The Biodiversity Offsets Scheme (BOS), established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation that have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

EnergyCo's strategy to secure biodiversity offset comprises the following options:

- establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project
- working with the Credit Supply Taskforce to purchase and retire biodiversity credits
- purchasing and retirement of existing biodiversity credits currently available on the biodiversity credit register
- making a payment into the Biodiversity Conservation Fund

EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund. EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

Subject to ongoing interest and detailed biodiversity surveys, the biodiversity stewardship agreements would address around half of the project's biodiversity offset liability, or most of the project ecosystem credits. It is noted that around 45 per cent of the project's offset liability relates to species credits, which aren't always present at biodiversity stewardship sites, or historically available on the market. If species credits cannot be retired through stewardship agreements, purchased on the open market or through the Taskforce, EnergyCo would need to pay into the Biodiversity Conservation Fund.

EnergyCo has acquired two properties as follows:

- a 684 hectare property adjacent to Goulburn River National Park to primarily offset the mining offset areas with residual values available for the project offset liability
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

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## 5.5.3 Cumulative impacts

### Cumulative impacts – biodiversity

#### Summary of issues

Concern the EIS describes the initial calculation of cumulative biodiversity loss, but not all proposed renewable energy generators or other major developments have been included.

Concern over the cumulative impacts on biodiversity, which the Central West Environmental Council calculated to be around 9,859 hectares of native vegetation, and which cannot be justified.

The submission highlighted the central west NSW is one of the most heavily cleared regions in Australia, and stated there is no clear indication of how the large number of species and ecosystem credits can be offset or retired. The submission also stated the cumulative loss of biodiversity is a major threat to a large number of threatened species which cannot adequately be mitigated.

## Response

Where available, the total impact to native vegetation from each project is provided in Appendix L of the Amendment Report, along with a list of the TECs and threatened species that would be impacted. The total ecosystem credit and species credit requirement for each project is also provided to provide an overview of cumulative offset requirements. Further detail on the cumulative biodiversity impacts are discussed in Section 5.2.17 of this report.

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## 5.5.4 Justification and conclusion

### Economic assessment and value for money

#### Summary of issues

Concern that the project may become obsolete before it is constructed, due to the increased uptake of household solar and fluctuations in wholesale electricity prices. Making large scale solar generators less viable.

#### Response

The transition towards renewable energy technology responds to the need to reduce the emission intensity of the electricity sector and to secure alternative sources of electricity supply to replace coal-fired power plants, which are scheduled to close. Investment in renewable energy projects is focused on regional areas of NSW with the best renewable energy resources.

The NSW Electricity Infrastructure Roadmap, including REZs, will deliver value for money by putting downward pressure on household electricity bills. The NSW Electricity Infrastructure Roadmap is expected to reduce wholesale electricity prices for consumers over the next 10 years based on modelling for the 2023 Infrastructure Investment Objectives report, prepared by AEMO Services as the NSW Consumer Trustee.

AEMO publishes the 2023 Electricity Statement of Opportunities (ESOO), which provides technical and market data for the NEM over a 10-year period to inform the planning and decision-making of market participants, new investors, and jurisdictional bodies. This includes consideration of rooftop solar, home battery storage systems and micro grids (electricity networks that can be operated independently of the grid). While the 2023 ESOO Central scenario includes this forecast rapid uptake of home and business based energy generation and storage devices, AEMO does not forecast that sufficient coordination and orchestration of these devices will be successfully enabled to meet electricity demands.

### Benefits of Central-West Orana REZ Transmission project

#### Summary of issues

Concern that the beneficiaries would not be the people of NSW and Australia, noting the beneficiaries would be international developers who will take profits offshore. The view that better outcomes would be achieved through more targeted investment of renewable energy closer to cities and urban areas where demand is greatest.

#### Response

The transition towards renewable energy technology responds to the need to reduce the emission intensity of the energy sector and to secure alternative sources of electricity supply to replace coal-fired power plants, which are scheduled to close. The project would have an overall benefit in reducing greenhouse gas emissions in the wider economy by enabling an increase in the generation of renewable energy in the grid, to replace carbon intensive fossil fuel generation.



The transformation of the NEM to a modern electricity system that includes new generation, storage and demand management is accepted at the State and Commonwealth government levels, supported by the current policies and legislation relating to electricity supply. REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources.

The project would enable 4.5 gigawatts of new network capacity to be unlocked by the mid-2020s and enable renewable energy generators within the Central-West Orana REZ, who are successful in their bids to access the new transmission infrastructure, to export electricity to the rest of the network.

Construction and operation of the project would provide positive economic activity to the regional and NSW economy through expenditure and the generation of jobs. The direct and indirect impacts on the regional economy during construction are estimated at up to \$512 million in average annual output (the gross value of business turnover in a region).

The EII Act sets out how NSW Electricity Infrastructure Roadmap costs are to be managed through the Electricity Infrastructure Fund. Distributors pay their contributions into this fund, based on the AER's contribution determination. Distributors then recover the costs from consumers as part of the network charges on electricity bills. As such the cost of the project would be borne by energy consumers rather than the taxpayer more generally.

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## 5.6 Community Power Agency

The Community Power Agency provided a response to the public exhibition of the EIS dated 8 November 2023. The CPA submission contains a series of recommendations and requests for information on the social and environmental impacts and benefits of the project. This section provides a summary of the recommendations and issues raised within the submission and their consideration.

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### 5.6.1 Strategic context

#### Governance and management of the Central-West Orana REZ

##### Summary of issues

Concerns about a lack of information on the strategy to increase the capacity of the Central-West Orana REZ from three gigawatts to six gigawatts, or information on the modifications required to enable this increase.

##### Response

The NSW Network Infrastructure Strategy released by EnergyCo in May 2023 identified a need to increase network capacity in REZs across the state in response to increasing demand for electricity. The strategy outlines options to increase the network capacity of the Central-West Orana REZ from 3 GW up to 4.5 GW initially under Stage 1, and around 6 GW by 2038 under Stage 2. This supports modelling showing more network capacity will be needed to meet NSW's future energy needs as coal-fired power stations progressively retire.

To align with this, the NSW Government proposed to amend the Central-West Orana REZ declaration to increase the intended network capacity from 3 GW to 6 GW. In August 2023, EnergyCo invited feedback on a proposed amendment to the Central-West Orana REZ declaration which would increase the intended network capacity of the REZ to meet future energy needs. The draft amendment to the Central-West Orana REZ Declaration was put on public exhibition for 28 days on EnergyCo's website to seek stakeholder feedback (close date 4 September 2023).

The exhibition period for the proposed Central-West Orana REZ declaration amendment was supported by a community consultation plan to keep stakeholders appropriately informed of the proposed change and how to provide feedback to EnergyCo.

Communications materials provided to the public to encourage stakeholder feedback included a media release, website updates, newsletter articles, emails, presentations and information packs for members of Parliament (MPs) and councils. Multiple EnergyCo newsletters were used to encourage stakeholders to provide feedback during consultation. A Central-West Orana specific newsletter was distributed to more than 600 subscribers and a hardcopy version of this newsletter was also distributed to 5,500 letterboxes in the Central-West Orana REZ. Additionally, an article on the consultation published in EnergyCo's broader newsletter was sent to more than 2,600 subscribers.

EnergyCo also engaged key stakeholder groups to explain the proposed changes to address any specific concerns. In July 2023, EnergyCo presented to the Central-West Orana REZ Steering Committee on the proposed amendment. Members of Dubbo Regional Council, Mid-Western Regional Council, and Warrumbungle Shire Council were present, and flagged a general level of comfort with the proposal. Separate meetings were organised with Gilgandra and Narromine Shire councils. EnergyCo is preparing follow up meetings with local councils to offer the opportunity for further feedback and responses to issues raised.

EnergyCo also consulted Central-West Orana REZ State MPs, First Nations groups, local environmental groups, market bodies, and the Roadmap Consumer Reference Group. Targeted consultation raised no material issues with the proposal. Some Steering Committee members were concerned over how frequently the NSW Government was planning to incrementally increase the REZ, suggesting value in increasing the amendment now to incorporate future capacity rather than returning multiple times. Narromine Shire Council sought further engagement to understand increased developer impacts, and Mid-Western Regional Council General Manager supported right sizing the REZ now to enable future network expansion without further lines or towers.

The NSW Electricity Infrastructure Roadmap and NSW Network Infrastructure Strategy outline the coordinated approach to deliver transformational change and meet the renewable energy generation targets across a 20-year horizon. The NSW Network Infrastructure Strategy includes further options for each REZ under the Secure Now and Plan for the Future categories. The options identified for the Central-West Orana REZ include:

- an additional 2.3 GW capacity by 2038, delivered by upgrading the Merotherie–Elong Elong lines to 500 kV, with an extension to Burrendong and upgrade in the Mt Piper area (anticipated delivery in the 2030's)
- an additional 3.5 GW capacity if needed, delivered by utilising the Merotherie–Elong Elong line to its full capacity, with extensions to the Gilgandra-Tooraweenah area and Stubbo (anticipated delivery in the 2040's).

These extensions to the project are not currently being scoped and developed. Any planned extensions to the transmission network would be further investigated developed in accordance with the NSW Network Infrastructure Strategy. As Infrastructure Planner, EnergyCo will develop the design of each option, with detailed stakeholder engagement, before recommending a network solution to the Consumer Trustee for authorisation.

## Community benefits scheme

### Summary of issues

Concern was expressed regarding a lack of further detail (as referenced in EIS Chapter 5 (Community and stakeholder engagement)) on the community benefits framework (including amount, timing, or governance structures). Stating the EIS only documents the engagement process to date, and it seems counterproductive not to be forthcoming with information and strategies. The submission goes on to highlight:

- a lack of detail on how the community participation will be designed into the governance of the community benefits sharing framework
- more detail is needed on the community participation in the ongoing decision-making process, including how funds are allocated
- more detail on how the community benefits program would interact with existing and future project level programs
- consideration of how funding partnerships with local organisations to deliver ongoing impact, and
- independent timeframes and eligibility criteria that makes it difficult to combine and leverage funding from other sources to create more legacy projects.

The submission also suggested that a local workforce participation strategy should be delivered at approval, and not construction and indicate how the workforce capacity would be developed and resources.

### Response

A Community and Employment Benefits Program is being developed by EnergyCo separately to the project to deliver tangible benefits to regional communities hosting new energy infrastructure. It sets out the framework through which funding is allocated to initiatives to minimise REZ cumulative impacts and to achieve a community or employment outcome in the REZ. The Program represents the NSW Government's commitment to share the benefits of the renewable energy transition with regional communities.

The Community and Employment Benefits Program is described in further detail in Section 4.1.9 of this report.

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## 5.6.2 The project – construction

### Construction workforce

#### Summary of issues

Queried the sourcing of the project workforce. They noted that trainee and apprentice positions were viewed as the most important initiative, but raised questions over how EnergyCo would support local workforce development in a suitable timeframe for construction, what percentage of the workforce would be locally sourced, and how workers would be sourced given the global shortage of workers.

#### Response

It is estimated that approximately 10 per cent of the construction workforce could be sourced from the local area, and the remaining workforce could be sourced from within NSW. The extent of employment of local workers would depend on the availability of workers during the construction period, which would be influenced by a range of economic and social factors.

As per mitigation measure SI4, an Industry Participation Plan will be prepared and implemented which will:

- identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery)
- identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand
- provide local and Indigenous procurement targets
- identify tailored ‘meet-the-contractor’ events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project
- monitor the availability of key goods and services to the local community when procured locally.

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### 5.6.3 Community and stakeholder engagement

#### Consultation on the project

##### Summary of issues

The submission highlighted the importance of meaningful community engagement, and ensuring that the project is well understood by the community. It included International Association for Public Participation’s (IAP2’s) spectrum of public participation process, and outlined the view that the project should go ‘above and beyond’ to inform and consult the public. Specifically recommending that EnergyCo must clearly communicate the range of opportunities in which local stakeholders can participate in a way that influenced the decision-making process, and participation and input from the wider community must be encouraged early in the planning process, through construction and into operation.

The CPA submission also provided additional feedback on the resourcing of communities to participate in consultation, stating that not providing resources to community members to participate sends the message that the community’s time is not valued.

It is recommended that sitting fees and fuel vouchers are provided to contribute to travel GPSs, and equitable compensation for participation and engagement is becoming a norm that demonstrates respect and gratitude for time and expertise, and ensures a more diverse range of participants.

##### Response

EnergyCo’s communication and engagement approach broadly aligns with *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022c) and *Quality Assurance Standard for Community and Stakeholder Engagement* (IAP2, 2015).

Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. A range of methods have been used to notify the community of consultation opportunities, such as letterbox drops, local media print advertisements, social media, radio announcements, emails and website updates.

The approach to engagement and communications considered different stakeholder needs and expectations. No compensation was provided to community members to participate.

## Future community and stakeholder consultation

### Summary of issues

The submission included the recommendation that moving forward EnergyCo should deepen community participation (not just consultation) into the decision making processes, that is, for the established working group to 'involve' and 'collaborate' elements of the IAP2 spectrum.

The submission also included the view that the apparent lack of these types of opportunities may be contributing to community fears with respect to their ability to influence decisions.

The submission recommended that quarterly meetings of the community, indigenous, workforce and skills working groups should continue during construction, and into delivery of the community benefit framework, and that the social impact management plan be co-designed with the working group with the above points in mind.

### Response

As outlined in Section 3.6 of this report, ongoing consultation with the community, landowners, government agencies and key stakeholders will continue throughout the development of the project, up to and during construction.

EnergyCo established a Community Reference Group in August 2022 to provide an open forum for discussion between EnergyCo, community representatives and key stakeholders in relation to the project and Central-West Orana REZ. Community Reference Group meetings will continue to be held at least once per quarter, with the meeting dates and times to be agreed upon by the members.

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## 5.6.4 Biodiversity

### Terrestrial biodiversity impacts – operation

#### Summary of issues

Concerns were raised regarding the impacts of the project on biodiversity once operational as the submission suggests that little research exists on the biodiversity impacts of transmission infrastructure. The submission recommends research and monitoring (before and after control impact studies) be considered to better understand impacts on flora and fauna.

The submission also includes the recommendation that EnergyCo and operators should consider opportunities for good management practices post construction (including pest management, and revegetation).

#### Response

Ongoing vegetation management would be carried out to maintain vegetation heights to manage risks associated with bushfire and provide adequate clearance within transmission line easements. The impacts of this activity have been factored into the construction impact assessment through the predicted impacts to vegetation integrity.

Maintenance activities have the potential for:

- inadvertent impacts to retained threatened flora or habitats that occur at ground level due to trampling or unauthorised material, storage, vehicle and plant equipment being placed in these areas. Should this occur, it would have a low impact on threatened flora or their habitats
- the spread of weeds and pathogens, which would lead to a reduction in native vegetation integrity (in the absence of controls).

All maintenance activities during operation would be subject to environmental protocols to ensure retained biodiversity values are adequately protected and appropriate biosecurity controls are in place (refer to Appendix B of this report).

The project has the potential to impact threatened fauna due injury or mortality arising due to collision with transmission lines and vehicle strike.

Impacts due to collision with transmission lines would typically affect larger and higher-flying birds, and which generally reside over larger territories, such as birds of prey, ravens and magpies, cockatoos and some parrots, waterbirds and waterfowl.

With respect to the impacts of EMF, it is widely observed that some bird species regularly use electrical transmission lines, towers and poles for perching and nesting. However, no conclusive evidence has been identified to suggest that EMF would have a significant effect on the long term viability of local bird populations, with the best mitigation considered being designing towers that discourage birds from nesting on them.

In terms of the risk of collision with transmission lines, while this type of indirect impact has the potential to lead to an increase in bird mortality, mitigation measures (including bird flappers/divertors) would be implemented to ensure the likely impacts are minimised. In addition:

- the project is mostly located well away from waterways and major wetlands that would provide habitat for large flocks of water birds, which reduces the overall risk
- transmission lines are likely to be below flight paths for most species.

With respect to vehicle strikes, maintenance activities requiring site access would be undertaken on a regular basis, however they would generate low volumes of traffic. As such, while the risk cannot be eliminated, the potential impact to threatened fauna species would be minor.

## Management and mitigation

### Summary of issues

The submission outlined the expectation that a robust and ambitious program for the mitigation of biodiversity impacts, and offsets should be developed, and noted the importance of retaining area of remnant vegetation as large areas have been impacted by agriculture. The submission acknowledged the practical avoidance and mitigation measures outlined in Technical paper 4 – Biodiversity, but questioned the maximum height of vegetation under transmission lines (two metres), considering this modest and precluding the retention of a number of important species.

The submission also outlined EnergyCo and the operator should consider opportunities for good biodiversity management practices post construction.

### Response

Vegetation within the operation area with growth heights of two metres and above (largely trees and shrubs) would be removed prior to and during operation, whereas native vegetation (including Derived Native Grasses and Derived Native Shrublands) with growth heights less than two metres would be retained. Where practicable, native vegetation would be retained throughout the operation area in accordance with project operational safety requirements (including bushfire risk management).

Biodiversity impacts would be managed in accordance with a BMP, which would be prepared and implemented as part the CEMP. The BMP would include at a minimum:

- the location and extent of areas of vegetation clearance and habitat disturbance, as well as procedures for clearing of vegetation, including pre-clearing surveys and procedures for the relocation of flora and fauna
- the location and extent of areas to be protected, and procedures for the removal of vegetation and protection of retained vegetation, including vegetation adjacent to construction areas
- weed management protocols

- procedures for unexpected TECs or threatened flora and fauna found during construction, including stop work procedures
- monitoring requirements and compliance management.

Monitoring, inspections and independent audits of the implementation on mitigation measures will be undertaken in accordance with the CEMP and the conditions in the project's planning approval. As per mitigation measure B2, prior to construction activities taking place within the Little Eagle nest buffer and during the breeding season (from Spring until after young and fledged in early Summer), an ecologist will be engaged to determine if the species is present. If present, an impact assessment of proposed activities will be completed to determine what, activities can take place within the buffer area, and what mitigation measures need to be implemented.

Mitigation measures have been identified to address biodiversity impacts including impacts on availability of nesting hollows. Mitigation measure B6 commits to preparing and implementing Supplementary Hollow and Nest Strategy will be developed and implemented for the creation of nest boxes or other hollow creation method to provide alternative roosting and/or nesting habitat for threatened fauna displaced during clearing.

Mitigation measures B1 and B4 aim to minimise impact to minimise vegetation clearing and disturbance of watercourses. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

Connectivity corridors are to be investigated in the form of installation of under transmission line glider poles (in accordance with clearance requirements for transmission lines and infrastructure) where the construction area will impact habitat connectivity for arboreal species. As per mitigation measure B5, the exact location and design of under-transmission line glider poles and/or rope bridges will be nominated as part of a Connectivity Strategy.

Guidelines and procedures for maintenance of the project during operation will be developed and implement as part of the Operational Environmental Management Plan (OEMP) or equivalent (mitigation measure B18). These guidelines and procedures will cover the following:

- vegetation clearing and maintenance commitments in the BDAR and EIS
- avoiding access and disturbance in areas of high biodiversity conservation significance; outside of the areas required for construction and
- avoiding maintenance of vegetation that does not need to be maintained during operation.

## Offsets

### Summary of issues

Concerns and recommendations with regards to biodiversity offsets, including:

- the view that where it is not possible to avoid damaging habitat, the standard should be set for offsets to be established as close as possible to the impact and all species offsets should be located in the same IBRA region
- offset area and management activities should aim to maintain or increase the actual local populations impacted, including fauna and flora in endangered ecological communities
- opportunities to preserve and extend existing reserves, TSRs or other valuable area should be investigated.

The submission questioned why the biodiversity offset strategy was not required at the EIS stage, and requested an outline of the proposed delivery approach for the biodiversity offset strategy, so it can be adequately assessed to see if offsets would be applied locally and with relevance to the affected species.

## Response

The design development of the project has aimed to avoid or minimise potential impacts including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and habitats. While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided.

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme. EnergyCo's approach to securing offsets is described in Section 5.5.2 of this report.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. Properties have already been purchased near Goulburn River National Park to offset the mining biodiversity offset areas which are traversed by the alignment, and near Capertee National Park to offset the entire Regent Honeyeater credit requirements. EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## 5.6.5 Social

### Potential impacts – construction

#### Summary of issues

The submission noted stakeholder concerns over workforce accommodation, and raised concern with respect to housing stress, something the project would exacerbate. The submission included the view that despite the strategy identified for workers accommodation, housing stress would not be eliminated, as project workers would arrive earlier and be required after worker camps are installed and dismantled.

The submission maintained the view that as EnergyCo should be managing the REZ access fee funds, evidence is needed of leadership and solutions-based thinking in this space. In addition, the submission questioned the absence of legacy housing initiatives in the EIS (aside from where it was a result of consultation with council) while the workforce accommodation fact sheets suggest EnergyCo is investigating legacy housing initiatives (and has formed a steering committee).

#### Response

The construction workforce is proposed to be housed in the workforce accommodation camps to minimise pressure on housing and accommodation availability in the region. It is anticipated that at the commencement of construction, prior to the operation of the workforce accommodation camps, a small (approximately 50 to 100) number of construction workers would utilise existing local hotel, motel and rental accommodation. These numbers would be limited primarily to those required for the establishment of workforce accommodation camps only, as well as a small number of project management personnel.

A Community and Employment Benefits Program is being developed by Energy Co separately to the project to deliver tangible benefits to regional communities hosting new energy infrastructure. It sets out the framework through which funding is allocated to initiatives to minimise REZ cumulative impacts and to achieve a community or employment outcome in the REZ. The Program represents the NSW Government's commitment to share the benefits of the renewable energy transition with regional communities. The types of projects that could be funded include:

- public infrastructure upgrades
- housing and accommodation



- training and employment programs
- health and education programs
- support for energy efficiency and local rooftop solar, and
- initiatives for First Nations people.

Initiatives funded under the program will be delivered through three streams:

- grants to targeted groups (e.g. local community groups, First Nations organisations, employment and training providers, councils)
- partnerships with agencies (e.g. NSW Government agencies that can deliver a community or employment outcome for the REZ)
- direct investment by EnergyCo (procurement or commissioning).

## Management and mitigation

### Summary of issues

The submission provides recommendations and views on a number of issues including various strategies and plans identified in the EIS. Specifically:

- advice with regards to the development of the Landowner Engagement Strategy, Property Management Plans, and Local Workforce Participation Strategy (including first nation participants) stating that to maintain community cohesion, there needs to be collaborative spaces to bring multiple stakeholders together to work transparently on local issues and impacts, limiting the creation of silos and further division
- highlighted that the social impact management plan should be co-designed with the identified working group and go further into the ‘involve’ and ‘collaborate’ activities outlined in the IAP2 spectrum
- highlighted that while the proposed worker accommodation camps would meet the bulk of accommodation needs for construction workers, it is disappointing that housing legacy was not raised as a strategy for mitigation housing shortages, and contributing to long term local challenges. The view was raised that the project provides a perfect opportunity to provide some legacy accommodation programs.

### Response

The development and implementation of management plans and strategies has been considered to provide a structured and accountable approach to managing social and environmental performance.

A detailed discussion regarding the approach to mitigation and management of potential social impacts of the project, including development of the Social Impact Management Plan and Communication and Engagement Plans, is provided in Section 4.12.7 of this report. Further discussion regarding the management of workforce accommodation camps is also provided in Section 4.3.2 of this report.

Additionally, further detail regarding Industry Participation Plan (mitigation measure SI4), Local Workforce Participation Strategy (mitigation measure SI3), and other strategies developed to maximise the delivery of project benefits is provided in Section 4.12.6 of the report.

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## 5.6.6 Economic

### Impacts to local businesses – construction

#### Summary of issues

Concern that despite the economic development opportunities identified for local communities, the reality of how the isolated and self-contained accommodation camps would support local businesses is unclear.

#### Response

The economic implications of the accommodation camps have both positive economic implications (i.e. they mitigate upward price pressure on local goods and services that would arise from workers being based in local towns, but in doing so, reduce the benefits of local spend on goods and services). In practice, the workers in the camps would use local shops and businesses to some degree.

As discussed in Section 5.4.9 of this report, the housing of workers in accommodation camps and the provision of food and beverage services would reduce the amount of money construction workers would spend in local towns in the region. However, mitigation measures have been identified to ensure local suppliers are considered during construction. As per mitigation measure SI4, an Industry Participation Plan will be prepared in accordance with the *Renewable Energy Sector Board Plan* (Office of Energy and Climate Change, 2022) to manage impacts to local businesses.

Further details on the economic impacts are also provided in Section 4.13.2 and Section 4.13.4 of this report.

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## 5.6.7 Cumulative impacts

### Impact assessment approach

#### Summary of issues

Concern the cumulative impacts of the renewable energy projects in the Central-West Orana REZ has not been adequately addressed.

#### Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). A supplementary cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

The cumulative impact assessment does not consider existing projects, only proposed projects, where an application has been lodged, and approved projects that have not started construction or that are currently under construction. This is because existing projects are considered to be part of the existing environmental conditions (for example the traffic from existing projects would form part of the existing road traffic conditions rather than be dealt with as a cumulative impact).

For the purposes of ensuring the assessment of cumulative impacts is conservative and captures the potential range of cumulative impacts, projects currently under statutory environmental impact assessment where an application has been lodged are considered. However, the approval of these projects would be subject to the determination of the consent authority.

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## 5.7 Climate and Energy Realists Queensland

Climate and Energy Realists Queensland provided a response to the public exhibition of the EIS (Undated). This section provides a summary of the issues raised within the submission and consideration of those issues.

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### 5.7.1 Cumulative impacts

#### Cumulative impacts – visual

##### Summary of issue

The submission objected to the presence of high voltage transmission lines and towers, highlighting the transition of the area into an industrial landscape of wind, and solar panels, and general concern regarding the associated environmental costs.

##### Response

The assessment of cumulative landscape character and visual impacts has considered the potential for the project, together with other projects planned or approved and not yet constructed, to transform the landscapes in which the projects are located. The cumulative impact assessment considered cumulative landscape character and visual impacts during the daytime and night-time.

This included consideration of the aesthetic qualities of large-scale transmission infrastructure, their visual prominence, the level of contrast with the existing landscape character and impacts on scenic views. The potential for the transmission infrastructure to transform character of the landscape character and views has been described as the magnitude of change which is a part of the assessment process.

The visual characteristics of solar and wind farm projects are not universally considered to be of visually unattractive, particularly wind farms.

The most substantial cumulative landscape character and visual impacts would be experienced

- in the landscapes between Gollan and Dunedoo
- between Tallawang and Spicers Creek (the central and western sections of the project), where multiple renewable energy projects are proposed in combination with this project
- in the landscapes between Cassilis and Leadville (the northeastern section of the project), where two large wind farm projects are proposed in combination with this project.

Views of these projects would be prominent and contrast with the undulating rural and forested hills of the surrounding landscape, including at night, when some private dwellings would have views of operational lighting at switching stations, energy hubs and operations and maintenance buildings.

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## 5.8 Edify Energy Pty Ltd

Edify Energy Pty Ltd (Edify Energy) provided a response to the public exhibition of the EIS (Undated). The Edify Energy submission outlined their interest in the related land and ongoing development efforts to establish the Ulan Solar Farm (SSD-46406974). This section provides a summary of the issues raised within the Edify Energy submission and their consideration.

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### 5.8.1 Strategic context

#### Route selection – transmission lines (alternative alignment)

##### Summary of issues

Concern that the Ulan Solar Farm has not been considered, and requests for alignment changes not actioned. The submission stated that should the easement route not be altered, approximately 35 per cent of the Ulan Solar Farm's intended development footprint will be impacted by the easement, undermining the requisite scale and economic viability to establish the Ulan Solar Farm as intended.

##### Response

It is acknowledged that in some locations along the project alignment the transmission line easement is subject to multiple community, environmental and technical constraints. Where this occurs EnergyCo have adopted a balanced approach to corridor planning to determine the most appropriate project alignment.

The location and configuration of the revised study corridor that be published for comment in February 2022 was largely developed in response to community feedback Transgrid received on their December 2020 preliminary study corridor, in addition to technical and environmental constraints. Issues raised through community feedback included a preference to locate the alignment on previously disturbed land and avoid high value agricultural land to the extent possible.

Due to the number of environmental and technical constraints through the mining areas the corridor was intentionally narrow, becoming narrower between Cope State Forest and the mining areas. This was to utilise cleared areas and avoid dense vegetation to the north of the corridor.

The revised study corridor was refined in response to community and landowner submissions from the February 2022 consultation, noting there was no public information on the proposed solar farm at this time, and was not raised as a potential concern.

Development of the project alignment through this section of the project sought to avoid or minimise conflicts with active mining areas, Goulburn River National Park, Regent Honeyeater habitat and dense vegetation to the north of Transgrid's existing 330 kV transmission line. This was best achieved by co-locating with Transgrid's transmission line.

The project alignment in this area was selected to avoid vegetation to the north of the existing transmission line. Minimising the impact on the proposed Ulan Solar Farm would have required an alignment shift, to the north of Transgrid's transmission line and Essential Energy's distribution line. This would have impacted the dense vegetation and increased the biodiversity offset liability. An alignment to the north would have also required extensive modification to the Essential Energy assets, presenting constructability and safety issues associated with working adjacent to the live 330 kV transmission line.

It is noted the area north of the current alignment was specifically identified by Edify in their scoping report for Ulan Solar Farm. Edify stated that they had elected to avoid developing the northern section of their study area due to the presence of mature biodiversity.

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## 5.8.2 Community and stakeholder engagement

### Consultation during project development

#### Summary of issues

Concerns that while they have actively been engaging with the NSW Department of Planning, Housing & Infrastructure (DPHI) and EnergyCo since November 2021, the Ulan Solar Farm proposal has been omitted from the easement route plans for the project. The Edify Energy submission outlined a series of key dates and engagement with EnergyCo up until October 2023. Broadly this included highlighting initial expression of interest for the Ulan Solar Farm, as well as dates associated with the submission of planning documents, and engagement with EnergyCo.

In summary, the submission seeks clarification as to why the Ulan Solar Farm has been omitted from the easement route plans for the project. Stating that unfortunately, the EIS does not make any reference to this consideration and has ignored the potential for both projects to proceed.

#### Response

The alignment for the project is within the revised study corridor that was published in the Central-West Orana Renewable Energy Zone Project Overview in February 2022. It is acknowledged the location of the Ulan Solar Farm, which was published in Edify's scoping report for Ulan Solar Farm in July 2022, extends within this study corridor.

EnergyCo considers that on balance, the current alignment of the Central-West Orana REZ transmission lines is within the preferred corridor, when considering biodiversity and the location of existing electrical transmission and distribution infrastructure.

In terms of the EIS not making any reference to the project, Chapter 7 of the EIS documents the assessment of changes to land use and impacts to property. The chapter includes a broad discussion of future land uses as it relates to planned and future renewable energy developments in the Central-West Orana REZ. The project does interact with proposed renewable energy developments in the REZ but the chapter does not specifically discuss individual project interactions instead focusing on land use changes.

Chapter 20 and Appendix E of the EIS documents the cumulative impact assessment in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). In applying Table 2 of the Guidelines, which set out what project are to be included as relevant future projects, Edify was not captured as the EIS had not been exhibited.

### Request for further information

#### Summary of issues

The submission requests EnergyCo provide justification for omitting Edify's State Significant Development when planning the 500 kV easement route. Edify has made representations to EnergyCo on 14 December 2022, encouraging a minor adjustment to the easement path, so that Ulan Solar Farm and Central-West Orana REZ Transmission could co-exist.

#### Response

As discussed in Section 5.8.1 of this report, the viable project corridor through this area was narrow and considered a range of environmental, engineering and social constraints. As noted above, moving the alignment north of Transgrid's 330 kV transmission line and Essential Energy distribution line would have placed the twin double 500 kV transmission lines with a combined width of 140 m for the permanent easement in an area of dense vegetation that was sought to be avoided. This would have required 140 m of clearing compared to the proposed alignment which is comparatively cleared.

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## 5.8.3 Cumulative impacts

### Impact assessment approach

#### Summary of issues

The submission requests EnergyCo clarification on why the proposed Ulan Solar Farm was excluded from the cumulative impact assessment in EIS Chapter 20 (Cumulative impacts).

#### Response

The Ulan Solar Farm was not considered in the cumulative impact assessment for the project due to its early stage in the planning phase. In applying Table 2 of the Guidelines, which set out what project are to be included as relevant future projects, Edify was not captured as the EIS had not been exhibited. The Ulan Solar Farm is also not a related development to the project.

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## 5.9 Environmentally Concerned Citizens of Orange

The Environmentally Concerned Citizens of Orange provided a response to the public exhibition of the EIS dated 7 November 2023. The submission outlined support for the project to support a move away from fossil fuels, but raised a number of concerns within their submission. This section provides a summary of the issues raised within the submission and consideration of those issues.

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### 5.9.1 Strategic context

#### Strategic context – project development

##### Summary of issues

Concerns of Green vs Green conflict and poor outcomes due to impacts on native wildlife habitat.

##### Response

The framework for developing and refining the project corridor was based upon three tiers of environmental, community and engineering constraints. These constraints were used in combination with the project objectives (as detailed in section 2.4 of the EIS), to develop the study corridor for the project and the basis for study corridor refinement.

It is acknowledged that in some locations along the project alignment the transmission line easement is subject competing community, environmental and technical constraints. Where this occurs EnergyCo have adopted a balanced approach to corridor planning to determine the most appropriate project alignment.

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. While efforts have been made to avoid biodiversity impacts, for example, by locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines, some impacts have not been able to be avoided and will be addressed through biodiversity offsets.

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## 5.9.2 Biodiversity

### Impact assessment approach

#### Summary of issues

Concern the EIS does not include a final assessment of biodiversity impacts as it final impacts will be determine during detailed design.

Concern and the view of inadequate attempts to identify critically endangered species and habitat potentially threatened by the project. The failure of the project to identify and account for already existing offset areas, and unacceptability that the project includes national park estate. The submission specifically identified concerns the Grassy Box Woodland ecosystem has not been adequately considered, and the EIS does not include a final assessment of biodiversity impacts, which would need to wait for detailed design of the route to finalise and then it is too late to alter design to accommodate changes.

#### Response

The EIS was assessed using a reference design, which includes sufficient detail to determine land and infrastructure requirements including the location and size of project features, and to inform constructability components.

The BDAR used the reference design to develop an indicative yet realistic disturbance model, with actual disturbance areas to be confirmed during detailed design.

On the basis the project is approved, the Network Operator would prepare a detailed design based on additional site investigations, technical specifications, topographical and access constraints, compliance with any planning approval requirements, and micro-siting of project features to avoid or further minimise impacts to environmental aspects.

It is noted that in developing a detailed design that seeks to avoid or further minimise impacts to biodiversity values, the Network Operator is also required to avoid or further minimise impacts to other environmental values such as Aboriginal and historic heritage items. In this regard, it is not always possible to avoid biodiversity values beyond the impacts assessed in the BDAR.

The general approach to locating project features within the assessed footprint is set out here. The Network Operator would review the spatial data from the BDAR and other EIS studies to identify key constraints and opportunities when developing the detailed design. The towers are designed as part of a coordinated transmission network, meaning the placement of one tower influences the placement of the next tower, and so forth. The Network Operator, which comprises a multi-disciplinary team, must take all this information into account, including biodiversity values and constraints, when making decisions on design including micro-siting of project features.

Confirmation of transmission tower siting locations is important as it sets the clearing extent of the permanent easement (Disturbance area A and B) and the adjacent hazard tree zone. This provides the opportunity for the avoidance of good quality Box Gum Woodland or other TECs if present on or outside of these disturbance areas at this time, but within the BDAR study area.

The Network Operator will review the location of final project features to ensure it does not result in increased impacts (compared to the BDAR), and look for opportunities to reduce impact, consistent with project commitments.

In carrying out vegetation clearing, the Network Operator would confirm the location and extent of vegetation to be cleared through pre-clearing surveys, demarcation of clearing extents onsite, and post-clearing survey. The Network Operator would typically only clear the minimum amount of vegetation necessary to facilitate construction and meet operational requirements.

The project is committed to ensuring that the clearing limits are not exceeded and will ensure that the total predicted clearing value is tracked and monitored against the limits.

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. The final design would not have greater biodiversity impacts than identified in the Amendment Report.

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with the BAM (DPIE, 2020a). The potential impacts to critically endangered species and habitat from the project have been based on a comprehensive program of field surveys and desktop research. An updated BDAR has been completed and is provided in Appendix G of the Amendment Report.

Developing an alignment through the mining areas, where there was existing infrastructure and transmission lines, had the advantage of maximising the use of existing disturbed land, avoiding Goulburn River National Park to the north, Munghorn Gap Nature Reserve to the south, and providing a strong connection to the NSW transmission system at Wollar. However, the narrow corridor and multiple operational mining constraints in this part of the construction area has resulted in a transmission line alignment that traverses the biodiversity offset sites. Impact to existing biodiversity offset areas were captured in the EIS and Amendment Report. The impacts to these sites would be offset in addition to the offsets required in accordance with the BAM.

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330 kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares. Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. The locations of TECs and habitat for threatened species will be considered and potential impacts avoided or minimised to the greatest extent practicable during finalisation of the detailed design and construction methodology.

## **General biodiversity Impacts**

### **Summary of issues**

Concern regarding potential biodiversity impacts of the transition to renewable energy, and that electrical infrastructure is being planned without appropriate consideration of impacts on the local environment.

### **Response**

A project of this scale and geographical spread would inevitably have impacts on the local environment and community, particularly during construction. This includes impact to biodiversity from vegetation and habitat clearing.

The design development of the project has aimed to avoid or minimise potential impacts including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and habitats. A partial clearing approach has also been adopted for the project that retains vegetation up to two metres in height within large parts of the final transmission line easement. For important ecological communities such as Box Gum Woodland in derived native grasslands or derived native shrublands, this approach avoids the total loss of species richness,



encourages continued presence of native species in these areas and limits the colonisation opportunities for introduced species.

While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided. Further detail on actions taken to avoid impacts to biodiversity during project development are described in Section 5.2.7 of this report.

## **Biodiversity – offsets/management and mitigation**

### **Summary of issues**

Concern that existing offsets have not been identified and accounted for, as well as general concern offsetting is not an ideal solution and the project does not identify clear and suitable offset arrangements. The submission stated that coal mine offsets have not been avoided, including the Wilpinjong Coal Mine Regent honeyeater biodiversity offset.

### **Response**

While efforts have been made to avoid impacts to biodiversity, complete avoidance is not possible when balancing other constraints such as distance to dwellings and high value agricultural lands such as BSAL. Further detail on actions taken to avoid impacts to biodiversity during project development are described in Section 5.2.7 of this report.

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would be secured in accordance with the Biodiversity Offset Scheme. EnergyCo's approach to securing offsets is described in Section 5.5.2 of this report.

The impacts to mapped important habitat for Regent Honeyeater including the habitat within the biodiversity offset sites associated with Wilpinjong Coal Mine were assessed and included in the credit calculations for biodiversity offsets. Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. Properties have already been purchased near Goulburn River National Park to offset the mining biodiversity offset areas that are impacted by the project, and near Capertee National Park, to offset the entire Regent Honeyeater credit requirements. EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## **5.9.3 Land use and property**

### **Impacts to conservation lands**

#### **Summary of issues**

Concern over project impacts to national park estate, and unacceptability of any impacts to these areas.

#### **Response**

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both

projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares.

No direct impact to national parks or state forests are proposed during construction or operation. The Goulburn River National Park, Tuckland State Forest and Cope State Forest are located directly adjacent to the project, but there would be no direct impacts to these areas.

EnergyCo established a transmission line corridor through the mining areas in response to strong community feedback on the previous study corridor that traversed high value agricultural lands on the Merriwa Cassilis Plateau. In doing so, EnergyCo sought to maximise the use of previously disturbed areas and co-locating with existing transmission infrastructure, to minimise environmental and land use impacts.

Developing an alignment through the mining areas, where there was existing infrastructure and transmission lines, had the advantage of maximising the use of existing disturbed land, avoiding Goulburn River National Park to the north, Munghorn Gap Nature Reserve to the south, and providing a strong connection to the NSW transmission system at Wollar. However, the narrow corridor and multiple operational mining constraints in this part of the construction area has resulted in a transmission line alignment that traverses biodiversity offset sites.

The Biodiversity Assessment Method does not provide for additionality, such as offsetting an offset. For these reasons the BDAR and revised BDAR do not include offset credits for this type of impact. However as identified in the EIS, and described more fully in the Amendment Report, EnergyCo applied a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives. These related to protecting minimum areas and restoring and enhancing ecosystem function including TECs, habitat for threatened species and wildlife corridors that connected to national park reserves.

EnergyCo has acquired a 684 hectare property adjacent to Goulburn River National Park. The land predominantly contains native vegetation in high to very high condition, around 80 hectares of Box Gum Woodland (compared to around 55 hectares impacted in mining offset areas), contains potential habitat for threatened species such as large forest owls and woodlands birds, is around six times the offset area impacted, and contains around 40 hectares of land needing restoration.

Given the size and biodiversity values present the land provides residual value for the project's offset liability which has been calculated in accordance with the BAM.

It is EnergyCo's intention to subsume the land into the adjacent Goulburn River National Park.

In addition, Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater.

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## 5.9.4 Issues beyond the scope of the EIS

### Impacts of renewable energy projects

#### Summary of issues

The submission highlighted the view that we need to urgently transition away from fossil fuels, but also preserve native habitat to avoid species extinctions, stating that unfortunately renewable energy plans (typified by the project) conflict with environmental values.

## Response

Achieving the Australian And NSW greenhouse gas reduction goals requires transformative low emissions technologies to be deployed at scale across all sectors of the economy, including electricity generation which is currently Australia's largest source of greenhouse gas emissions (accounting for 33 per cent of Australia's total annual emissions in 2020).

REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources.

The Central-West Orana REZ boundary was then identified based on consideration of the quality of the energy resource, economic considerations, investor and community support and considerations of environmental, heritage and land-use constraints.

The individual and cumulative biodiversity impacts of each project in the Central-West Orana REZ will be assessed and determined in accordance with the NSW planning framework.

## Governance and management of Central-West Orana REZ

### Summary of issues

The submission included the view that the current situation has the potential to develop into a 'Green vs Green' conflict which will not have good outcomes for either the Central West Orana Renewable Energy Zone or the environment. Recommending strategies where both sides can work together to achieve beneficial outcomes.

### Response

EnergyCo, as the Infrastructure Planner under the EII Act is responsible for planning, designing and coordinating the delivery and operation of the five declared REZ's and two priority transmission infrastructure projects in NSW.

As the Infrastructure Planner for the Central-West Orana REZ, EnergyCo is responsible for coordinating the delivery of the REZ, working with CFGs on initiatives to minimise cumulative impacts and delivering community and employment benefits in the REZ.

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## 5.10 Mudgee District Environment Group

The Mudgee District Environment Group (MDEG) provided a response to the public exhibition of the EIS dated 8 November 2023. The MDEG submission outlined support for the transmission away from fossil fuels, however raised concerns within their submission. This section provides a summary of the concerns and issues raised within the MDEG submission and consideration of those concerns and issues.

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### 5.10.1 Strategic context

#### Governance and management of the Central-West Orana REZ

##### Summary of issues

The submission supports renewable energy and the transmission away from fossil fuels, however to achieve the objectives, it must be consultative, and open to feedback and revision. This includes collaborative between network operators and foundation generators (including some outside the REZ).

## Response

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments. Five working groups were created reflecting the priorities identified during consultation comprising:

- housing and accommodation
- transport and logistics
- environmental services
- social services
- economic development.

A series of studies to establish benchmark levels of service or infrastructure provision across a number of Social Licence themes have been organised to inform decision making.

Ongoing engagement with the renewable energy projects connecting the project would be conducted to gather information to support cumulative impact initiatives and opportunities for co-funding positive initiatives in the region.

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## 5.10.2 Statutory context

### Detailed provided in the EIS

#### Summary of issues

Concerns with regards to the reliance on the detailed design and construction planning phase of the project to provide additional project information. They suggest all such plans be published and available for comment and feedback, to alleviate concerns about a lack of information and transparency.

#### Response

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. However, detailed design will be completed in accordance with the approved project as detailed in the EIS and Amendment Report.

During detailed design, if a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. If modifications are considered minor, the detailed design involves simply refining the design within the approved project boundary. If modifications are considered by the department, to result in material environmental impact beyond the approved project, they are published (and available for public comment). As such approval for any modifications would be sought in accordance with the requirements of Division 5.2 of the EP&A Act.

Consistent with industry best practice, management plans for the project are developed in consultation with relevant stakeholders following planning approval. This ensures appropriate management processes and strategies can be tailored to the project, incorporate necessary mitigation measures detailed in Appendix B, to minimise impacts identified in the EIS, and prepared in accordance with the conditions of approval. This industry best practice approach is known to be effective in best mitigating impacts of a project.

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## 5.10.3 Community and stakeholder engagement

### Consultation during project development

#### Summary of issues

Concerns relating to the selection of the revised study corridor, which in their view indicates a lack of consultation. This is based on the perceived view that the project EIS frames the establishment of the easement through bushland or mining land as more acceptable than farmland.

#### Response

Engagement with the community regarding the project initially commenced as part of TransGrid's study corridor development process between December 2020 and September 2021. Since that time the community has been kept informed of the project's development and invited to provide feedback at key decision points.

EnergyCo has been engaging with key stakeholders since early 2022 in the development of the project. Strong community feedback on the study corridor being considered by Transgrid was a critical aspect of the NSW Government's decision to relocate the corridor from the Merriwa Cassilis Plateau where there was high value agricultural land (BSAL), to a southern location that traversed mining areas.

EnergyCo has also considered community and landowner feedback during the project development phase, which contributed to realigning the 330 kV transmission line connection to the LRWF, and more recently alignment changes that have been made in response to landowner feedback. These transmission line changes are described and assessed in the Amendment Report.

### Request for further information

#### Summary of issues

The submission requested that all plans which are proposed to be completed during detailed design and construction planning are published and available for comment and feedback, to alleviate concerns about a lack of information and transparency.

#### Response

Management plans will be prepared in consultation with key stakeholders in accordance with the Conditions of Approval. Management plans approved by DPHI will be made publicly available on EnergyCo's website and the Major Projects portal prior to construction, where required.

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## 5.10.4 Biodiversity

### General biodiversity impacts/impact assessment approach

#### Summary of issues

Concerns with respect to the biodiversity impacts of the project including:

- the completeness of the biodiversity assessment due to the final route not being decided
- the unacceptability of estimated biodiversity loss
- unacceptable impacts to the Durrigere SCA, and existing biodiversity offset areas for Ulan, Moolarben and Wilpinjong Mines, with a perceived view that biodiversity loss is acceptable over farmers wishes.

## Response

The design development of the project has aimed to avoid or minimise potential impacts including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and habitats. While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided. Further detail on actions taken to avoid impacts to biodiversity during project development are described in Section 5.2.7 of this report.

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. On the basis the project is approved, the Network Operator would prepare a detailed design based on additional site investigations, technical specifications, topographical and access constraints, compliance with any planning approval requirements, and micro-siting of project features to avoid or further minimise impacts to environmental aspects. The Network Operator will review the location of final project features to ensure it does not result in increased impacts (compared to the BDAR), and look for opportunities to reduce impact, consistent with project commitments.

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330 kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares. Developing an alignment through the mining areas, where there was existing infrastructure and transmission lines, had the advantage of maximising the use of existing disturbed land, avoiding Goulburn River National Park to the north, Munghorn Gap Nature Reserve to the south, and providing a strong connection to the NSW transmission system at Wollar. However, the narrow corridor and multiple operational mining constraints in this part of the construction area has resulted in a transmission line alignment that traverses biodiversity offset sites. EnergyCo will offset these impacts in addition to the offset required for the project in accordance with the BAM.

## Offsets

### Summary of issues

Concerns there is not biodiversity offset strategy available for public comment and the current biodiversity offset system does not provide adequate protection for endangered ecological communities or threatened species.

There is no indication that like for like offsets will be available. In addition to the current offsetting system not providing protection to endangered ecological communities or threatened species, and results in net loss and biodiversity decline in the Central West region.

## Response

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would be secured in accordance with the Biodiversity Offset Scheme. EnergyCo's approach to securing offsets is described in Section 5.5.2 of this report.

The impacts to mapped important habitat for Regent Honeyeater including the habitat within the biodiversity offset sites associated with Wilpinjong Coal Mine were assessed and included in the credit calculations for biodiversity offsets. Determining the appropriate compensation for the impacts to existing mining biodiversity offset sites that are impacted by the project is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. Properties have already been purchased near Goulburn River National Park to offset the mining biodiversity offset areas and near Capertee National Park to offset the entire Regent Honeyeater credit requirements. EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## 5.10.5 Social

### Potential impacts – construction

#### Summary of issues

The MDEG raised concern that during construction a large number of additional people will be introduced (due to accommodation camps) into areas with current sparse populations, and once removed would provide no residual legacy or benefit to the area or community.

#### Response

The SIA acknowledged the influx of a large non-resident workforce could lead to changes to sense of safety within the local social locality, especially for vulnerable groups such as the elderly, women and children. While the construction workforce would reside in the workforce accommodation camps where food services and entertainment would be provided, workers would be permitted to visit local towns out of work hours. Changes to sense of safety would be experienced to a higher degree by the communities in Merotherie and Turill where the workforce accommodation camps are located.

The Workforce Management Plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others. The plan will be reviewed every six months to identify and manage any unanticipated impacts.

Mitigation measure to manage the social impacts of the construction workforce are described in Section 4.12.3 of this report.

### Community social benefits

#### Summary of issues

Concern workforce accommodation camps will introduce a large number of people into area with sparse populations. Once removed, there will be no residual legacy or benefit to the area or community. This will be the case for all other generator camps. Due to the housing shortage in the central west, it would be logical for the workforce camps to consist of housing that would be utilised into the mid- and long-term future. These should consist of low running cost, comfortable, safe and low impact. Consideration should be given to the following:

- passive solar design
- sustainable living

- living housing inclusion
- diversity of built form
- complementary design that acknowledges and respects heritage/streetscape.

The development of this accommodation planning should include councils, network operators and other renewable energy generators. This would provide benefits to all parties, with additional collaboration opportunities such as shared workforce (among operators and generators), car/work transport share scheme, and cross promotion opportunities/sponsorships with housing operators.

### **Response**

The workforce accommodation camp size, built form and layouts would be finalised during detailed construction planning. Electricity needs on site would likely be provided by connection of the construction site offices and workforce accommodation camps to the local electrical distribution grid. Generators would be used where it is not practicable to obtain power from the local grid or through the use of solar panels, at the construction compounds and workforce accommodation camps.

The workforce accommodation camps are expected to operate for the duration of construction. At the end of construction, the workforce accommodation camps would be demobilised and the sites would be cleared of any temporary infrastructure and equipment, and rehabilitated. It is not planned to prolong use of the camps after construction.

A response to the issues of community social benefits, including a discussion on the range of plans and strategies developed to maximise the delivery of project benefits provided in Section 4.12.6 of this report.

## **5.10.6 Cumulative impacts**

### **Impact assessment approach/biodiversity**

#### **Summary of issues**

Concern the cumulative impacts of biodiversity loss minimised the calculated loss, and not all proposed generation projects have been included. In addition the estimated clearing of 10,000 hectares of clearing as well as the described impacts on wildlife connectivity and habitat corridors is not justifiable.

#### **Response**

This project would contribute to the cumulative impacts to wildlife connectivity and habitat corridors and would potentially have one of the largest impacts to connectivity. This is due to this project bisecting large areas of native vegetation associated with Durridgere SCA and vegetation to the north of Tuckland State Forest. This project would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected for all species. The cumulative impacts to connectivity area expected to be permanent, though minor. They are likely to reduce over time as biodiversity acclimatises to the presence of the new infrastructure.

The wind farm projects would result in some interruption of aerial habitat through the introduction of potential turbine strike and barotrauma. In terms of the risk of collision with transmission lines, while this type of indirect impact has the potential to lead to an increase in bird mortality, mitigation measures (including bird flappers/divertors) would be implemented to ensure the likely impacts are minimised. In addition transmission lines are likely to be below flight paths for most species. Cumulative impacts from the project on the increase likelihood of bird strike would be minor.

Aquatic ecology impacts from the project would primarily be limited to the construction period and would be readily manage through mitigation measures. The project's contribution to cumulative aquatic ecology impacts would be minor.



Details on cumulative biodiversity impacts are available in section L3.3 of the Appendix L of the Amendment Report as well as summarised in section 5.15.2 of the Amendment Report.

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## 5.10.7 Environmental management

### Construction environmental management

#### Summary of issues

Concerns with regards to the reliance on the detailed design and construction planning phase of the project to provide additional project information. They suggest all such plans be published and available for comment and feedback, to alleviate concerns about a lack of information and transparency.

#### Response

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

As discussed in Section 5.10.1 of this report, consistent with industry best practice, management plans for the project are developed in consultation with relevant stakeholders following planning approval.

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## 5.11 Kareba Pastoral Co

Kareba Pastoral Co provided a response to the public exhibition of the EIS (undated). This section provides a summary of the issues raised within the submission and consideration of those issues.

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### 5.11.1 Agriculture

#### Impacts to agricultural practices – construction and operation

##### Summary of issues

The submission highlighted the area is an agricultural area, and raised concerns over impacts on agriculture, stating the challenge of agriculture, and the addition of restrictions on the ability of landowners to conduct their business. The submission also included concern over the industrialisation of the landscape and infrastructure impeding day to day farming activities.

##### Response

The Central-West Orana REZ has a long history of agricultural and mining activities, and while these land uses are expected to continue, the region is experiencing a shift in land use, as part of the larger energy transition. The project would require the use of agricultural land either permanently for operation or temporarily until construction activities are completed. The level of impacts on agricultural land use and productivity would vary depending on the scale and intensity of construction activities.

The project also has the potential to place restrictions on the movement of landowners, workers, livestock, and equipment within and across the construction area, temporarily and permanently limiting cropping and aerial agricultural operations, removal of vegetation (as shade or shelter), and changes to farm infrastructure such as fencing and dams. Mitigation measures have been developed to work in coordination with landowners. Individual Property Management Plans will be developed in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities (mitigation measure AG3).

Once operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure (the operation area is subject to ongoing refinement and would be finalised as part of continued design development). The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions.

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## 5.11.2 Biodiversity

### Terrestrial biodiversity impacts – construction

#### Summary of issues

Concern over the removal of trees and impact to native endangered species.

#### Response

The design development of the project has aimed to avoid or minimise potential impacts including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and habitats. While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided. Further detail on actions taken to avoid impacts to biodiversity during project development are described in Section 5.2.7 of this report.

Mitigation measures B1 and B4 aim to minimise impacts to minimise vegetation clearing and disturbance of watercourses. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would be secured in accordance with the Biodiversity Offset Scheme.

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## 5.11.3 Social

### Potential impacts – construction

#### Summary of issues

Concern regarding the impact of an influx of workers in temporary accommodation close to villages within limited amenities or inclination to provide support to them.

#### Response

The SIA acknowledged the influx of a large non-resident workforce could lead to changes to sense of safety within the local social locality, especially for vulnerable groups such as the elderly, women and children.

Impacts to sense of safety due to an influx of the non-resident workforce will be mitigated by the development of a Workforce Management Plan (mitigation measure SI2) prior to construction, which will include a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce (updated mitigation measure SI5).

Further details on proposed measures to manage the social impacts of the construction workforce are described in Section 4.12.3 of this report.

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## 5.11.4 Traffic and transport

### Construction traffic

#### Summary of issues

Concerns over the volume of traffic to and from construction sites and the inadequacy of roads for the increased demand. The submission also highlighted that the location of camps for temporary worker accommodation should be located on properties where landowners have offered to host wind turbines, reducing the movement of traffic.

#### Response

It is noted that the additional traffic movements from the project would bring a noticeable change to the local road environment. However, all local roads would still operate within capacity. All local roads that form part of the project construction routes would maintain the same LoS A or LoS B as per existing conditions within the study area, except for Ulan-Wollar Road, which would decrease from a LoS B to LoS C in the southbound/eastbound direction during the morning peak.

Further consideration of the issues related to traffic mitigation measures are detailed in Section 4.16.9 of this report.

Preferences for locating the accommodation and worker camps varies amongst stakeholders, with some preferring the camps be located within existing urban areas, and others preferring a location outside. Key considerations for selection of a site for workforce accommodation are detailed in locations included:

- minimising the number of camps required to minimise community impacts
- minimising travel time to the construction area
- avoiding the need for any compulsory acquisition where possible.
- ensuring suitable access to the road network
- minimising clearing by using land that has already been disturbed.

Construction workers would be transported between the construction areas and the workforce accommodation camps using both light and heavy (small bus) vehicles, to minimise potential traffic impacts of the project on local roads.

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## 5.11.5 Groundwater

### Groundwater impacts

#### Summary of issues

Concerns of the impacts of the project on aquifers, specifically the use of groundwater water resources for the project.

#### Response

Construction and operation of the project would not result in permanent inflow or take of groundwater. In the event surface water availability does not meet the project's non-potable water requirements during construction, temporary groundwater supply would be established at the Merotherie and Elong Elong energy hubs. The proposed bores would be subject to appropriate licensing, and all water would be extracted be in accordance with a WAL.

The assessment of groundwater extraction at the energy hubs was provided in section 19.3.4 of the EIS and Technical paper 17 – Groundwater. The assessment (refer to Table 19-22 of the EIS) concluded that the extraction proposed over the four-year construction period would result in 'no more than minimal harm' (as defined by the Aquifer Interference Policy) to the groundwater resource and surrounding sensitive receivers, such as other groundwater users or GDEs as both proposed bores would meet the assessment criteria for an acceptable level of impact.

Water is not proposed to be diverted from neighbouring properties for the project. Road upgrades, along Merotherie Road and Spring Ridge Road, as described in the Amendment Report, would require work within Talbragar River and Laheys Creek respectively. Mitigation measures would be implemented to minimise impacts on these waterways.

Section 5.2.16 of this report details the assessment of potential impacts to water supply and water resources.

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## 5.11.6 Cumulative impacts

### Visual

#### Summary of issues

Concern over the introduction of transmission lines to the landscape, in addition to wind turbines which would destroy the natural beauty, and result in an eyesore to the visual amenity of the agricultural region.

#### Response

The assessment of cumulative landscape character and visual impacts has considered the potential for the project, together with other projects planned or approved and not yet constructed, to transform the landscapes in which is the projects are located. The cumulative impact assessment considered cumulative landscape character and visual impacts during the daytime and nighttime.

This included consideration of the aesthetic qualities of large-scale transmission infrastructure, their visual prominence, the level of contrast with the existing landscape character and impacts on scenic views. The potential for the transmission infrastructure to transform character of the landscape character and views has been described as the magnitude of change which is a part of the assessment process.

The visual characteristics of solar and wind farm projects are not universally considered to be of visually unattractive, particularly wind farms.

The most substantial cumulative landscape character and visual impacts would be experienced:

- in the landscapes between Gollan and Dunedoo
- between Tallawang and Spicers Creek (the central and western sections of the project), where multiple renewable energy projects are proposed in combination with this project
- in the landscapes between Cassilis and Leadville (the northeastern section of the project), where two large wind farm projects are proposed in combination with this project.

Views of these projects would be prominent and contrast with the undulating rural and forested hills of the surrounding landscape, including at night, when some private dwellings would have views of operational lighting at switching stations, energy hubs and operations and maintenance buildings.

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## 5.12 Merriwa-Cassilis Alliance

The Merriwa-Cassilis Alliance (MCA) provided a response to the public exhibition of the EIS on 8 November 2023. The submission raised several concerns and outlined a series of recommendations. This section provides a summary of the concerns and issues raised within the MCA submissions and consideration of those concerns and issues.

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### 5.12.1 Strategic context

#### Renewable Energy Zones

##### Summary of issues

Concern regarding the strategic decision making on the location of renewable energy projects. Stating priorities should be to position them closer to areas of higher usage, metro areas, which would reduce land use conflicts, transmission line costs, and minimise impacts on agricultural businesses, homes and rural communities. In addition, the submission requested that important agricultural land should be mapped as 'no-go zones' for renewable energy projects.

The submission added the view that there is an opportunity for all governments to change their approach to energy reduction and security, and that a national approach is required. One that ensures best practice, and genuine, fair and transparent consultation.

##### Response

As detailed in Section 4.4.1 of this report, REZs, including Central-West Orana REZ, have been declared by the NSW Government to ensure security and reliability of the NEM in the wake of the reduction in coal-powered electricity and to reduce carbon emissions to meet legislated targets.

AEMO's 2018 Integrated System Plan (ISP) notes the most cost-effective replacement of coal-fired energy generation, based on current cost projections, is a portfolio of utility-scale renewable generation, energy storage, distributed energy resources, flexible thermal capacity including gas-powered generation, and transmission' (AEMO, 2018). REZs are the preferred development option for renewable energy projects when compared to a spread of projects, as clusters of large-scale renewable energy can be developed to promote economies of scale in high-resource areas and capture geographic and technological diversity in renewable resources.

Potential land use impacts to were taken into account when developing the potential priority REZs in NSW. The Central-West Orana REZ boundary was then identified based on consideration of the quality of the energy resource, economic considerations, investor and community support and considerations of environmental, heritage and land-use constraints.

## Project development

### Summary of issues

Concern that EnergyCo has failed to understand and cost the risk of transmission line infrastructure on landowners, businesses and the rural community. The submission outlined recommendations on renewable energy projects and infrastructure (including transmission lines) including, where possible they should utilise public land, already disturbed mining land, existing infrastructure, wind and solar farm hosts land, and industrial areas. In addition, the submission identified the need to protect BSAL and important agricultural land and have less impact on homes and rural communities.

### Response

Development of the project has been informed by community and landowner feedback, including agricultural land use concerns. Notably, the transmission line alignment avoids high value agricultural lands associated with the Merriwa Cassilis Plateau and instead traverses of mining land (more generally the avoidance of the highest value agricultural land was a key consideration in the development of a project alignment). In addition the project has sought to co-locate with nominated renewable energy developments where this could be achieved, to reduce the cumulative extent of agricultural land needed to accommodate project infrastructure. In this regard, around 35 kilometres of the transmission line alignment is co-located within mining land or land owned by mining companies, around 35 kilometres is adjacent to an existing transmission line easement, and around 70 kilometres is located on land where the owner has entered into agreements with proposed renewable energy developers or has expressed willingness to host renewable generation.

The predominant land use impacted by the project is agriculture, with livestock grazing being the most predominant. This type of activity can continue during the project's operation. For agricultural land uses such as cropping, the activity can continue with some restrictions as per the easement conditions. The nature of these restrictions on the landowner are considered by the parties when assessing compensation.

One of the constraints criteria considered during project development was locating the alignment outside of areas of high value agricultural land, such as BSAL, where practicable. About 75 per cent of the study area falls under Land and Soil Capability (LSC) class 5, indicating moderate-low capability. The BSAL area within the construction area is approximately 153 hectares, making up 3.8 per cent of the total construction area. Although there's no specific data for State Significant Agricultural Land (SSAL), the available mapping suggests a slightly larger SSAL area compared to BSAL within the construction area.

## Route selection – transmission lines (process)

### Summary of issues

The submission outlined that EnergyCo needs to follow international best practice for consultation and project methodology, carry out preliminary independent social impacts and plan the route accordingly, with greater understanding of impacts of these renewable energy projects to agricultural operations and rural communities.

### Response

EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project. Community and stakeholder feedback is an essential part of the development process to make sure the best outcomes for communities, energy consumers and the REZ is delivered.

Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Community feedback was sought following publication of the revised study corridor in February 2022. The location and configuration of the revised study corridor was largely developed in response to community feedback Transgrid received on their December 2020 preliminary study corridor, in addition to technical and environmental constraints. The transmission line alignment was further developed with consideration of landowner feedback, noting not all requested changes have been adopted. Alignment changes have been made in response to landowner feedback on the EIS and are described in Chapter 3 of the Amendment Report. Changes to the mitigation measures for the project as shown in Appendix B of this report have been adopted in response to community feedback on the EIS.

## Future extensions

### Summary of issues

The MCA recommended the Central-West Orana REZ be capped at the current Stage 1 with no further plans for Stage 2, as it is already having a negative impact on the economic and social wellbeing of communities. The threat of Stage 2 and uncertainty of the scope and location would make it difficult to make proactive business decisions.

### Response

The NSW Electricity Infrastructure Roadmap and NSW Network Infrastructure Strategy outline the coordinated approach to deliver transformational change and meet the renewable energy generation targets across a 20-year horizon. The NSW Network Infrastructure Strategy includes further options for each REZ under the Secure Now and Plan for the Future categories. The options identified for the Central-West Orana REZ include:

- an additional 2.3 GW capacity by 2038, delivered by upgrading the Merotherie–Elong Elong lines to 500 kV, with an extension to Burrendong and upgrade in the Mt Piper area (anticipated delivery in the 2030's)
- an additional 3.5 GW capacity if needed, delivered by utilising the Merotherie–Elong Elong line to its full capacity, with extensions to the Gilgandra-Tooraweenah area and Stubbo (anticipated delivery in the 2040's).

These extensions to the project are not currently being scoped and developed. Any planned extensions to the transmission network would be further investigated developed in accordance with the NSW Network Infrastructure Strategy. As Infrastructure Planner, EnergyCo will develop the design of each option, with detailed stakeholder engagement, before recommending a network solution to the Consumer Trustee for authorisation.

The preliminary study corridor developed by Transgrid and released in 2020 included an option to extend the new transmission infrastructure for the Central-West Orana REZ south of Wellington to Lake Burrendong. Extension of the transmission network further south from Elong Elong towards Burrendong may be investigated in the future and would be subject to a separate assessment and approval.

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## 5.12.2 Statutory context

### Planning approvals process

#### Summary of issues

The submission also raised concerns with the period of public exhibition, requesting an extension of time to at least double, or 56 days.

## Response

As CSSI, the project is subject to a statutory requirement for an exhibition period of 28 days. The EIS and accompanying technical papers were placed on exhibition from Thursday 28 September 2023. As a result of community feedback early in the 28-day exhibition period, the exhibition period was extended by an additional two weeks until Wednesday 8 November 2023, to allow more time for the community and stakeholders to review the EIS and make a submission.

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## 5.12.3 Community and stakeholder engagement

### Consultation during project development

#### Summary of issues

The submission highlighted that the NSW Government needs to ensure the consultation process with rural communities is significantly improved, with the view that the first step is to understand the values of the communities, and not just draw a line on a map from desktop studies for the transmission lines.

#### Response

Community and stakeholder feedback has been an essential part of the project development process to make sure the best outcomes for local communities and energy consumers are delivered. Engagement with the community regarding the project initially commenced as part of TransGrid's study corridor development process between December 2020 and September 2021. Since that time the community has been kept informed of the project's development and invited to provide feedback at key decision points.

In November 2021, EnergyCo assumed responsibility for planning and design of the transmission corridor and engaging local communities and stakeholders to inform the development of new transmission network infrastructure within the REZ. EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project. Community and stakeholder feedback is an essential part of the development process to make sure the best outcomes for communities, energy consumers and the REZ is delivered.

Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

### Consultation on the project – general

#### Summary of issues

Concern there are considerable variations in the transmission line routes between the interactive mapping of the REZ outline to the proposed transmission easements which was attached to correspondence with landowners requesting cooperation or compulsory acquisition. The submission states, that inconsistent information is causing uncertainty and confusion, and limited time to respond adequately.

#### Response

As the project has been in development, it has been refined on an ongoing basis in response to technical input and community feedback. Information on the project has been updated in line with the latest information available. The latest transmission alignment is presented in the Chapter 3 of the Amendment Report.



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## 5.12.4 Land use and property

### Compensation for property acquisition and property valuations

#### Summary of issues

The submission stated that landowners negatively impacted by energy projects need to be fairly compensated, with the view that the new legislation (although now an annual payment) does not go far enough.

#### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo has encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process. EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

An Acquisition Manager has been dedicated to each property identified for an easement or acquisition. This person acts as a point of contact throughout the acquisition process for each landowner.

To progress the acquisition process, each party is encouraged to exchange valuation reports before attending meetings/discussions between EnergyCo, the landowner, independent valuers, and any legal representative. This allows for discussions on any differences between the respective valuer's reports, with a view to reaching an agreement on compensation for the acquisition of the required property interests.

Strategic benefit payments (SBPs) will be paid by the Network Operator to applicable landowners on an annual basis over 20 years. The first payment will be made no later than three months after energisation of the project. The 20-year period of the SBP Scheme generally aligns with the access rights that will be granted to renewable energy generation and storage projects to connect to the new transmission infrastructure in REZs.

## Direct property impacts – construction

### Summary of issues

The submission highlighted that all efforts should be made to consult with landowners to minimise impacts during construction.

### Response

The level of impact on properties during construction would vary, depending on the scale and intensity of construction activities. For instance, in areas requiring a higher intensity of construction, like the locations of energy hubs, switching stations, worker accommodation camps, and construction compounds, there would be direct impacts on agricultural land use, with some land permanently acquired and removed from agricultural production.

During construction, landowner access to sections of their properties may be temporarily restricted, including where the transmission line easement bisects their land holding. The impacts of these temporary restrictions would be dependent on the location of the construction area in relation to property boundaries and paddock configurations. While these restrictions are likely to be of short duration due to the progressive nature of construction along the transmission line alignment, they may require the landowners to use alternative routes at times to access parts of their property. As per mitigation measure AG3, individual Property Management Plans will be developed in consultation with each landowner, and would detail alternative access routes, communication protocols and outlined any temporary restrictions on use of the construction area.

## Property acquisition – general

### Summary of issues

The submission stated the view that there is power imbalance in the planning and development of CSSI and the overriding threat of compulsory land acquisition. The submission stated the view that no compulsory acquisition should be used.

### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

Compulsory acquisition would only be carried out in accordance with the Just Terms Act where the parties are unable to reach an agreement. The process of compulsory acquisition provides the landowner with the benefit of an independent third party to determine appropriate compensation having regard to all relevant facts. EnergyCo compensates landowners for any reasonable fees associated with obtaining advice from a lawyer to help inform decisions during the acquisition process.

## Indirect property and land use impacts – operation

### Summary of issues

The submission stated the view compensation should be given to impacted neighbours, not just those with easements.

### Response

Compensation payments for project impacts are not proposed to be provided to individual landowners or community member outside the host landowners.

A Community and Employment benefit fund for the Central-West Orana REZ will be administered by NSW EnergyCo separately to the project to deliver community projects and employment opportunities. Upfront funding will come from the Transmission Acceleration Fund, and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ.

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## 5.12.5 Agriculture

### Impact to agricultural practices – construction

#### Summary of issues

Concern over impacts to strategic agricultural land, stating that it should be considered a significant constraint to development and ranked accordingly in the planning process.

#### Response

The design development of the project from the identification of the revised study corridor through to the current EIS study corridor has aimed to avoid or minimise potential impacts, as described in EIS Chapter 2 (Strategic context). It is acknowledged that in some locations along the project alignment, a number of competing environmental and technical constraints are present which requires adopting a balanced approach to corridor planning to determine the most appropriate project alignment. The project was developed taking into account certain constraints criteria, including locating the alignment outside of areas of high value agricultural land, such as BSAL, where practicable.

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## 5.12.6 Social

### Potential Impacts – operation

#### Summary of issues

Concerns regarding the social impacts of the Central-West Orana REZ and infrastructure plans, highlighting the stress caused by division of the community, disruption to farming businesses and generational families being forced to sell. The submission included the view EnergyCo fails to understand and cost the serious risks this new transmission infrastructure will have on landowners, businesses, and our rural community.

#### Response

The SIA for the project, as detailed in Technical paper 7 – Social, was prepared in accordance with the SEARs and *Social Impact Assessment Guidelines* (DPE, 2023b).

Section 6.1.1 of the Technical paper 7 – Social acknowledges that changes to community cohesion have already been experienced between residents hosting and neighbouring infrastructure. The SIA also details how detrimental effects to community cohesion are likely to be disproportionately experienced by landowners hosting infrastructure and their neighbours across the local social locality, resulting in a high unmitigated impact for those groups. More broadly, for the local social locality, this impact would be experienced as a medium unmitigated impact. No impact to community cohesion is anticipated for the regional social locality.

Section 6.5 of the SIA identifies changes to health and wellbeing including diminished mental health amongst landowners and diminished health and wellbeing due to amenity impacts. Changes to way of life and the way people enjoy and connect with the environment are also identified in the SIA.

Further details on proposed measures to manage the social impacts of the project are described in Sections 4.12.3 and 4.12.7 of this report.

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## 5.13 CWO REZist Inc

CWO REZist Inc provided a response to the public exhibition of the EIS on 7 November 2023. This section provides a summary of the concerns and issues raised within the submission and consideration of those concerns and issues.

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### 5.13.1 Strategic context

#### Route selection – transmission lines (alternative alignment)

##### Summary of issues

The submission raised the view that the transmission line should be moved further away from the residence identified in the noise and vibration section of the EIS, as being impacted by corona noise.

##### Response

The operation of high voltage transmission lines may generate audible noise as a result of the accumulation of pollution and water droplets on the conductor surface of the transmission lines, which can result in corona discharge noise. Audible corona noise would not be a constant occurrence but would be present during mild, wet and misty conditions.

Noise impacts from operation of the transmission line, associated with corona noise discharges, have been predicted to potentially affect up to two sensitive receivers during the evening and night. As per mitigation measure NV6, an Operational Noise Review would be prepared to confirm the predicted noise impacts during operation of the project. Where exceedances of the Project Noise Trigger Levels (PNTLs) are predicted (i.e. audible noise from the transmission lines), feasible and reasonable mitigation measures would be further investigated and implemented as soon as practicable.

#### Governance and management of the Central-West Orana REZ

##### Summary of issue

Concern over the landscape changes and impacts associated with reaching Australia's renewable energy targets, including those changes and impacts associated with the Central-West Orana REZ which the EIS outlines would be impacted by multiple wind solar and transmission projects, as well as access tracks, upgraded roads into a landscape where there is currently limited development.

Concern over the cumulative impacts associated with the REZ, as that the local community were not consulted and never asked for the Central-West Orana REZ.

##### Response

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments. Five working groups were created reflecting the priorities identified during consultation comprising:

- housing and accommodation
- transport and logistics
- environmental services
- social services
- economic development.

A series of studies to establish benchmark levels of service or infrastructure provision across a number of Social Licence themes have been organised to inform decision making.

Ongoing engagement with the renewable energy projects connecting the project would be conducted to gather information to support cumulative impact initiatives and opportunities for co-funding positive initiatives in the region.

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## 5.13.2 Statutory context

### Details provided in the EIS

#### Summary of issues

Concern management plans and strategies have not been included in the EIS.

#### Response

As discussed in Section 5.10.1 of this report, consistent with industry best practice, management plans for the project are developed in consultation with relevant stakeholders following planning approval.

### Adequacy of the EIS

#### Summary of issues

The submission includes the view that the EIS fails to meet social licence obligations, which are clearly set out in strategies and planning documents. The failure to meet them transparently and with best practice impacts community cooperation.

#### Response

The EIS has been prepared to address the requirements of both the State and the Commonwealth as set out in the SEARs issued by DPHI. EnergyCo's communication and engagement approach broadly aligns with *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022c) and *Quality Assurance Standard for Community and Stakeholder Engagement* (IAP2, 2015).

EnergyCo has been engaging with the local community since 2022 about the project, most recently during the exhibition of the EIS. Community and stakeholder feedback is an essential part of the development process to make sure the best outcomes for communities, energy consumers and the REZ is delivered.

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## 5.13.3 Community and stakeholder engagement

### Consultation on the project

#### Summary of issues

Concern that the township of Dunedoo has not been consulted adequately on the presence of the workforce accommodation camp, which would be larger than the town itself.

#### Response

The workforce accommodation camp at the Merotherie Energy Hub is located between the townships of Dunedoo (19 kilometres south east) and Gulgong (22 kilometres north east) and would cater for up to 1,200 personnel.

Engagement activities in Dunedoo for the project have been undertaken since 2022. During exhibition of the EIS, two community sessions and two pop-up displays were held in Dunedoo.

Ongoing consultation with the community, landowners, government agencies and key stakeholders will continue throughout the development of the project, up to and during construction.

## Consultation during project development

### Summary of issues

The submission raised a number of concerns regarding the consultation undertaken during project development, and also for the SIA. These included:

- engagement has not shown an attempt to understand and address people's concerns
- feedback during the limited interviews/surveys have not been adequately resolved
- disagreement that EnergyCo is amending plans in response to community and landowner feedback
- concern that easements have not been secured for permanent infrastructure, stating the view these are required prior to the release of the EIS and seeking planning permission.

### Response

The feedback and suggestions received from the community and stakeholders, including from the Community Reference Group, have been considered in combination with engineering, environmental, land use constraints, to further refine the project. Community and landowner feedback has formed a key role in the initial development and refinement of the project corridor. Appendix D of the EIS provides a detailed analysis of the feedback provided by community and stakeholders and how this has been addressed by the project.

EnergyCo has also considered community and landowner feedback during the project development phase, which contributed to realigning the 330 kV transmission line connection to the LRWF, and more recently alignment changes that have been made in response to landowner feedback. These transmission line changes are described and assessed in the Amendment Report. Changes to the mitigation measures for the project as shown in Appendix B of this report been adopted in response to community feedback on the EIS.

The distribution of opening letters for property acquisitions was initiated to align with the Just Terms Act, considering the lengthy nature of the acquisition process. The approach is similar to that adopted on other large scale infrastructure projects in NSW, and it ensures that land is available for construction in a timely manner, if the project is approved. The acquisitions are proceeding independently, and the EIS has not made any assumptions about landowner agreements.

Discussion of the consultation completed for the SIA is in Section 5.13.10 of this report.

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## 5.13.4 The project – construction

### Construction activities and methodology – transmission lines

#### Summary of issues

The submission requested additional information regarding enabling works, specifically additional details on the establishment of environmental controls and monitoring equipment.

Concerns there is no mention of rehabilitation at crane pad sites.

## Response

Enabling works are activities that occur early in the overall construction program and prior to the approval of the CEMP (and incorporating investigations and other works that can be undertaken prior to CSSI approval). Section 3.5.4 of the EIS outlines the type of activities that are considered enabling works.

To be considered enabling works, these works must be considered to have minor or low impacts, and typically must not impact features of high environmental or heritage conservation significance, or excess amenity impacts to nearby receivers.

Enabling works would be managed under site-specific Environmental Work Method Statements or similar environmental management documents. All enabling works would be subject to the relevant mitigation measures, any relevant conditions of approval.

Following infrastructure installation, demobilisation and construction site rehabilitation would be carried out progressively along sections of the transmission lines, at tower locations (including crane pads), brake and winch sites, and at energy hubs, the maintenance facility and switching stations. This phase of work would involve removal of all construction plant and equipment, and all materials not required during operation, including any remaining waste material and removal and/or handover of construction compounds and workforce accommodation camp sites to EnergyCo including any temporary site buildings and temporary environmental controls.

## Workforce accommodation camp

### Summary of issues

The submission raised the question on the future use of the Neeleys Lane workforce accommodation camp.

### Response

The land for the Neeleys Lane workforce accommodation camp has been acquired by EnergyCo. The workforce accommodation camp is expected to operate for the duration of construction. At the end of construction, the workforce accommodation camp would be demobilised, and the sites would be cleared of any temporary infrastructure and equipment, and then rehabilitated.

## Vegetation clearing regimes

### Summary of issues

Concern over the use of the language 'where practical' when describing vegetation clearing and minimisation effort, believing it relieves EnergyCo of responsibility.

### Response

Direct impact to biodiversity is required to facilitate construction of the project. Avoidance and minimisation of impacts can only be completed where practical while not restricting construction. Mitigation measures B1 and B4 commit to minimising vegetation clearing and disturbance of watercourses. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

## Construction hours

### Summary of issues

Concern over proposed construction hours and the assessed impact (including sleep disturbance) on residences.

## Response

There is potential for construction noise impacts at the nearest sensitive receivers. The construction schedule and equipment are subject to further refinement as detailed planning progresses however, a Construction Noise and Vibration Management Plan (CNVMP) would be prepared as part of the CEMP which would identify feasible and reasonable measures to reduce potential noise impacts during construction of the project.

As detailed in Table 15-30 in the EIS, additional OOH noise mitigation measures would be implemented during construction of the project, including respite offers for sensitive receivers predicted to experience OOH construction noise that is clearly audible (5–15 dBA above NML), moderately intrusive (15–25 dBA above NML) and highly intrusive (>25 dBA above NML). Compensation and alternative accommodation for affected sensitive receivers is not currently proposed as a mitigation measure for construction noise.

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## 5.13.5 Land use and property

### Compensation for property acquisition and property valuations

#### Summary of issues

The submission raised concerns related to compensation for landholders, this included concern that compensation provided to landowners is inadequate and does not cover the reduction in incomes. The submission stated compensation figures need to be reassessed considering the restrictions applied by the project. The submission specifically questioned if compensation would be paid for having to remove stock from paddocks during the project pre-commissioning due to safety requirements for stock and landholders, and for gradual losses in pasture productivity due to landowners not being able to improve it (with the use of machinery).

#### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the Project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land as a consequence of the project. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

The process allows for landowners to obtain their own independent valuation (with the cost reimbursed by the government). EnergyCo have encouraged landowners to obtain advice from an independent valuer and lawyer to help inform their decisions during the acquisition process. EnergyCo provides compensation for any reasonable fees associated with these services as part of the agreement upon financial settlement. To help ensure that the affected parties receive independent advice, EnergyCo will reimburse the costs of legal and valuation advisors on conclusion



of a matter. However, in some instances, EnergyCo has released funds to help a party fund any costs upfront.

An Acquisition Manager has been dedicated to each property identified for an easement or acquisition. This person acts as a point of contact throughout the acquisition process for each landowner.

To progress the acquisition process, each party is encouraged to exchange valuation reports before attending meetings/discussions between EnergyCo, the landowner, independent valuers, and any legal representative. This allows for discussions on any differences between the respective valuer's reports, with a view to reaching an agreement on compensation for the acquisition of the required property interests.

Unlike private developers, the commercial negotiations that transmission network operators undertake with landowners for transmission infrastructure must be in accordance with the Just Terms Act. However, given the scale and urgency of delivering new transmission infrastructure to facilitate the transformation of our energy system, the NSW Government considers that private landowners who host this infrastructure should receive a greater share of the benefits of building and operating new transmission lines than what is afforded under the Act. The NSW Government is implementing a Strategic Benefit Payments scheme, which is in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land and are in recognition for hosting this infrastructure.

## **Property acquisition/leasing – general**

### **Summary of issues**

Concerns were raised about compulsory acquisition, requesting DPHI reject the application until all easements are signed by willing hosts.

Concerns were raised regarding the acquisition process and negotiations. It was stated that EnergyCo has already started acquisition process, however multiple landowners have claimed no real negotiation has taken place. The submission raised concerns that managers have agreed with some landowners to adjust the alignment, however survey contractors mark out lines where objections were made.

### **Response**

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

Compulsory acquisition would only be carried out in accordance with the Just Terms Act where the parties are unable to reach an agreement. The process of compulsory acquisition provides the landowner with the benefit of an independent third party to determine appropriate compensation having regard to all relevant facts. EnergyCo compensates landowners for any reasonable fees associated with obtaining advice from a lawyer to help inform decisions during the acquisition process.

The transmission line alignment has been developed with consideration of landowner feedback, noting not all requested changes have been adopted. Alignment changes have been made in response to landowner feedback on the EIS and are described in Chapter 3 of the Amendment Report.

## Direct property impacts – construction

### Summary of issue

Concerns were raised over temporary restrictions on access to some sections of impacted properties. The submission raised a lack of details on where these restrictions would take place and requested further detail on what would be restricted and for how long.

### Response

At the commencement of construction, the current land use within the construction area would cease, either permanently at locations where permanent infrastructure would be required, or temporarily while construction activities are being carried out (brake and winch sites, construction compounds, workforce accommodation camps and transmission line easements).

During construction, landowner access to sections of their properties may be temporarily restricted, including where the transmission line easement traverses their land holding. The impacts of these temporary restrictions would be dependent on the location of the construction area in relation to property boundaries and paddock configurations. While these restrictions are likely to be of short duration due to the progressive nature of construction along the transmission line alignment, they may require the landowners to use alternative routes at times to access parts of their property or modify grazing activities. As per mitigation measure AG3, individual Property Management Plans will be developed in consultation with each landowner, and would detail alternative access routes, communication protocols and outlined any temporary restrictions on use of the construction area.

## Direct property impacts – operation

### Summary of issue

Concern over the use of easements, questioning who the future Network Operator will be, and what guarantees are in place that landowner wishes will be abided by.

### Response

EnergyCo has identified the first ranked Network Operator proponent for the project (ACEREZ), who is working with EnergyCo in the next phase of project. EnergyCo will continue to be involved in the delivery of the project.

The Network Operator will be required to comply with the commitments in the EIS and Amendment Report and the conditions of the project approval as prescribed under the EP&A Act. The Network Operator would also be required to comply with the landowner agreement conditions under the Just Term Act.

## Management and mitigation

### Summary of issues

The submission raised the following concerns:

- concern regarding the use of ‘where feasible and reasonable’ to describe locations subject to temporary leasing, that would be rehabilitated. The submission states that if land is damaged or impacted, a return to its original state should be a guarantee to landowners
- concern that the EIS does not describe rehabilitation of sites following the removal of temporary site buildings and temporary environmental controls, as well as the location of crane pads.

The submission also raised questions and concerns regarding the scope and purpose of the property management plans, and how and by who they would be developed.

## Response

Areas that are impacted and are not required for permanent infrastructure would be rehabilitated after construction where practical, in consultation with the landowner. Rehabilitation of the construction area would be undertaken including restoration of any existing disturbed infrastructure, natural drainage in areas where temporary facilities were provided, fences, gates and other agricultural infrastructure which may have been damaged during construction. Land subject to a temporary lease agreement would be rehabilitated to its pre-existing condition where feasible and reasonable. In other non-operational locations, site restoration would be undertaken to make good any disturbances caused during project activities.

A range of mitigation measures for land use impacts (LP1 to LP11) were identified in EIS Chapter 7 (Land use and property). Impacts to agricultural land uses will also be addressed through the agricultural mitigation measures (AG1 to AG10).

As per mitigation measure LP9, pre-condition assessments of the construction area will be undertaken to determine the existing condition of assets, infrastructure, utilities and the general condition of the land. Disturbed areas will be stabilised and appropriately rehabilitated back to pre-construction condition where practical, or as agreed in consultation with the relevant landowner and documented in Property Management Plans.

Individual Property Management Plans will be developed by the Network Operator in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities.

## Property value impacts

### Summary of issues

Raised concern on the impact on property values near Neeleys Lane workforce accommodation camp as a result of the land being removed from the RV-4 rural valley landscape character zone.

### Response

Neeleys Lane workforce accommodation camp would be over 750 metres from the nearest dwelling (sensitive receiver ID 1103) during construction and there are some trees along Ulan Road that would further screen the receiver from impacts. This would be a temporary impact during construction. At the end of construction, the workforce accommodation camp would be demobilised, and the site would be cleared of any temporary infrastructure and equipment, and then rehabilitated.

While submissions have raised concerns about perceived impacts on property values, transmission lines may have little impact on dynamic changes in house prices over time (Han & Elliott, 2013). Furthermore, anecdotal evidence in the region suggests that land that is proximate to the proposed transmission infrastructure with strong renewable energy resources has the potential to generate value significantly greater than their current value as agricultural land.

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## 5.13.6 Biodiversity

### Management and mitigation

#### Summary of issues

Concern the use of the language 'where practical' relieves EnergyCo of responsibility towards minimising biodiversity impacts during project design and construction methodology development.

## Response

While efforts have been made to avoid biodiversity impacts, for example, by locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines, some impacts have not been able to be avoided and will be addressed through biodiversity offsets.

Direct impact to biodiversity is required to facilitate construction of the project. Avoidance and minimisation of impacts can only be completed where practical while not restricting construction. Mitigation measures B1 and B4 commit to minimising vegetation clearing and disturbance of watercourses. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

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## 5.13.7 Visual and landscape character

### Potential Impacts – operation

#### Summary of issues

Concern that private dwellings were only identified up to two kilometres from the project, while transmission towers would be visible at a distance of greater than that.

General concern over the visual impact of the project, and the change in landscape character to one of energy and electricity infrastructure.

#### Response

The consideration of properties within two-kilometres of the project was conservatively based on the scale and visual characteristics of the project and includes areas where there is the potential for landscape character and visual impacts. Beyond two kilometres the transmission line towers would either not be visible due to intervening landforms or would not be prominent in the view. The approach to the landscape character and visual impact assessment is explained in Chapter 3 of the Technical paper 3 – Visual and landscape character.

The assessment of landscape character and visual impact has taken account of the aesthetic qualities of large-scale transmission infrastructure, their visual prominence, the level of contrast with the existing landscape character and impacts on scenic views. The potential for the transmission infrastructure to transform character of the landscape character and views has been described as the magnitude of change which is a part of the assessment process.

Operation of the project and the presence of permanent project infrastructure would have moderate-low to moderate landscape character impacts within the identified landscape character zones during the daytime. Further discussion of the visual impacts of the project are discussed in Section 5.2.6 of this report.

### Impacts to private views

#### Summary of issues

Concern the scenic value would be lowered and every landowner, whether a host or not, would have their property values lowered. It was stated that every landowner that has a visual impact, should be compensated for the loss of property value.

## Response

Reasonable and feasible mitigation will be investigated for private dwellings on non-host properties where the project is predicted to have a moderate or high visual impact. The project identified mitigation for non-host properties on the basis that the visual impacts for properties hosting would be compensated through the landholder agreements established for the transmission line easement under the Just Terms Act.

For private dwellings on non-host properties where the project is predicted to have a moderate or high visual impact, reasonable and feasible opportunities to reduce the visual impact (including the provision of screening vegetation) will be investigated (mitigation measure LV3). Appropriate visual screening or other options will be confirmed in consultation with the affected landowner (supported by detailed landscape plans where appropriate) and implemented either before or during construction. Maintenance of vegetative screening provided on privately owned land outside of the operation area will be the responsibility of the landowner.

## Management and mitigation – compensation

### Summary of issues

Concern the compensation paid is not enough, when compared with the loss of amenity and loss of property value from being forced to host infrastructure.

### Response

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act. The potential visual impacts would be considered in the valuation process.

The NSW Government is also implementing a SBP Scheme that will deliver additional financial benefits to private landowners hosting new major transmission projects.

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## 5.13.8 Aboriginal heritage

### Aboriginal heritage impacts

#### Summary of issues

Concern regarding impacts to aboriginal heritage, stating the view that all Aboriginal sites should be preserved.

#### Response

The project has sought to balance the various environmental and social features present within the construction area with engineering limitations and project costs (refer to Chapter 2 (Strategic context) of the EIS).

There are 50 identified Aboriginal sites within the construction area (as amended). In addition to these sites, zones of archaeological potential were identified throughout the construction area, consisting of all land within the construction area that is within 150 metres of 13 watercourses, including Prospect Creek, Sandys Creek, Laheys Creek, Browns Creek, Whites Creek, Sportsmans Hollow Creek, Deadmans Creek, Bora Creek, Cumbo Creek, Planters Creek, Wilpinjong Creek, Tallawang Creek and Copes Creek.

The assessment of potential impacts to Aboriginal heritage has been undertaken by adopting a 'worst case impact'. Conducting the impact assessment in this way allows for a level of flexibility to be maintained throughout the continued development of the project design and construction planning processes, while also providing a rigorous level of impact assessment that addresses the SEARs for the project.

Further discussion regarding the potential impact to Aboriginal Cultural Heritage is provided in Section 4.10.2 of this report.

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## 5.13.9 Non-Aboriginal heritage

### Summary of issues

Concern some areas were not surveyed, with the assessment relying on desktop modelling, and not including community history studies that list places of historical interest.

Concern delicate sites will be impacted by construction, and the EIS does not provide sufficient protection for historical sites and contains several inaccuracies in its methodology.

### Response

The historic heritage assessment has been prepared to address the SEARs as they relate to non-Aboriginal heritage, and in accordance with the relevant guidelines which provide a framework for identifying and managing historical significance under the *Heritage Act 1997* (NSW).

Section 4.11 of this report provides further discussion regarding the approach to the assessment, potential impact and the proposed mitigation measures identified for the project. Similarly, Section 4.11.3 and Section 5.2.8 of this report provides specific discussion related to potential impacts to cemeteries during construction.

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## 5.13.10 Social

### Impact assessment approach

#### Summary of issues

Concern over the adequacy of the SIA. The submission raised specific concerns on the number of interviews which took place, and responses to surveys (when compared with the overall population). The submission disagreed with the conclusions of the SIA and stated that a comprehensive and targeted social impact study is required before DPHI can assess the application.

#### Response

The SIA, as detailed in Technical paper 7 – Social, was prepared in accordance with the SEARs and *Social Impact Assessment Guidelines* (DPE, 2023b). Further consideration of issues raised with respect to the assessment approach to the SIA is provided in Section 4.12.1 of this report.

### Potential impacts – construction

#### Summary of issues

Concern over construction impacts of the project on the ability of residents to enjoy their homes and properties with no relief during the construction period. The submission cited the expansion of working hours for some activities, as well as 24-hour operation of the workforce accommodation camps.

## Response

Construction of the project is proposed to be carried out during recommended standard hours as defined by the ICNG where possible. However, due to the remote nature of the work, and the requirement to accommodate a rostered fly-in fly-out and drive-in drive-out workforce, there would be a need to extend construction hours across a seven-day work week between 7:00 am and 7:00 pm. To support construction activities during these extended hours, operation of the main construction compounds would also be required. The workforce accommodation camps would be operational 24 hours a day, seven days a week to provide accommodation for the workforce.

Except for emergencies, OOH works would be carried out in accordance with an OOH protocol and would not take place outside construction hours without prior notification in line with that protocol.

As part of development of the detailed design and construction methodology, all reasonable and feasible mitigation measures will be considered, confirmed and implemented to minimise construction amenity impacts and to avoid exceedances of the applicable noise goals at adjacent sensitive receivers where practicable, including during standard daytime construction hours.

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## 5.13.11 Economic

### Impact assessment approach

#### Summary of issues

Concern Technical paper 8 – Economics uses the Input Output (IO) method, which assumes the regional economy has access to sufficient labour and capital resource, so that an individual project does not result in regional price changes. The submission states disagreement that nearby towns (Cassilis, Coolah, Mudgee, Gulgong and Dunedoo) have sufficient labour, capital or resources.

Concerns over rising prices for resources, in an inflationary economy where additional pressure will be placed from Central-West Orana REZ projects.

#### Response

The IO analysis was used to assess the regional and NSW impacts of the project during construction and operation of the project. Input-output analysis is used to assess the direct and indirect impacts of the construction and operation of the project on the regional and NSW economy. The NSW *Government Guidelines for the economic assessment of mining and coal seam gas proposals* (NSW Government, 2015).

When applied at a regional scale, the input-output method does not assume that the region itself has sufficient labour and capital resources to supply the project but that there are sufficient resources from inside and outside the region to supply the project with little impact on prices, which is the small open economy assumption. Assumptions are also detailed in Appendix 2 – Underlying Assumptions and Interpretations of Input-Output Analysis and Multipliers of Technical paper 8 – Economic of the EIS.

### Regional economic impacts

#### Summary of issues

Concern there will be little benefit to the region during construction, except for some minimal flow on effects from the 90 per cent fly in fly out workforce living in accommodation camps. The submission also questions the operational workforce, with the view that there is no guarantee they would reside in the region.

Concern at a wide scale, the project would not create benefit, and the submission questions the worth to the economy. Conversely stating the cost to the local economy will be high.

## Response

Construction and operation of the project would provide positive economic activity for the regional and NSW economy. The positive flow-on effects to the economy during construction and operation of the project would mainly be due to employment and purchase of materials and services. The positive impact of the project on the regional economy during construction is estimated to be up to \$512 million in average annual output (the gross value of business turnover in a region). The impacts on the regional economy during project operation are estimated at up to \$134 million in average annual output.

The operation of the project would create a small demand for regional labour resources and regional inputs to production as well. Additionally, during operation of the project, the routine inspection and maintenance of the project by staff and contractors are expected to be infrequent. Site-based activities, typically conducted by three to five personnel is expected.

## Agricultural land displacement

### Summary of issues

Concern over the loss of agricultural productivity, and the impact on farmer income.

### Response

Section 4.7 of this report provides details the impact on agricultural productivity due to the construction and operation of the project. Discussion on agricultural land displacement and its economic impacts are provided in Section 4.13.3 of this report.

It is noted that the construction of the project would result in a reduction in the land available for agricultural activity. The agricultural impacts of the project during construction are less than 0.2 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project. Following construction, the project would result in a smaller reduction in agricultural land due to the comparatively smaller operation area. A majority agricultural land within the amended operation area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions. As such any economic loss is expected to be relatively minor.

The agricultural impacts of the project during operation are less than 0.04 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project. This is not anticipated to result in a significant reduction in employment opportunities and reduction in spending at local agricultural supply and service businesses. The project would create a small demand for regional labour resources and regional inputs to production. Consequently, no other effects on other industry sectors are anticipated during operation.

The projected loss of agricultural production due to the project is deemed negligible both regionally and nationally, with negligible implications for the long-term food supply of the region and the nation.

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## 5.13.12 Climate change and greenhouse gas

### Impact assessment approach

#### Summary of issues

Concern there has been no attempt to quantify, value and disclose carbon contribution of the project infrastructure (and as such, the project does not comply with the State Infrastructure Strategy). The submission states that the strategy requires new infrastructure measure and report in accordance with National Greenhouse accounts. It requires that public infrastructure must measure and report how infrastructure-related decisions contribute to the State's total emissions and remaining carbon budget.



The submission highlights that should the proponent assert that low emission energy generation enabled by the project is offset against its own high emission transmission infrastructure then the proponent must assess also, the embedded emissions in the infrastructure generation, storage, and ancillary structures which the project enables.

### **Response**

Assessment of GHG emissions was completed in accordance with relevant legislation, policies and assessment guidelines. The GHG assessment was prepared using the National Greenhouse Gas Accounts Factors (DCCEEW, 2021).

The estimated GHG emissions from the Scope 1, Scope 2 and Scope 3 emissions during project construction are estimated at 611,607 tCO<sub>2</sub>-e. A breakdown of GHG emissions for project construction is detailed in Table 19-34 of the EIS, and includes GHG emissions associated with production of materials, transportation of materials and construction. Table 19-34 also indicates emissions associated with the production of materials, including steel and concrete, are estimated at 516,554 tCO<sub>2</sub>-e.

Further consideration of the issues raised regarding greenhouse gas is provided in Section 4.22 of this report.

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## **5.13.13 Noise and vibration**

### **Impact assessment approach**

#### **Summary of issues**

Concern there is no mention in the EIS of noise from the operating phase of the workers camp, and its potential negative impact on the nearby residences.

#### **Response**

The noise impacts from the operation of the workforce accommodation camps were assessed, as part of Technical paper 9 – Noise and vibration and the updated noise assessment in Appendix I of the Amendment Report.

### **Construction airborne noise**

#### **Summary of issues**

The submission raised general concerns regarding the construction noise impacts of the project, highlighting the proposed working hours and workforce accommodation camp hours. The submission also highlighted the noise limit exceedances (including sleep disturbance) during construction of transmission lines, and Neeleys lane workforce accommodation camp for residences during both standard hours and OOH work.

#### **Response**

During construction, noise impacts would generally be minor during standard work hours; however, the project has the potential to impact noise sensitive receivers (generally residences) in the vicinity of the project due to noise or vibration intensive activities such as earthworks.

Construction of the project was intended to be carried out during recommended standard hours as defined by the ICNG where possible. However, due to the remote nature of the work, and the requirement to accommodate a rostered fly-in fly-out and drive-in drive-out workforce, there would be a need to extend construction hours across a seven-day work week between 7:00 am and 7:00 pm. To support construction activities during these extended hours, operation of the main construction compounds would also be required. The workforce accommodation camps would be operational 24 hours a day, seven days a week to provide accommodation for the workforce.

The description of predicted noise impacts from transmission lines and Neeleys Lane workforce accommodation camp are detailed in section 3.1.9 and section 3.1.11 of Appendix I of the Amendment Report. During OOH works, sleep disturbance is predicted at up to 112 receivers along the transmission alignment during tower foundation works and up to three receivers during the construction of the Neeleys Lane workforce accommodation camp. The application of mitigation measures would minimise these predicted impacts.

A range of mitigation measures have been identified to minimise noise impacts from the project during construction, as described in Appendix B of this report. Opportunities to reduce the impacts associated with construction noise levels through the implementation of proactive community consultation will be examined, confirmed and implemented where reasonable and feasible.

## **Operational airborne noise impacts**

### **Summary of issues**

Concern that one residence would be disturbed by corona noise (between 16 and 24 per cent of the time) over the operational life of the project. The submission also suggested operational transmission line maintenance, while sporadic, should be assessed.

### **Response**

In the exhibited project, one receiver in NCA 1 would experience a 'moderate' level of exceedance, and one receiver in NCA 4 would experience a 'negligible' level of exceedance during the evening and night time (refer to section 15.6.1 of the EIS).

The project amendments and refinements would result in a reduction in potential corona noise impacts as there would be no receivers that would experience a 'moderate' level of exceedance as in the exhibited project. One receiver in NCA 4 (ID 531) would still experience a 'negligible' level of exceedance of the PNTLs during night time hours.

During operation of the project, maintenance activities are expected to be infrequent (approximately once per year). If and when required, these activities are also expected to be either transient/of short duration (e.g. flyover, drive-by) or local to a specific section of operation area. Possible risk of noise impacts associated with these activities is therefore expected to be minimal. No further noise assessment of maintenance activities is proposed.

## **Management and mitigation**

### **Summary of issues**

Concern the mitigation measures in the EIS are inadequate and do not protect residences from noise, raising issues with 'advising' being an appropriate mitigation tool.

### **Response**

Mitigation measures N1 to NV3 (refer to Appendix B of this report) address predicted noise impacts during construction. These include a range of administrative and material measures such as noise screens.

As detailed in Table 15-30 in the EIS, additional OOH noise mitigation measures would be implemented during construction of the project, including respite offers for sensitive receivers predicted to experience OOH construction noise that is clearly audible (5–15 dBA above NML), moderately intrusive (15–25 dBA above NML) and highly intrusive (>25 dBA above NML).

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## 5.13.14 Hazard and risk

### Impact assessment approach

#### Summary of issues

Concern that the EIS assessment only covers bushfire history from 2006–2017, ignoring significant fires that caused extensive damage.

#### Response

In Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk) it was acknowledged that bushfires are a common occurrence in the central west region and the broader landscape has a history of large bushfires. Bushfires between 2011 and 2012, and 2016 and 2017 were referenced. It was noted that regardless of the fire history affecting the study area and the broader surrounding area, bushfires can occur at any time of the year, and as such, further documenting of historic fires will not necessarily inform the assessment of bushfire risk.

### Electric and magnetic fields

#### Summary of issues

Concern over the EMF impacts of the project to both humans and animals. The submission suggests such impacts should be disclosed in full (in plain English), and questions safe exposure levels. Stating the universal acceptance that children should not be exposed to levels of 0.4 uT or greater for long periods of time due to leukemia risk. The submission also suggested (allegedly based on veterinarian advice), that livestock continually grazing under high voltage transmission lines should be sold every 5 years due to cancer risk, and stated EnergyCo representatives could not advise on the safe distances for humans and animals or maximum exposure times.

#### Response

EMFs are a natural part of the environment and are produced wherever electricity or electrical equipment is used. According to health authorities, including the WHO and ARPANSA, EMFs from electrical transmission lines are not considered a risk to human health.

A detailed assessment of EMFs from the project was carried as detailed in Technical paper 12 – Electro Magnetic Field Assessment and summarised in EIS Chapter 16 (Hazard and risk). The predicted Electric and Magnetic Fields (EMF) levels at the boundary of the transmission easement are compliant with the current standards and guidelines administered by ARPANSA, no mitigation or modifications specific to the management of EMFs are required for the project.

Further consideration of the EMF issues on the project are provided in Section 4.15.8 of this report.

### Management and mitigation

#### Summary of issues

Concern that firefighting measures are inadequate, and the following comments:

- the needs and requirements for fighting bushfires is too low, and static water supplies should be raised to a minimum of 100,000 litres in compounds and 500,000 litres in worker accommodation camps
- the Merotherie workforce accommodation camp should have two Cat 1's with six RFS trained personnel on call (not RFS volunteers), and the Neeleys Lane workforce accommodation camp should have similar, scaled for size
- in times of high fire danger, a slip on firefighting unit should be provided at every construction site, in addition to a Cat 1 truck on standby.

## Response

Firefighting equipment will be installed at construction compounds and workforce accommodation camps. As outlined in mitigation BF5, firefighting equipment will be maintained and made available for use during the construction phase in accordance with Planning for Bushfire Protection 2019 (RFS, 2019) including the following:

- static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes
- 38 millimetre metal Storz outlets with a gate or ball valve will be provided as an outlet on each of the tanks
- non-combustible water tanks and fittings will be used
- firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.

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## 5.13.15 Traffic and transport

### Construction traffic impacts

#### Summary of issue

Concern the construction hours, scope of works, and workforce rosters (i.e. fly/drive in and out) would result in excessive impacts to local traffic, and impacting activities such as livestock movements, and creating additional biosecurity threats.

#### Response

As discussed in Section 5.4.12 of this report, it is noted that the additional traffic movements from the project would bring a noticeable change to the local road environment; however, all local roads would still operate within capacity. Further details on construction traffic impacts have been discussed in detail in Section 4.16.2 of this report.

Regarding workforce, majority of construction workers for the project would be transported between the construction areas and the workforce accommodation camps using both light and heavy (small bus) vehicles, to minimise potential traffic impacts of the project on local roads.

A Vehicle Movement Plan will also be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

As per updated mitigation measure AG5, biosecurity controls will be implemented during construction to minimise the risk of transport or spread of disease, pests or weeds. A Biosecurity Management Plan will be developed addressing the following protocols/matters including the cleaning of vehicles and machinery.

Further consideration of the issues related to traffic mitigation measures are detailed in Section 4.16.9 of this report.

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## 5.13.16 Hydrology, flooding and water quality

### Impacts to geomorphology

#### Summary of issue

Concern a large section of Merotherie Road (a major access road for the Merotherie Energy Hub) is located on a flood plain, which, at present is inundated by flood waters with minimal lasting effects. However additional culverts and other man-made structures are likely to cause flooding upstream and concentrate flows downstream. This would result in erosion, new drainage lines, artificial water courses and impacts on available agricultural land. In addition, concern construction activities would damage contour banks and waterways on easements and in a large rainfall event cause damage.

#### Response

The proposed works on Merotherie Road would include an upgrade on Merotherie Road, between Golden Highway and the Merotherie Energy Hub, including a new bridge crossing of Talbragar River. Further flooding assessment has been completed of the proposed works as is detailed in Appendix K of the Amendment Report and summarised section 5.12 of the Amendment Report.

A detailed flood assessment would be carried out of the upgrades to the local roads that service the Merotherie Energy Hub, including Merotherie Road, to inform the scope of drainage measures to be incorporated into their design in order manage any adverse impacts on the depth, velocity and duration of inundation external to the road corridors.

As per mitigation FL12, the upgrades to the local roads that service the Merotherie and Elong Elong energy hubs, including Merotherie Road, would be designed such that:

- the existing level of flood immunity of the road is maintained or improved, and
- during storm events that result in overtopping of the road, there is no significant increase in the depth and hazardous nature of flooding.

### Flooding

#### Summary of issue

Concern that twelve of the thirteen switching stations are estimated to be at risk of inundation (including the New Wollar Switching Station, Merotherie Energy Hub and Elong Elong Energy Hub, however there is no consideration of moving their locations.

#### Response

As identified in Technical paper 15 – Flooding, the energy hubs and switching stations proposed for the project, with the exception of switching station M1, are not affected by mainstream flooding. Impacts to flood extents and overland flow paths due to the construction of switching stations, energy hubs and transmission towers would be localised and minor. Mitigation measures FL7, FL8, and FL9 require the project to address potential impacts on flood behaviour and flows to receiving drainage lines, as well as ensuring the resilience of the energy hubs and switching stations. This is discussed further in the following section.

The electrical components within the energy hub and switching stations would be located a minimum of 0.5 metres above the peak one per cent Annual Exceedance Probability (AEP) flood level. Each energy hub and switching station would also be designed so that operations would not be impeded by peak flood levels during a 0.5 per cent AEP event.

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## 5.13.17 Waste management

### Management and mitigation

#### Summary of issues

Concern regarding the lack of detail with respect to onsite sorting and storage of waste, and its impacts.

In addition, the submission raised concerns over advice from local council that capacity at disposal sites is limited, and the EIS does not contain other facilities within 150 km of the project site. This raised issues around the transport of waste and impacts on traffic and transport calculations.

Concern Warrumbungle or Mid-Western Regional council have not agreed to have onsite waste water transported to council waste water treatment plants.

#### Response

##### Waste sorting onsite

The handling and management of waste material as a result of the project are discussed in detail in section 18.6 of the EIS. Additionally, Table 18-5 of the EIS provides details the management of construction waste by type. All project generated waste will be assessed, classified, managed and disposed of in accordance with the NSW Environment Protection Authority's (EPA) Waste Classification Guidelines (EPA, 2014) and the relevant requirements of the Protection of the Environment Operations (Waste) Regulation 2014 (mitigation measure WM4).

All waste streams will be segregated to avoid cross contamination of materials and maximise reuse and recycling opportunities (mitigation measure WM5). Waste sorting process ensures that throughout construction, waste would be segregated to minimise contamination or hazards to surrounds, and the appropriate storage and regular removal of waste from the construction area would manage impacts to soil, water and air. Further detail will be provided in the Construction Waste Management Plan, as stated in section 18.6.1 of the EIS.

The amendments and refinements would not involve changes to the construction methodology or operation of the project such that there would be a change to waste management as assessed in the EIS.

##### Local councils' capacity

It is noted that the local council waste facilities, including the Mudgee Waste Facility, are at capacity and unable to accommodate the waste generated by the project. Furthermore, the Gulgong Waste Facility operated by the Mid-Western Regional council does not accept commercial waste, and the Wellington Waste Transfer Station and Cassilis Waste Management Facility have limitations on receiving large volumes of waste. As required by mitigation measure WM1, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

##### Wastewater

Wastewater produced during the initial establishment of the workforce accommodation camps are currently proposed to be collected and transported to a council wastewater treatment plant. This process would be in place during the site establishment works for the project and would cease once the main wastewater treatment facilities are operational.

All wastewater treatments plants produce sludge that requires disposal on regular intervals. Liquid waste sludge would be transported to a facility licenced to accept the waste. The wastewater treatment facilities would be designed to produce effluent that meets the water quality requirements for dust suppression and use for other construction activities within the construction area.

Additional mitigation measure WM0.1 has been added in Appendix B of this report. As per the new mitigation measure, wastewater volumes and management processes would be confirmed prior to construction and the relevant council will be consulted if transfer to a local wastewater treatment facility is proposed.

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## 5.13.18 Cumulative impacts

### Cumulative impacts – agriculture

#### Summary of issues

Concern regarding the cumulative impacts on agricultural operations, particularly during construction, which would affect their ability to produce food in the short and long term and negatively impact the incomes of farmers in impacted areas.

#### Response

For the purpose of calculating the loss of agricultural value (production) from the use of land for construction, a conservative ('worst case') scenario was used that assumed the entire construction area for this project would be unavailable for agricultural use during the construction period, the estimated loss of agricultural production would be around \$1.32 million per year. This is equivalent to around 0.2 per cent of the total gross value of annual agricultural production across the four impacted LGAs. This is considered a 'worst case' impact as it is expected that agricultural land uses such as grazing would continue within parts of the construction area, subject to the timing and location of construction activities, and the ability to implement safe access arrangements. As such, the projected loss of agricultural production due to the project is deemed negligible both regionally and nationally, with negligible implications for the long-term food supply of the region and the nation.

Relevant future projects that have the potential to contribute to cumulative land use, property and agriculture impacts consist of the related development projects. Considering the impacts of this project on regional agricultural productivity, this project in combination with these mining projects are unlikely to result in significant cumulative impacts on regional agricultural productivity.

Where construction schedules overlap with other projects in the area, agricultural operations may also be temporarily impacted due to increased construction traffic, the generation of noise, damages/changes to farm infrastructure and increased biosecurity risks. Cumulative biosecurity risks are expected to be low once standard mitigation measures are implemented by each project.

Each project proposed in the Central-West Orana REZ would be subject to assessment under the EP&A Act with consideration of cumulative impacts. DPHI published the *Large-Scale Solar Energy Guideline* (DPE, 2022e) and *Wind Energy Guideline* (DPE, 2016b) to provide community, industry and regulators with information and certainty on the planning rules for large-scale renewable energy projects.

### Cumulative impacts – biodiversity

#### Summary of issues

Concern the cumulative number of ecosystem and species credits required is impossible and appears to be a money grab without considering the environment.

Concern with regards to the removal of wildlife corridors, highlighting the unacceptability of impacts, both short term and long on connectivity, as well as interruptions to aerial habitat from wind turbines (turbine strike and barotrauma (rapid or excessive air-pressure change near moving turbine blades that result in haemorrhaging of the lungs).

## Response

Under the BOS, there are diverse avenues through which a project can generate offset credits, one of them being payment to the Biodiversity Conservation Fund, under the *Biodiversity Conservation Act 2016* (BCA, 2016).

Section 5.2.17 of this report details impacts on cumulative biodiversity impacts due to the construction and operation of the project. The project would indeed contribute to cumulative impacts on wildlife connectivity and habitat corridors as it would pass through large areas of native vegetation associated with Durrigere SCA and vegetation to the north of Tuckland State Forest. It will create a highly permeable structure for biodiversity, with connectivity expected to remain largely unaffected for all species. While the cumulative impacts on connectivity are expected to be minor and permanent, they are likely to diminish over time as biodiversity adapts to the new infrastructure.

While there's a risk of bird collision with transmission lines, mitigation measures like bird flappers/divertors will be used to minimise impacts. Moreover, transmission lines are typically below most species' flight paths. Cumulative impacts on the likelihood of bird strikes will be minor.

## Cumulative impacts – visual

### Summary of issues

Concern the project infrastructure and renewable energy infrastructure would change the landscape to one where the presence of energy and electricity infrastructure more frequently encountered and prominent.

### Response

Cumulative visual impacts of the project is discussed in Section 5.2.17 of this report.

## Cumulative impacts – social

### Summary of issues

Concern over the number of worker accommodation camps proposed by the project and other renewable energy projects, creating satellite towns, changing the landscape and the strain this will place on local communities. The submission also outlines the negative social impacts from the project, which when taken as a whole, are unacceptable.

### Response

The cumulative impact assessment included the assessment of social impacts including those affecting agriculture and food production, community cohesion, sense of safety, capacity of health, food, and social services, sense of place and mental health impacts due to bushfire risk. This project's contribution to these impacts would range from minimal to moderate.

The updated cumulative SIA provided in Appendix L of the Amendment Report includes the assessment of the following potential cumulative impacts:

- stress amongst neighbouring landowners due to perceived uncertainty in the local property market
- unequal distribution of impacts and benefits for landowners neighbouring project infrastructure
- tourism impacts due to reduced accommodation and changes to landscape and character
- stress amongst landowners due to perceived health and safety risks associated with electromagnetic fields
- changes to community cohesion due to community members leaving the region.



## Cumulative impacts – water supply

### Summary of issues

Concern the sourcing of water for the project and multiple project in the Central-West Orana REZ from the Talbragar River, groundwater and potable water from council supplies, would impact availability, negatively impacting residents of Coolah, Dunedoo and farmers who rely on bore water for stock and residential water.

### Response

Around 250 megalitres of non-potable water are estimated for this project's construction and would be sources according to a hierarchy harvested rainwater, recycled construction water, treated wastewater, or groundwater inflows and treated mine water (where possible) over existing unregulated surface water sources.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

Only three of the upcoming projects are expected to have significant water demand overlap during construction, while others plan to use bore water or water from alternative sources. Between 2024 and 2026, other projects will require 95 megalitres from the Upper Talbragar River Water Source and Lower Talbragar River Water Source, in addition to this project's water demand. There is currently enough water available in these sources to meet the demand in an average rainfall year.

No groundwater take has been identified for upcoming projects within five kilometres of proposed groundwater bores, thus avoiding cumulative groundwater impacts. Regarding water extraction, the preference is to obtain entitlements through temporary water trading to a zero share WAL, with existing entitlements in the region likely sufficient. In the event of insufficient water for trading, new entitlements would be sought.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the CWO REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ by improving access to safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

## Cumulative impacts – hazard and risk

### Summary of issues

Concern that the cumulative increased risk of bushfire ignition would place unacceptable risk to landowner and the community, and result in overworked RFS volunteers.

### Response

As a licenced transmission operator, the Network Operator will be required to implement an Electricity Network Safety Management System for the project to Australian Standard 5577 – Electricity network safety management systems, undertake hazard identification associated with bushfire risk, implement and maintain appropriate fire protection measures. As part of this, the Network Operator will collaborate with RFS to determine any additional resources required to manage bushfire risk to an acceptable level.

Construction and operation of this project, alongside relevant future project, would heighten the risk of bushfire ignition on bushfire prone land. To manage this risk, both this project and relevant future projects would be managed with the establishment of APZs, where necessary. Each project will implement mitigation measures, such as emergency protocols, in line with safety management systems, policies, and guidelines to minimise potential hazards and risks.

## Cumulative impacts – traffic and transport

### Summary of issues

Concern the cumulative traffic impacts would result in extensive road congestion on all affected roads, meaning multiple delays for residents, increased risk of accidents, and more costly livestock and grain transportation costs (due to delays). The submission also questions the assessment of cumulative traffic impacts, stating it is reasonable to estimate that the 10 projects (identified in EIS Chapter 20 (Cumulative impacts)) and EnergyCo would bring an additional 5,000 vehicle movements per day during the construction period.

### Response

Developments with construction routes that overlap with this project have the potential to increase the number of construction vehicles on the road network. A quantitative cumulative impact assessment of potential traffic impacts was completed and is detailed in Appendix L of the Amendment Report.

The project would contribute to a cumulative increase in traffic in the region during construction. The assessment indicates that the additional traffic volumes generated by the 18 relevant future projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS A for all routes) maintained on most roads.

It is noted that the cumulative increase in traffic due to multiple projects would increase interactions with the road network and also introduces risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact.

## Cumulative impacts – waste management

### Summary of issues

Concern the cumulative waste management requirement would burden waste facilities already at capacity, and if additional transport is required, would add extra burden on roads, which cannot be justified. The submission requests the management of waste needs to be addressed before the project is assessed.

### Response

While there is only very limited information available about the quantities and types of waste generated by the relevant future projects, or their intended waste management strategies, waste generation by these projects would potentially impact on waste management facilities considered for this project. Potential waste management impacts of this project may therefore be significantly exacerbated by the potential cumulative waste management impacts of the relevant future projects.

If waste facilities reach maximum capacity in the local region, the number of waste disposal movements in the region is not expected increased, but these movements may be longer to transfer waste to more distant, facilities.

Prior to construction, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

## General cumulative impacts – operation

### Summary of issues

The submission states that cumulative impacts of Central-West Orana REZ related projects are too great, and the application for the project should be fully rejected.

### Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). A supplementary cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

For the purposes of ensuring the assessment of cumulative impacts is conservative and captures the potential range of cumulative impacts, projects currently under statutory environmental impact assessment where an application has been lodged are considered. However, the approval of these projects would be subject to the determination of the consent authority.

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## 5.13.19 Issues beyond the scope of the EIS

### Impacts of renewable energy projects

#### Summary of issue

Concern that assessments for renewable energy projects state minimal impact on the landscape and avoid responsibility for cumulative impacts.

#### Response

Within the Central-West Orana region, a significant number of new developments are proposed, approved or under construction, including more than 30 major renewable energy generation and storage projects (of which 11 would connect to this project), as well as other infrastructure and mining projects.

The development of renewable energy generation projects in the Central-West Orana REZ does not form part of the project and those generation projects are subject to separate planning and environmental approvals. The environmental and social impacts of each project would be assessed and determined in accordance with Commonwealth and NSW planning legislation. The impacts specific to renewable energy projects are outside the scope of the assessment for this project.

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## 5.14 Save Our Woodlands

Save Our Woodlands provided a response to the public exhibition of the EIS (undated). This section provides a summary of the concerns and issues raised within the submission and consideration of those concerns and issues.

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### 5.14.1 Strategic context

#### Route selection – transmission lines (processes)

##### Summary of issue

The view the transmission lines should be aligned with Inland rail to minimise disruption to the community.

##### Response

The location of the Inland Rail corridor does not align with the location of renewable energy sources. Locating the project adjacent to the rail corridor would not enable additional renewable energy projects to be connected to the NEM.

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## 5.14.2 Justification and conclusion

### General comment

#### Summary of issue

The view that renewable energy would not solve base load power generation, due to it being intermittent, and the beneficiaries would be multi-national companies, without providing base load power.

#### Response

The transition towards renewable energy technology responds to the need to reduce the emission intensity of the electricity sector and to secure alternatives sources of electricity supply to replace coal-fired power plants, which are scheduled to close. Investment in renewable energy projects is focused on regional areas of NSW with the best renewable energy resources.

AEMO's published the first ISP in 2018. The ISP outlines the investments needed to make sure Australians have access to reliable, secure and affordable electricity while meeting Australia's emissions reduction targets. ISPs are developed every two years in consultation with industry, government and energy consumers and based on economic modelling and engineering analysis. The 2018 ISP notes the most cost-effective replacement of coal-fired energy generation, based on current cost estimates and projections, is a portfolio of utility-scale renewable generation, energy storage, distributed energy resources, flexible thermal capacity including gas-powered generation, and transmission (AEMO, 2018). In developing the ISP, modelling conducted by AEMO used projections of reductions in technology and fuel costs, which demonstrated that the least-cost (i.e. most affordable) replacement of energy currently produced by coal is projected to be met through an efficient combination of renewable energy, energy storage, backup supply and peaking infrastructure and increased transmission.

The coordinated planning of generation, storage and network investment that underpins the Central-West Orana REZ, including the active coordination by the REZ Administrator of the technology mix within the REZ, is expected to reduce the amount of network losses experienced by energy generators by providing more certainty on the capacity of the transmission network in future years within the boundary points of the REZ.

Access schemes are a key part of the NSW Governments plan to coordinate and encourage renewable energy and storage investment in REZs and realise the objectives of the NSW Electricity Infrastructure Roadmap and the *Electricity Infrastructure Investment Act 2020* (EII Act).

### Economic assessment and value for money

#### Summary of issue

Concern the construction of transmission lines across the state is a waste of taxpayer money, and unnecessary.

#### Response

The NSW Electricity Infrastructure Roadmap, including REZs, will deliver value for money by putting downward pressure on household electricity bills. The NSW Electricity Infrastructure Roadmap is expected to reduce wholesale electricity prices for consumers over the next 10 years based on modelling for the 2023 Infrastructure Investment Objectives report, prepared by AEMO Services as the NSW Consumer Trustee.

Under the EII Act, the Australian Energy Regulator (AER) is required to determine the costs of implementing the NSW Electricity Infrastructure Roadmap including construction of transmission infrastructure. The EII Act sets out how NSW Electricity Infrastructure Roadmap costs are to be managed through the Electricity Infrastructure Fund. Distributors pay their contributions into this fund, based on the AER's contribution determination.

Distributors then recover the costs from consumers as part of the network charges on electricity bills. As such the cost of the project would be borne by energy consumers rather than the taxpayer more generally.

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## 5.15 NSW Bird Atlassers

NSW Bird Atlassers provided a response to the public exhibition of the EIS on 8 November 2023. The submission raised several concerns focused on the impacts of the project on biodiversity.

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### 5.15.1 Strategic context

#### Route selection – transmission lines (above vs below ground)

##### Summary of issues

The submission requested that EnergyCo consider the undergrounding of transmission lines in some areas to better protect important remnant bushland.

##### Response

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. Based on the factors outlined in section 2.7.3 of the EIS, locating high voltage transmission lines underground is not considered to be a viable option for this project.

Undergrounding the transmission lines would involve excavation of a trench, or multiple parallel trenches where more than one high voltage transmission circuit is required, over the entire length of the alignment. Reactor switching stations the size of New Wollar Switching Station would be required around every 40 kilometres along the underground transmission alignment. A reactor switching station is a facility where underground cables emerge from the ground and are connected to an above ground structure and terminated. They are used to ensure safe voltages and operating conditions are maintained. These have the potential for significant disturbance to agricultural activities, biodiversity and heritage as well as increasing project costs for construction and maintenance, compared to overhead transmission lines.

An underground transmission line would have a more favourable impact in terms of visual amenity (as most of the transmission line infrastructure would be placed underground), aerial operations, easement width and avoidance of bird and bat strikes (and associated biodiversity impacts). However, it would have a number of greater negative impacts relative to the project as proposed. Environmental and engineering constraints associated with undergrounding of project transmission infrastructure include:

- 500 kV or 330 kV transmission lines underground requiring more extensive clearing of vegetation associated with trench excavation. As a result, underground transmission lines would have a significantly greater impact on biodiversity than overhead transmission infrastructure with additional cost to offset impacts
- an easement where land use is more restricted when compared to overhead transmission lines, as there would be restrictions on vehicles mass, depths of excavation or ploughing, depths of planted material, placement of fill material. Vegetation growth in the easement would be restricted by the shallow depth of soil and heat emanating from the underground transmission lines.

Further information on the consideration of underground transmission lines is provided in Section 4.1.6 of this report.

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## 5.15.2 Land use and property

### Impacts to conservation lands

#### Summary of issues

Concern the project has not avoided protected national park reserve in the Durridgere SCA. Stating the area is registered as a Conservation Area as it is of high conservation value, and thus protected.

#### Response

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durridgere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330 kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durridgere SCA by over 20 hectares.

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## 5.15.3 Biodiversity

### Impact assessment approach

#### Summary of issues

Concern that a final assessment of biodiversity impacts was not included in the EIS, and that the final assessment must be made before completion of design and the final route. The submission also raised the ongoing loss of the critically endangered Grassy Box Woodland ecological community in Central West NSW, a highly significant community, which had not been adequately considered in the EIS.

#### Response

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species, communities, and their habitats were assessed in accordance with the BAM (DPIE, 2020a). An updated BDAR has been completed and is provided in Appendix G of the Amendment Report and documents the results of additional field surveys of previously unsurveyed areas of the exhibited project, and additional areas affected by the proposed amendments and refinements, and revised assessment thereof.

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process. The final design would not have greater biodiversity impacts than identified in the Amendment Report.

Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. The impacts to these TECs has been included in the updated BDAR.

The EIS was assessed using a reference design, which includes sufficient detail to determine land and infrastructure requirements including the location and size of project features, and to inform constructability components. The BDAR used the reference design to develop an indicative yet realistic disturbance model, with actual disturbance areas to be confirmed during detailed design.

On the basis the project is approved, the Network Operator would prepare a detailed design based on additional site investigations, technical specifications, topographical and access constraints, compliance with any planning approval requirements, and micro-siting of project features to avoid or further minimise impacts to environmental aspects.

It is noted that in developing a detailed design that seeks to avoid or further minimise impacts to biodiversity values, the Network Operator is also required to avoid or further minimise impacts to other environmental values such as Aboriginal and historic heritage items. In this regard, it is not always possible to avoid biodiversity values beyond the impacts assessed in the BDAR.

The general approach to locating project features within the assessed footprint is set out here. The Network Operator would review the spatial data from the BDAR and other EIS studies to identify key constraints and opportunities when developing the detailed design. The towers are designed as part of a coordinated transmission network, meaning the placement of one tower influences the placement of the next tower, and so forth. The Network Operator, which comprises a multi-disciplinary team, must take all this information into account, including biodiversity values and constraints, when making decisions on design including micro-siting of project features.

Confirmation of transmission tower siting locations is important as it sets the clearing extent of the permanent easement (Disturbance area A and B) and the adjacent hazard tree zone. This provides the opportunity for the avoidance of good quality Box Gum Woodland or other TECs if present on or outside of these disturbance areas at this time, but within the BDAR study area.

The Network Operator will review the location of final project features to ensure it does not result in increased impacts (compared to the BDAR), and look for opportunities to reduce impact, consistent with project commitments.

In carrying out vegetation clearing, the Network Operator would confirm the location and extent of vegetation to be cleared through pre-clearing surveys, demarcation of clearing extents onsite, and post-clearing survey. The Network Operator would typically only clear the minimum amount of vegetation necessary to facilitate construction and meet operational requirements.

During detailed design, if a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. Approval for any modification would be sought in accordance with the requirements of Division 5.2 of the EP&A Act.

## **Terrestrial biodiversity impacts – construction**

### **Summary of issues**

Concerns regarding the impacts of the project on the Regent Honeyeater, and the removal of essential mature good condition habitat. The submission also notes there are breeding birds in the areas proposed for clearing.

### **Response**

EnergyCo established a transmission line corridor through the mining areas in response to strong community feedback on the previous study corridor that was developed by Transgrid that traversed high value agricultural lands on the Merriwa Cassilis Plateau. In doing so, EnergyCo sought to maximise the use of previously disturbed areas and co-locating with existing transmission infrastructure, to minimise environmental and land use impacts.

As noted in section 2.7.1 of the EIS, EnergyCo considered Wollar as being the best location to connect to the NEM given it connected to a 500 kV network. This connection point to the NEM, the need to avoid Goulburn River National Park, Munghorn Nature Reserve, and to utilise disturbed mining areas, set the trajectory of the transmission line alignment in this section of the project.



Complete avoidance of Regent Honeyeater habitat is not possible given the dispersed nature, and the need to also avoid intervening vegetated areas, and retain minimum buffers to dwellings. To minimise impacts it was decided to co-locate the project with the existing transmission line infrastructure.

The project would impact around 111 hectares of mapped 'important habitat' for the Regent Honeyeater, which represents around 0.37 per cent of the species' geographical range. This would result in localised fragmentation of the species habitat. However, the population is not currently considered to be severely fragmented (based on EPBC Act criteria and regulations), and therefore there is no evidence that the population would become unviable as a result of the project's construction. The impacts to Regent Honey Eater habitat would be offset.

Mitigation measures B1 and B4 aim to minimise impact to minimise vegetation clearing. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

The impact to breeding habitats for birds has been considered in the biodiversity assessment, and mitigation measures have been identified where relevant. As per mitigation measure B2, prior to construction activities taking place within the Little Eagle nest buffer and during the breeding season (from Spring until after young and fledged in early Summer), an ecologist will be engaged to determine if the species is present. If present, an impact assessment of proposed activities will be completed to determine what activities can take place within the buffer area, and what mitigation measures need to be implemented. Measures may include cessation of certain activities, amending the construction methodology including selecting alternative plant or equipment.

Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater.

## Offsets

### Summary of issues

Concerns regarding the lack of details on the biodiversity offset arrangements. The submission strongly objects to the removal of any Regent Honeyeater habitat, stating that there has been too much loss of habitat for this species, and it is impossible to offset it.

### Response

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater. EnergyCo plans to subsume the property into the adjacent national park.

## Management and mitigation

### Summary of issues

The submission states there must be no incursion into the Regent honeyeater offset area, and the transmission lines must avoid it. The submission requests that the REZ take steps to have it protected in its plans.

## Response

As noted above, developing an alignment through the mining areas sought to minimise impacts to Regent Honeyeater habitat by co-locating with the existing transmission line. Complete avoidance is not possible.

Mitigation measures B1 and B4 aim to minimise impact to minimise vegetation clearing. Sensitive areas will be avoided during detailed design and sensitive areas will be identified on sensitive area plans using spatial data. Micro siting of construction infrastructure (including site offices, compounds and access tracks) and transmission line infrastructure will be undertaken to minimise impact on biodiversity values.

Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater. EnergyCo intends to transfer this land into the adjacent national park.

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## 5.16 Orange Compass

Orange Compass provided a response to the public exhibition of the EIS dated 7 November 2023. The submission contains a series of recommendations with respect to both the EIS process for REZ related projects, and concerns of the adequacy of assessments for the project EIS.

Most of the content of the Orange Compass submission is related to the approach the cumulative impact assessment, with sub themes related to social and economic impacts (including community engagement) as well as the level of detail contained the EIS. This section provides a summary of the recommendations and issues raised within the Orange Compass submission and their consideration.

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### 5.16.1 Strategic context

#### Governance and management of the Central-West Orana REZ

##### Summary of issues

Building on the concerns and recommendation in Sections 5.15.1 and 5.15.2, Orange Compass raised concerns over the leadership and stewardship from the government to coordinate the multiple environmental, economic and social impacts and benefits across the design and implementation of phases. Specifically highlighting minimum requirements including:

- rules to define interactions between stakeholders
- governance mechanisms to steer the REZ towards desired outcomes
- an increase EnergyCo's role, presence and accountability in communities
- increased transparency and data sharing on impacts and mitigation
- improved alignment of the energy sector with other impacted sectors and services.

##### Response

The NSW Government released the NSW Electricity Infrastructure Roadmap in November 2020, supported by the EII Act in December 2020 and re-committed to as a Strategic priority for the current government in 2023. The NSW Electricity Infrastructure Roadmap is an integrated policy framework that sets renewable energy generation targets in NSW over 20 years and requires multiple entities to work together to deliver upon this important Government policy (NSW Government, 2020).

EnergyCo, as the Infrastructure Planner under the EII Act is responsible for planning, designing and coordinating the delivery and operation of the five declared REZ's and two priority transmission infrastructure projects in NSW.

In this role, EnergyCo is required to assess and make recommendations to the Consumer Trustee on the network infrastructure projects that provide the intended network capacity for each REZ, It is required to do this, in consultation with AEMO, local councils and relevant operators in the REZ.

EnergyCo has prepared two annual reports on its function as the Infrastructure Planner under the EII Act since its enactment, including how it is delivering on its responsibilities. The reports were provided to Independent Pricing and Regulatory Tribunal (IPART) in accordance with the EII Act and published on IPART's website.

In terms of delivering on the objects of the EII Act for improving the affordability, reliability, security, and sustainability of electrical supply, the Consumer Trustee is an independent role appointed by the energy minister under the EII Act to act independently and in the long term financial interests of NSW electricity consumers.

Access schemes are a key part of the NSW Governments plan to coordinate and encourage renewable energy and storage investment in REZs and realise the objectives of the NSW Electricity Infrastructure Roadmap and the Electricity Infrastructure Investment Act 2020. An access scheme is intended to enable efficient investment in generation, storage and transmission infrastructure in the long-term interest of consumers.

Generation and storage projects that wish to connect to network infrastructure which is subject to an access scheme will need to apply for an access right through a competitive tender. Access right holders will be charged access fees that include components to fund community benefit and employment programs.

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## 5.16.2 Community and stakeholder engagement

### Consultation during preparation of the EIS

#### Summary of issues

Orange Compass raised the following concerns as related to the details provided in the EIS:

- the data provided as 'engagement' in EIS not satisfactory or statistically representative of the community
- community engagement standards and protocols need to be clearly defined to avoid this shortcoming in future
- standards and protocols for engagement should sit alongside clearly defined goals and outcomes for SIA.

#### Response

EnergyCo's communication and engagement approach broadly aligns with *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022c) and *Quality Assurance Standard for Community and Stakeholder Engagement* (IAP2, 2015). Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ.

The feedback and suggestions received from the community and stakeholders have informed the development of the EIS. Appendix D of EIS provides a detailed analysis of the feedback provided by community and stakeholders and how this has been addressed in EIS. Consultation as part of the SIA for the EIS, including interviews and online surveys, were also completed and is addressed in Section 4.12.1 of this report.

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## 5.16.3 Cumulative impacts

### Impact assessment approach

#### Summary of issues

Related to the impact assessment approach, Orange Compass recommended the creation of a cumulative impact framework that includes appropriate measurement and evaluation of social and economic impacts. They raised concerns that current planning laws and regulations are a poor substitute for cumulative impact assessment and monitoring. Stating 'the EIS process requires more sophistication in the development of social and economic impact categories, indicators and data collection methods'.

Orange Compass highlighted that the cumulative impact framework should be supported by ongoing data collection for the life of the REZ. They identified a critical need to ensure that there is a way to assess, monitor and evaluate and report back to communities and other stakeholders in a transparent way. In addition stated that increased transparency should be enabled through sharing information and open platforms to hold the data.

#### Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). A cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments. Five working groups were created reflecting the priorities identified during consultation comprising:

- housing and accommodation
- transport and logistics
- environmental services
- social services
- economic development.

A series of studies to establish benchmark levels of service or infrastructure provision across a number of Social Licence themes have been organised to inform decision making.

### Social/economic

#### Summary of issues

Orange Compass recommended, that once the cumulative impact framework as outlined above was developed, the assessment of social and economic impacts should be revisited in this EIS process. They identified specific concerns with respect to the level of detail of direct and indirect social and economic impacts in the EIS; mitigation plans for impacts such as social cohesion and believed that economic impacts had been underestimated.

Orange Compass raised concerns regarding the monitoring and enforcement of management and mitigation of social and economic impacts, specifically undeveloped mitigation strategies as being inappropriate for impact management. They recommend that once the social and economic impacts have been revisited, there is a need for ongoing monitoring and enforcement. Requirements for independent auditing powers. And as such the EIS should not be approved until such plans are available.

## Response

The updated cumulative impact assessment in Appendix L of the Amendment Report includes further social and economic assessment.

The cumulative impact assessment included the assessment of social impacts including those affecting agriculture and food production, community cohesion, sense of safety, capacity of health, food, and social services, sense of place and mental health impacts due to bushfire risk. This project's contribution to these impacts would range from minimal to moderate.

Direct cumulative economic impacts to the region would be greatest during construction. This project, in combination with the relevant future projects, would generate a large demand for a suitably qualified construction workforce in regional areas. It is estimated that over 4,000 workers would be required for Central-West Orana REZ renewable energy generation and the project between mid-2025 and mid-2026 (EnergyCo, 2023b).

The Central-West Orana REZ Steering Committee (the committee) was established in July 2023 to ensure whole of government REZ coordination and accountability for delivery of actions to mitigate cumulative impacts and provide community benefits in the Central-West Orana REZ. Throughout the second half of 2023, the committee's working groups developed draft action plans which identified a range of initiatives aimed at addressing cumulative impacts and delivering community and employment benefits for the REZ.

EnergyCo is working with councils and other government agencies to review the action plans, prioritise initiatives and undertake background work to develop initiatives to a stage where they can be funded through the Community and Employment Benefit Program.

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## 5.17 Rylstone District Environment Society

The Rylstone District Environment Society provided a response to the public exhibition of the EIS (Undated). The submission objected to the project due to impacts on biodiversity, specifically related to the approach to impact assessment and offsets, as well as the route selection process (and whether the transmission line is above ground or below ground).

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### 5.17.1 Strategic context

#### Route selection – transmission lines (above vs below ground)

##### Summary of issues

Concerns there was no consideration of the undergrounding of the project infrastructure.

##### Response

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. However, it was not considered a viable option due to a range of factors including land use impacts. Further information on the consideration of underground transmission lines is provided in Section 4.1.6 of this report.

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## 5.17.2 Biodiversity

### Summary of issues

The submission included concerns over:

- a lack of assessment of critically endangered grassy box woodland communities
- no impact assessment for the Regent Honeyeater
- no attempt to avoid the Durrigere SCA or areas already set aside for existing mine offset sites (including area set aside for the Regent Honeyeater)
- no specific plans for offsets to make up for impacts to habitat or biodiversity.

### Response

Potential biodiversity impacts resulting from the project, including potential impacts to threatened species (such as the Box Gum Woodland and Regent Honeyeater), communities, and their habitats were assessed in accordance with Commonwealth and the BAM (DPIE, 2020a). An updated BDAR has been completed and is provided in Appendix G of the Amendment Report.

Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. The impacts to these TECs and biodiversity offset sites has been included in the updated BDAR.

The project would impact around 111 hectares of mapped 'important habitat' for the Regent Honeyeater, which represents around 0.37 per cent of the species' geographical range. This would result in localised fragmentation of the species habitat. However, the population is not currently considered to be severely fragmented (based on EPBC Act criteria and regulations), and therefore there is no evidence that the population would become unviable as a result of the project's construction. The impacts to Regent Honeyeater habitat would be offset.

The project as presented in the EIS and Amendment Report has been developed to avoid and minimise impacts wherever possible and has been designed to a level where the potential impacts of the project can be appropriately identified and assessed. Some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

The Cassilis connection (between the Merotherie Energy Hub and Liverpool Range Wind Farm) was modified during the project's development in response to landowner and community feedback regarding additional and unacceptable impacts to landowners that were already hosting the Liverpool Range Wind Farm development. To provide certainty to hosting landowners of both projects, the transmission line alignment was revised to align with the approved Liverpool Range Wind Farm project. This meant that around 15 hectares of Durrigere SCA would be impacted by the project. However, as indicated in the EIS and Tilt Renewable SSD modification for the approved Liverpool Range Wind Farm, only one project would construct the 330 kV alignment through the SCA. When compared to the Tilt Renewables 330 kV transmission line alignment, the project would have a net reduction of around four kilometres of transmission line through the SCA. This would reduce clearing in the Durrigere SCA by over 20 hectares. Developing an alignment through the mining areas, where there was existing infrastructure and transmission lines, had the advantage of maximising the use of existing disturbed land, avoiding Goulburn River National Park to the north, Munghorn Gap Nature Reserve to the south, and providing a strong connection to the National Electricity Market via Barigan Switching Station at Wollar. However, the narrow corridor and multiple operational mining constraints in this part of the construction area has resulted in a transmission line alignment that traverses biodiversity offset sites and Regent Honeyeater habitat.

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund. EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

Subject to ongoing interest and detailed biodiversity surveys, the biodiversity stewardship agreements would address around half of the project's biodiversity offset liability, or most of the project ecosystem credits. It is noted that around 45 per cent of the project's offset liability relates to species credits, which aren't always present at biodiversity stewardship sites, or historically available on the market. If species credits cannot be retired through stewardship agreements, purchased on the open market or through the Taskforce, EnergyCo would need to pay into the Biodiversity Conservation Fund.

EnergyCo has acquired two properties as follows:

- a 684 hectare property adjacent to Goulburn River National Park to primarily offset the mining offset areas with residual values available for the project offset liability
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

During detailed design, if a proposed refinement to the project is not consistent with the planning approval, it would be considered a project modification. Approval for any modification would be sought in accordance with the requirements of Division 5.2 of the EP&A Act.

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## 5.18 Save our Surroundings

Save our surroundings provided a response to the public exhibition of the EIS (Undated). The submission objected to the project on the grounds that it posed risks to the local human and animal populations.

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### 5.18.1 General issues

#### Summary of issues

The submission included concern over several unspecified risks on issues including:

- biodiversity and social, referencing unidentified risks to human and animal populations
- noise and vibration
- hazard and risks – bushfire
- soils and contamination
- water quality impacts (hydrology, flooding and water quality).

## Response

For details on project amendments, refinement and detailed responses to key issues raised, refer to:

- Biodiversity – Section 4.9
- Social – Section 4.12
- Noise and vibration – Section 4.14
- Hazard and risks associated with bushfire – Section 4.15.6 and 4.15.7
- Soils and contamination – Section 4.19
- Water quality impacts (hydrology, flooding and water quality) – Section 4.18.

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## 5.18.2 Issues beyond the scope of the EIS

### Impacts of renewable energy projects

#### Summary of issues

The submission also outlined concerns which are beyond the scope of the project, including comments on bonds and end of life planning for renewable energy generators, and proponents not meeting EIS commitments (in other countries).

The submission also included an attached report titled ‘wind and solar electricity generating works are the Answer. Seriously? (SOS, 2022) which was submitted to the Parliamentary Inquiry into Australia’s transition to a green energy superpower (October 2023). The report outlines a series of reasons why renewable projects are polluting, dangerous and costly, however makes no direct reference to the project.

#### Response

The development of renewable energy generation projects in the Central-West Orana REZ does not form part of the project and those generation projects are subject to separate planning and environmental approvals. The environmental and social impacts of each project would be assessed and determined in accordance with Commonwealth and NSW planning legislation. The impacts specific to renewable energy projects are outside the scope of the assessment for this project.

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## 5.19 Wellington Valley Wiradjuri Aboriginal Corporation

The Wellington Valley Wiradjuri Aboriginal Corporation provided a response to the public exhibition of the EIS (Undated). The submission objected to the project on cultural heritage grounds, with specific reference to Aboriginal heritage impacts (including cumulative impacts), the planning approvals process and impacts on land use and property. It also identified undefined concerns to environmental impacts of the project.

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### 5.19.1 Statutory context

#### Planning approval process

##### Summary of issues

Concern regarding the period of public exhibition, with only 28 days to respond, when other projects have allowed 90-day time periods.



## Response

As CSSI, the project is subject to a statutory requirement for an exhibition period of 28 days. The EIS and accompanying technical papers were placed on exhibition from Thursday 28 September 2023. As a result of community feedback early in the 28-day exhibition period, the exhibition period was extended by an additional two weeks until Wednesday 8 November 2023 (41 days), to allow more time for the community and stakeholders to review the EIS and make a submission.

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## 5.19.2 Land use and property

### Property value impacts

#### Summary of issues

Concern for impacts on property values, and freehold landowners being forced to give up land for the project.

#### Response

While submissions have raised concerns about perceived impacts on property values, transmission lines may have little impact on dynamic changes in house prices over time (Han & Elliott, 2013). Furthermore, anecdotal evidence in the region suggests that land that is proximate to the proposed transmission infrastructure with strong renewable energy resources has the potential to generate value significantly greater than their current value as agricultural land.

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

Compulsory acquisition would only be carried out in accordance with the Just Terms Act where the parties are unable to reach an agreement. The process of compulsory acquisition provides the landowner with the benefit of an independent third party to determine appropriate compensation having regard to all relevant facts. EnergyCo compensates landowners for any reasonable fees associated with obtaining advice from a lawyer to help inform decisions during the acquisition process.

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## 5.19.3 Aboriginal heritage

### Aboriginal heritage impacts

#### Summary of issue

Concerns regarding physical impacts to Aboriginal Cultural Heritage sites, including the visual impacts from some very significant aboriginal cultural heritage sites.

#### Response

The project has sought to balance the various environmental and social features present within the construction area with engineering limitations and project costs (refer to Chapter 2 (Strategic context) of the EIS).

There are 50 identified Aboriginal sites within the construction area (as amended). In addition to these sites, zones of archaeological potential were identified throughout the construction area, consisting of all land within the construction area that is within 150 metres of 13 watercourses, including Prospect Creek, Sandys Creek, Laheys Creek, Browns Creek, Whites Creek, Sportsmans Hollow Creek, Deadmans Creek, Bora Creek, Cumbo Creek, Planters Creek, Wilpinjong Creek, Tallawang Creek and Copes Creek.

The assessment of potential impacts to Aboriginal heritage has been undertaken by adopting a 'worst case impact'. Conducting the impact assessment in this way allows for a level of flexibility to be maintained throughout the continued development of the project design and construction planning processes, while also providing a rigorous level of impact assessment that addresses the SEARs for the project.

Further discussion regarding the potential impact to Aboriginal Cultural Heritage is provided in Section 4.10.2.

Visual impacts would occur at nine Aboriginal sites within the construction area which are planned to be avoided at Merotherie Energy Hub and Neeleys Lane workforce accommodation camp. These sites are listed in Chapter 7 of the updated Aboriginal Cultural Heritage Assessment Report (ACHAR) in Appendix H of the Amendment Report. Outside the construction area, three places of cultural value and two travelling routes identified during the cultural mapping would be subject to visual impacts from the project.

An Aboriginal heritage-interpretation strategy and plan will be developed by an Aboriginal heritage specialist, in consultation with Registered Aboriginal Parties, which will identify the interpretive values of the construction area (and specifically Aboriginal heritage values) and provide direction for interpretive installations and devices (mitigation measure AH7).

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## 5.19.4 Cumulative impacts

### Cumulative impacts – Aboriginal heritage

#### Summary of issue

Concerns regarding the cumulative impacts of the project with other renewable energy projects on aboriginal cultural heritage, including the removal for future generations.

#### Response

An updated assessment of cumulative impacts to Aboriginal heritage is provided in Appendix L of the Amendment Report.

This project, in combination with the relevant future projects, would result in a potential cumulative unmitigated loss to Aboriginal site types in the region, including rockshelters (nine per cent), grinding grooves (22 per cent), culturally modified trees (four per cent) and moderate or high significant stone artefact deposits (23 per cent). Many of these sites within the construction area of the project would be avoided through application of mitigation measures. EnergyCo is continuing to explore the potential avoidance of sites of high and moderate significance within the construction area. This project, in combination with the relevant future projects, would also result in the protection of numerous cultural heritage sites avoided through design and construction refinement.

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## 5.20 Uarbry Tongy Lane Alliance

The Uarbry Tongy Land Alliance provided a response to the public exhibition of the EIS (undated). The submission objected to the project, and raised concerns across a broad range of issues and project impacts. This section provides a summary of these concerns and issues and their consideration.

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### 5.20.1 Strategic context

#### Renewable energy zones

##### Summary of issues

Concerns were also raised with regards to the use of the term ‘Hosts’ as landowners did not choose to live in an area classified as a REZ.

##### Response

Landowners with transmission line easements proposed on their property are referred to as host landowners in the EIS. This terminology was not used to indicate the willingness of the landowners to host project infrastructure, but to differentiate them from other landowners potentially impacted by the project who would not be eligible for compensation under the Just Terms Act.

#### Governance and management of the Central-West Orana REZ

##### Summary of issues

Concerns regarding the lack of strategic planning with respect to developments within the REZ and manage cumulative impacts of developments. It was raised that there is no accreditation process for proponents in the REZ and no restrictions on development.

##### Response

The NSW Government released the NSW Electricity Infrastructure Roadmap in November 2020, supported by the EII Act in December 2020 and re-committed to as a Strategic priority for the current government in 2023. The NSW Electricity Infrastructure Roadmap is an integrated policy framework that sets renewable energy generation targets in NSW over 20 years and requires multiple entities to work together to deliver upon this important Government policy (NSW Government, 2020).

EnergyCo, as the Infrastructure Planner under the EII Act is responsible for planning, designing and coordinating the delivery and operation of the five declared REZ’s and two priority transmission infrastructure projects in NSW.

In this role, EnergyCo is required to assess and make recommendations to the Consumer Trustee on the network infrastructure projects that provide the intended network capacity for each REZ, It is required to do this, in consultation with AEMO, local councils and relevant operators in the REZ.

EnergyCo has prepared two annual reports on its function as the Infrastructure Planner under the EII Act since its enactment, including how it is delivering on its responsibilities. The reports were provided to Independent Pricing and Regulatory Tribunal (IPART) in accordance with the EII Act and published on IPART’s website.

In terms of delivering on the objects of the EII Act for improving the affordability, reliability, security, and sustainability of electrical supply, the Consumer Trustee is an independent role appointed by the energy minister under the EII Act to act independently and in the long term financial interests of NSW electricity consumers.

Access schemes are a key part of the NSW Governments plan to coordinate and encourage renewable energy and storage investment in REZs and realise the objectives of the NSW Electricity Infrastructure Roadmap and the *Electricity Infrastructure Investment Act 2020*. An access scheme is intended to enable efficient investment in generation, storage and transmission infrastructure in the long-term interest of consumers.

Generation and storage projects that wish to connect to network infrastructure which is subject to an access scheme will need to apply for an access right through a competitive tender. Access right holders will be charged access fees that include components to fund community benefit and employment programs.

## Engagement on the REZ declaration

### Summary of issues

Concerns regarding the level community engagement and consultation by the NSW Government with respect to the declaration and identification of the boundaries of the Central-West Orana REZ.

### Response

The EII Act sets out the procedure to be followed prior to declaring a REZ, including the requirement for public consultation on the draft REZ declaration for a period of a least 28 days. The declaration for the Central-West REZ followed an assessment of feedback received during the draft declaration exhibition period from 17 September to 15 October 2021. As all points raised were addressed, no changes were made between the draft and (final) declaration order. On 5 November 2021, the Central-West Orana REZ was declared by the Minister for Energy.

In August 2023, EnergyCo invited feedback on a proposed amendment to the Central-West Orana REZ declaration which would increase the intended network capacity of the REZ to meet future energy needs. Refer to Section 4.1.2 for further details on the engagement on the REZ declaration.

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## 5.20.2 Statutory context

### Adequacy of the EIS

#### Summary of issues

Concerns that the EIS had been lodged in haste to avoid repercussions from then New Upper House Committee to investigate underground transmission lines, and as a result contains missing reports. Concerns that EnergyCo will do the right thing prior to construction. The submission questioned the timing of the Landowner Engagement Strategy with reference to compulsory acquisition, and requested the following reports be provided:

- CEMP
- Aboriginal Cultural Heritage Management Plan (ACHMP)
- Historical Heritage Management Plan
- Construction Noise and Vibration Management Plan (CNVMP)
- Soil and Water Management Plan (SWMP)
- Social Impact Management Plan
- Workforce Management Plan
- Local Workforce Participation Plan
- Property Management Plan
- Community Wellbeing Strategy
- Bushfire and Emergency Management and Evacuation Plan
- Landscape Character and Visual Impact Management Plan
- Biosecurity Management Plan
- Vegetation Management Plan
- Riparian Vegetation Management Plan (RVMP)
- Operational Emergency Management Plan

- Industry Participation Plan
- Landowner Engagement Strategy
- Pre-Construction and Construction Communications and Engagement Plan
- First Nations Liaison Group
- Complaints Management System
- Operational Communications Plan
- OEMP
- Traffic Management Plan
- Vehicle Movement Management Plan
- Driver fatigue Management Plan
- BMP
- Construction Waste Management Plan.

## Response

The timing of the EIS was not linked to the Legislative Council's inquiry into the feasibility of undergrounding transmission infrastructure for renewable energy projects due to the electricity system in NSW is currently undergoing a rapid transformation. A final report from the inquiry was published in August 2023 (Legislative Council, 2023).

The distribution of opening letters for property acquisitions was initiated to align with the Just Terms Act, considering the lengthy nature of the acquisition process. The approach is similar that that adopted on other large scale infrastructure projects in NSW, and it ensures that land is available for construction in a timely manner, if the project is approved. The acquisitions are proceeding independently, and the EIS has not made any assumptions about landowner agreements.

As discussed in Section 5.10.1 of this report, consistent with industry best practice, management plans for the project are developed in consultation with relevant stakeholders following planning approval. The Landowner Engagement Strategy would be prepared prior to construction.

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## 5.20.3 Community and stakeholder engagement

### Consultation on the project

#### Summary of issues

The submission identified a number of concerns relating community and stakeholder engagement of both the project, as well as wider energy developments within the Central-West Orana REZ.

The submission commented on:

- a new rule (commencing on 5 December 2023) based on the Federal Transmission planning and investment review regarding the requirement for engagement with stakeholders and the requirement make reasonable endeavours to satisfy the community when engaging with local stakeholders. They question the timing of the exhibition to avoid this new rule, the level of engagement with landowners in the Central-West Orana REZ to expand transmission infrastructure
- poorly planned and advertised consultation/information sessions where feedback was not accepted
- the community being unaware of projects until construction begins, and a lack of information about future plans (including energy production capacities).

## Response

As discussed in Section 5.4.3 of this report, between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ.

The feedback and suggestions received from the community and stakeholders, including from the Community Reference Group, have been considered in combination with engineering, environmental, land use constraints, to further refine the project. Community information sessions during exhibition of the EIS were primarily intended to provide information about the project, the EIS and the process for providing a submission through the formal DPHI process. Project representatives were present at these sessions to provide answers to questions based on their expertise and the stage of the project.

The development of renewable energy generation projects in the Central-West Orana REZ is the responsibility of private generators and subject to separate planning and environmental approvals. Each proponent is accountable for developing and implementing an engagement plan that encompasses neighbouring landowners. Engagement would also need to be conducted to the satisfaction of the consent authority for the projects which is primarily DPHI for large-scale renewable energy projects in NSW.

## **Consultation with host landowners**

### **Summary of issue**

Concerns regarding the lack of a social licence for the project and claims of coercion from EnergyCo.

### **Response**

Property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. EnergyCo aims to acquire property by negotiated agreement wherever possible, however there may be instances where agreement cannot be reached. EnergyCo will always negotiate with landowners and registered interest holders for at least six months to acquire an easement through mutual agreement where possible, before initiating compulsory acquisition.

It is acknowledged that land acquisition can be a stressful process for landowners. Landowners have been provided with an acquisition support team to help them understand their rights and obligations together with any other aspect of the acquisition process. Each landowner directly impacted by the project has a dedicated Land Acquisition Manager who acts as their point of contact throughout the acquisition.

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## **5.20.4 Agriculture**

### **Impact to stock movements (construction)/biosecurity impacts**

#### **Summary of issues**

Concern regarding the biosecurity impacts of the project, including cumulative impacts between other developments or across the REZ, and a lack of plans to manage impacts, and place limits on potential adverse outcomes, or how to contain a biosecurity breach.

#### **Response**

Construction and operation of the project has the potential to introduce or spread animal and plant diseases, feral pests and weeds, if not properly managed. There are a number of weeds, pests, and animal and plant diseases, which pose a high risk to agricultural production in the wider study area which have been identified in Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture). The weeds, St Johns Wort and Coolatai Grass, were identified as biosecurity risks present in the area. As per mitigation measure AG5, a Biosecurity Management Plan will be developed for construction and include protocols/matters to minimise the biosecurity risk from construction activities. The Biosecurity Management Plan will be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas.

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## 5.20.5 Biodiversity

### Terrestrial biodiversity impacts (construction)/management and mitigation

#### Summary of issues

Concern regarding the impacts of the project on the Critically Endangered Ecological Communities across the Central-West Orana REZ, and identified concerns of the cumulative clearing of Box Gum Woodland (highlighting BCS's response to the Valley of the Winds wind Farm EIS, that clearing 428.52 ha of Box Gum Woodland would contribute significantly to the risk of the extinction in NSW).

The Uarbry Tongy Land Alliance states biodiversity damage on the scale proposed in the Central-West Orana REZ requires a coordinated and considered plan to place limits on the amount of clearing which can take place.

#### Response

Construction of the project would result in direct impacts to around 1,227 hectares of native vegetation. Two of the three TECs directly impacted are White Box-Yellow Box-Blakelys Red Gum Grassy Woodland and the Grey Box Grassy Woodlands. Endangered ecological communities are referred to as TECs in the biodiversity assessment. The BDAR recognises that there is a risk that the impacts to White Box-Yellow Box-Blakelys Red Gum Grassy Woodland would be a Serious and Irreversible Impact (SAII). Opportunities to further reduce the impacts to native vegetation, particularly TECs, would be considered during detailed design.

The BOS, established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

A cumulative assessment of the impacts to biodiversity has been completed for the project and is detailed in Appendix L of the Amendment Report.

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## 5.20.6 Social

### Impact assessment approach

#### Summary of issues

The submission stated that Dunedoo is not mentioned in the project EIS with respect to its capacity of services. They also raised the limited services across the region to deal with the influx of workers.

#### Response

The workforce accommodation camps would provide sufficient accommodation for all construction workers, including during the peak construction period. Food, sporting and recreation facilities will be provided at the camps. Furthermore, two full time paramedics and one full time nurse would be provided, to minimise impacts of the construction workforce on local and regional health services. Further consideration of issues raised with respect to pressure on social and commercial services in the region during construction is provided in Section 4.12.4 of this report.

Impacts to supermarkets and medical services in Dunedoo are assessed as part of the regional social locality and found to be low, given Dunedoo's distance to the project construction area and the services proposed on accommodation camps.

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## 5.20.7 Hazard and risks

### Aviation safety

#### Summary of issues

Concerns the EIS did not describe impacts to the Tongy or Turee Airstrips and stated the most common cause of aerial application accidents/incidents was due to wire strikes. They raised concerns that pest management practices (such as aerial culling of feral pigs) would be stopped due to safety risks, stating the Local Land Services (LLS) have excluded the Tilt Liverpool Range area from the next proposed cull.

#### Response

The aviation impact assessment completed for the project is detailed in Technical paper 1 – Aviation. In section 5.8 of this technical paper, the three active Aircraft Landing Areas (ALAs) used for private aircraft operations identified within three nautical miles of the project, Dalkeith, Tongy and Merotherie ALAs, are described.

Establishment of transmission lines and towers up to 85 metres high would introduce a new obstacle into the airspace. However, additional project transmission lines are unlikely to impact aviation safety as they would be published on aeronautical charts and advised to aviation stakeholders prior to construction.

For agricultural aerial activities, the transmission lines and towers would reduce the area available for aerial application as aircraft would not be able to operate under the transmission lines. To manage risks due to the introduction of new obstacles, landowners that host project infrastructure would be required to supply details of the project to any pilot prior to conducting aerial services on these properties.

### EMF

#### Summary of issues

Concerns on the health impacts of the project and compensation for nearby residences due to EMF.

#### Response

EMFs are a natural part of the environment and are produced wherever electricity or electrical equipment is used. According to health authorities, including the World Health Organisation (WHO) and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), EMFs from electrical transmission lines are not considered a risk to human health.

A detailed assessment of EMFs from the project was carried as detailed in Technical paper 12 – EMF assessment report and summarised in EIS Chapter 16 (Hazard and risk). The predicted EMF levels at the boundary of the transmission easement are compliant with the current standards and guidelines administered by ARPANSA, no mitigation or modifications specific to the management of EMFs are required for the project.

Further consideration of the EMF issues on the project are provided in Section 4.15.8 of this report.

### General hazards – construction

#### Summary of issues

Concerns on the impacts of the project on local emergency services (VRA Rescue and RFS) to protect project accommodation camps, as well as the generation of toxic waste from the project.



## Response

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services will be undertaken for the project to establish processes for managing potential increased demands due to non-resident workforce (mitigation measure S15).

The use and types of hazardous materials used during construction are temporary and variable. During operation of the project, dangerous goods and hazardous materials would be stored at the switching stations and energy hub sites within the operation area. No toxic waste would be generated by the project itself.

## Battery Energy Storage System (BESS) related hazards

### Summary of issues

Concerns on the impacts of toxic smoke from battery or solar farm fires.

### Response

A BESS is no longer proposed as part of the project.

## Bushfire

### Summary of issues

Concerns regarding the project risks of generating fire in bushfire prone lands. Transmission line sagging causing fire, impacts on aerial firefighting, and the view that EnergyCo should provide all firefighting resources to combat fires.

### Response

The project is located in an area with significant potential to carry large scale and intense bushfires, and construction and operation of the project have the potential to cause a bushfire and therefore a risk to public safety.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at construction facilities, switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations. Vegetation within transmission line easements would be managed to ensure safe electrical clearances would be achieved during operation.

Firefighting equipment will be installed at construction compounds and workforce accommodation camps. As outlined in mitigation BF5, firefighting equipment will be maintained and made available for use during the construction phase in accordance with *Planning for Bushfire Protection 2019* (RFS, 2019).

Additionally, as per mitigation measure BF1, APZs for appropriate components of switching stations, energy hubs (including the maintenance facility), construction compounds and workforce accommodation camps will be established in accordance with the requirements of the RFS's documents *Planning for Bushfire Protection 2019* (Appendix 4) and Standards for APZs. The final design and associated APZs of appropriate components of switching stations and energy hubs (including the maintenance facility), will be developed in consultation with RFS.

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## 5.20.8 Traffic and transport

### Construction traffic impacts

#### Summary of issues

Concern relating to the generation of traffic on local roads, leading to increased accidents, congestion, and collisions with livestock, native wildlife and pests. They also highlighted the cumulative impacts on local roads, specifically Vinegaroy Road and impacts during harvest periods.

#### Response

Management of road safety impacts due to the increase in traffic volume is detailed in Section 4.14.5 of this report. While additional traffic movements from the project would bring a noticeable change to the local road environment, all local roads would still operate within capacity. Similarly, the increase in traffic would increase the number of interactions with other road users and introduces risks associated with traffic movements into/out of multiple access points. As per mitigation measure T12, appropriate traffic management, intersection treatments, signs and line marking will be implemented at vehicle access points to minimise this impact.

Mitigation measure T4 addresses driver-related road safety concerns and includes the development and implementation of a Driver Code of Conduct to define acceptable driver behaviour, promoting road safety and minimising the impacts of construction related vehicle movements on local roads and community. The mitigation measure also accounts for load limits and fatigue management and an establishment of a Driver Fatigue Management Plan, integrated to the CEMP to address driver fatigue risks, planning regular breaks and mapping locations of drivers rest areas along the proposed construction routes.

Furthermore, a Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including oversize and overmass (OSOM) routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

Developments with construction routes that overlap with this project have the potential to increase the number of construction vehicles on the road network. A quantitative cumulative impact assessment of potential traffic impacts including consideration of the Golden Highway was completed and is detailed in Appendix L of the Amendment Report. The assessment indicates that the additional traffic volumes generated by the 18 relevant future projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS A for all routes) maintained on most roads.

Further discussion on cumulative traffic impacts and management is available in Section 4.23.13 of this report.

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## 5.20.9 Watery supply and resources

#### Summary of issues

Concern regarding water supply, and the EnergyCo not requiring a water licence, and thus taking priority over other water users. Specifically, identifying concerns over the impacts of the use of water and water source volumes in the upper and lower Talbragar Rivers during construction.

## Response

As per section 3.4 of Technical paper 14 – Hydrology and water quality, due to unavailability of water usage data for Upper and Lower Talbragar River, water source data from adjacent Cudgegong River catchment was used to assess the impacts as it consists of similar land uses and climatic conditions. It is noted that for all construction years, the available water for extraction would be limited by the preceding rainfall. As per the data interpretation in the assessment, there is a high chance of water being available for all construction activities requiring for 2024 and 2027. Analysis of rainfall data in Technical paper 14 – Hydrology and water quality notes that Lower Talbragar has a large volume of potential water available, hence causing minimal impact and suggests it to be the preferred source of water for the project during low rainfall periods.

The actual water usage during construction is expected to vary during the construction period depending on the nature and extent of construction activities taking place. Opportunities to minimise water demand would be identified during detailed construction planning and implemented where feasible.

The use of non-potable water over potable would be preferred, however this is dependent on the location and nature of the water use activity as well as the quantity and quality of available water at the time. Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under water access licences for the project
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (non-potable water).

Since exhibition of the EIS, EnergyCo has been in consultation with a water broker to identify available surface and groundwater sources that can meet the project's water supply requirements. Based on a review of the water trading market, it was found there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard EnergyCo has been advised sourcing water from exiting entitlements is a feasible and realistic option for the project. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

## Flooding

### Summary of issues

Concerns were also raised over road access and availability during flooding and impact of culvert and bridge construction on flood plains.

### Response

The project as amended now includes the upgrade of a section of Merotherie Road. The flood impact assessment of this upgrade is detailed in section 5.12.3 of the Amendment Report.

Details on flooding and impact of culvert and bridge construction on flood plains have been discussed in Section 5.13.16 of this report.

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## 5.20.10 Soils and contamination

### Soil impacts (general)

#### Summary of issues

Concerns regarding impacts of concrete on topsoil and soil fertility.

#### Response

The operation of the project would not generally affect the intrinsic capability or physical characteristics of the land in the operation area. The exception is where permanent infrastructure would remove areas from agricultural production and the soil and land capability would be lost (for example concrete foundations for transmission towers), or where the soil characteristics are likely to be affected to the extent that these locations would no longer be productive for cropping or pasture areas (such as permanent access tracks).

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## 5.20.11 Project – construction

### Workforce accommodation camps

#### Summary of issues

Concern the workforce accommodation camps would damage local amenity, and raised the questions over the following:

- provision of energy for workforce accommodation camps and ancillary buildings via solar and batteries
- drug and alcohol testing of workers, including the procedures for testing and how positive test results be managed
- police screening of workers and local resident safety
- the location of accommodation camps, i.e. adjacent to solar projects, substations, wind turbines etc.
- long term health monitoring for workers living around turbines, solar panels and around transmission infrastructure.

#### Response

Electricity needs on site would likely be provided by connection of the construction site offices and workforce accommodation camps to the local power grid. Generators would be used where it is not practicable to obtain power from the local grid or through the use of solar panels, at the construction compounds and workforce accommodation camps.

The Network Operator will conduct screening background checks as part of the onboarding process. In addition, as part of the commencement of employment (or subcontractor engagement), all workers will complete project induction training prior on commencement of work on the project. The induction outlines expectations with respect to worker behaviours, project rules and consequences. This includes behaviour expectations of being a good neighbour. An alcohol and drugs policy would also be made clear to workers and alcohol and/or other drug testing will be conducted as necessary to support the policy.

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## 5.20.12 Cumulative impacts

### Impact assessment approach

#### Summary of issues

Concern regarding cumulative impacts of the project as well as wider developments within the REZ. The submission requested a moratorium on any further development until a comprehensive plan be established to ensure developments are not assessed in 'silos' and to clarify and quantify REZ wide cumulative impacts.

#### Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). A supplementary cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

The cumulative impact assessment does not consider existing projects, only proposed projects, where an application has been lodged, and approved projects that have not started construction or that are currently under construction. This is because existing projects are considered to be part of the existing environmental conditions.

### General cumulative impacts

#### Summary of issues

General concern:

- the project would facilitate the Valley of the Winds project which does not acknowledge the impacts of nearby turbines in the Girragulung cluster to the Tongy ALA
- regarding the assessed cumulative impacts:
  - of concrete projection, which would render soils infertile
  - on water supply and volumes in the upper and lower Talbragar Rivers
  - on biodiversity, specifically identifying impacts on Critically Endangered Ecological Community (CEEC) Box Gum Woodland
  - of waste generation.

#### Response

During operation, this project would have only minimal impacts on aerial operations at ALAs near the project, when the recommended risk management process is carried out by the pilot and landowner. No other adverse impacts on aerial operations are expected during operation.

Some of the relevant future projects, such as wind farms, would result in impacts on aerial operations during operation in areas that would overlap with the impacts of this project. With the implementation of the mitigation and management measures for each project, this project in combination with the relevant future projects, are not expected to result in any material cumulative aviation impacts during construction or operation.

Potential soil and contamination impacts of this project during construction, including concrete projection, are likely to be minor and localised to the construction area. With the implementation of the mitigation and management measures for each project, this project in combination with the relevant future projects, are not expected to result in any material cumulative soil and contamination impacts during construction or operation.

The cumulative assessment for the project considered water supply, biodiversity and waste generation impacts are described further in Section 5.13.18 of this report.

## Management and mitigation

### Summary of issues

The submission requested the plan include methods to model and describe cumulative impacts, and the interactions of these impacts, including:

- biosecurity
- land use, property, and agriculture
- landscape and visual
- biodiversity
- Aboriginal heritage
- social
- economic
- noise and vibration
- bushfire risk and general hazards
- traffic and transport
- waste management
- surface water and groundwater supply
- air quality.

### Response

The approach taken to the assessment of cumulative impacts acknowledges that each project will be required to mitigate its own impacts to acceptable levels, minimising the overall contribution to cumulative impacts. However, it is also recognised that not all REZ related cumulative impacts can be addressed through a project-level approach alone, requiring a more strategic and collaborative approach between EnergyCo, renewable energy developers, councils and government agencies.

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments. Five working groups were created reflecting the priorities identified during consultation comprising:

- housing and accommodation
- transport and logistics
- environmental services
- social services
- economic development.

A series of studies to establish benchmark levels of service or infrastructure provision across a number of Social Licence themes have been organised to inform decision making. Refer to Section 4.1.9 for further details on the initiatives being investigated for the community benefits scheme.

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## 5.21 Ulan Coal Glencore

Ulan Coal Glencore (Ulan Coal) provided a response to the public exhibition of the EIS dated 7 November 2023. Ulan Coal Mines Pty Ltd (UCMPL) is the operator of the Ulan Coal Complex (UCC). This section provides a summary of the issues raised within the Ulan Coal submission and consideration of those issues.

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### 5.21.1 Strategic context

#### Route selection – transmission lines (alternative alignment)

##### Summary of issues

Glencore raised concern regarding the risk of mine subsidence and sterilisation of mineral resources. The submission requests consideration of an alternative alignment that does not present the same risk of mine subsidence interaction and resource sterilisation as the alignment that is included in the EIS. The submission stated that if an alternative alignment were to be approved as part of the current approval process for the project, this would provide the flexibility for an optimal land use outcome to be achieved without the need for sterilisation of available resource or future relocation of the infrastructure.

##### Response

The project has been designed, where feasible, to avoid or minimise potential land use and property impacts. It is acknowledged that in some locations along the project alignment the transmission line easement is subject competing community, environmental and technical constraints. One such constraint may be the existence of an exploration licence over a parcel or parcels of land, which could potentially become a site for future coal mining. Noting the Central-West Orana has a high coverage of exploration licences. EnergyCo have adopted a balanced approach to corridor planning to determine the most appropriate project alignment including the area where an exploration licence is intersected.

EnergyCo acknowledges Glencore's concern with respect to potential resource sterilisation and mine subsidence risk. However due to the presence of other existing constraints in the area such as dwellings, high value agricultural land, high value biodiversity areas including Durridgere SCA, an alternative alignment has not been adopted.

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### 5.21.2 Statutory context

#### Adequacy of the EIS

##### Summary of issues

The project SEARS require an assessment of the likely economic, social and environmental impacts of the project having regard to the requirements in any relevant Government policies. Although the EIS identifies State Environmental Planning Policy (SEPP) (Resources and Energy) 2021 as a policy that requires consideration, it fails to consider clause 2.19 of that SEPP. That clause requires consideration of whether the project is likely to have a significant impact on current or future extraction of minerals (in this case coal). While the EIS addresses the existing approved mines, its assessment of potential impacts on coal within exploration areas is inadequate.

## Response

The EIS was prepared to address the requirements of both the State and the Commonwealth as set out in the SEARs issued by DPHI. The impact of the project on exploration licences, mining leases and mining lease applications is discussed in EIS Chapter 7 (Land use and property). Further discussion on the route selection process is in Section 5.21.1 of this report.

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## 5.21.3 The project – construction

### Utilities

#### Summary of issues

Concern regarding interactions with an approved (not yet constructed) water discharge pipeline that would interact with the 330 kV transmission line. The submission requests EnergyCo commit to accommodating construction of the pipeline and other mining infrastructure should this be required to support mining operations in the future. If no commitment is made, it should be a condition of approval.

#### Response

EnergyCo notes the potential interactions with a pipeline at Ulan Coal Mine which has been approved but is yet to be constructed.

There are numerous locations along the transmission alignment where an existing utility, including water, electricity or telecommunications infrastructure, traverses the transmission easement. This would be coordinated with the mine operator in the detailed design phase.

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## 5.21.4 Community and stakeholder engagement

### Future community and stakeholder consultation

#### Summary of issues

With reference to concern regarding the sterilisation of coal resources contain within E9419, the submission suggests consultation requirements with NSW Mining, Exploration and Geoscience to discuss the potential resource sterilisation and the projects interaction with any future mining activity in EL9419.

The submission also outlines the requirement for ongoing consultation with UCMPL in respect to any potential interactions between the transmission infrastructure, and associated service infrastructure, and the potential for future mining within EL9419, including alternative alignments to avoid:

- subsidence induced damage to transmission line towers.
- sterilisation of NSW coal resources
- imposition of unnecessary mining and mining infrastructure costs.

The submission also requests consultation with regard to the design of transmission infrastructure within EL9419 (refer to Section 5.21.5 of this report).



## Response

EnergyCo has consulted with NSW Mining, Exploration and Geoscience in relation to the transmission alignment, and impacts on exploration licences, including EL9419.

There are locations along the alignment that are subject to competing constraints, including the area in and around EL9419. As discussed in Section 5.21.5 of this report, adjusting the alignment in this location would result in impact to additional dwellings and biodiversity values.

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## 5.21.5 Land use and property

### Impact to mining operations

#### Summary of issues

The UCMPL submission raised concerns with respect to impact of the project on both current and future mining operations. The submission notes:

- UCMPL owns land directly impacted by the proposed 330 kV transmission alignment, as well as land impacted by the proposed 500 kV transmission alignment
- the proposed 330 kV transmission alignment also impacts and could interfere with the exercise of rights under EL9491, held by UCMPL
- Ulan coal mine holds approval for the construction of a water discharge pipeline which would interact with the 330 kV transmission line proposed for the project.

In this regard to these points:

- UCMPL considers it appropriate that EnergyCo commit to accommodating construction of the water discharge pipeline and other approved mining infrastructure, should this be required to support Ulan Coal Mine mining operations in the future. If that commitment is not made, a condition should be imposed on any approval to require it (if the project is approved).
- It is also important that the terms of the easements that are to be acquired by EnergyCo on land that is the subject of Ulan Coal Mine Project Approval do not restrict mining operations, or prevent UCMPL from constructing and using any approved mining infrastructure within the easement corridor. The submission recommend that this matter be addressed in the conditions for the Project by an overarching condition which provides to the effect that nothing in the approval for the Project authorises the carrying out of activities which would have a detrimental impact on the approved operations of the UCC Project.
- The submission suggests it is important EnergyCo commits to considering the use of cruciform foundations for transmission infrastructure within areas that will be subject to subsidence impacts from underground mining operations.
- An exploration program is currently being undertaken within EL 9419 to determine if the coal resource is suitable for mine development. Given the area covered by EL 9419 is close to the resource already being mined at UCC it is likely that there is a substantial coal resource that will be capable of economic extraction by underground mining in the mid-term. If, following the exploration program, the resource is proven to be feasible for extraction, UCMPL may seek to develop a mine plan in consultation with all relevant stakeholders (and subject to relevant planning and environmental approvals). The submission included concern the EIS does not provide details of the steps that have been taken to avoid or minimise the impact of the project on the future extraction of those coal resources within exploration licences held by UCMPL.

## Response

Details regarding accommodating of the planned water discharge pipeline are included in Section 5.21.3 of this report.

EnergyCo has engaged with UCMPL to develop an alignment that minimises impacts on current mining operations, including ensuring that the transmission alignment avoids the Critical Infrastructure Exclusion Zone that was provided through discussions with UCMPL.

Details regarding the impact on the EL 9419 area are addressed in Section 5.21.4 of this report.

Discussion of mine subsidence risk is in Section 5.21.7 of this report.

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## 5.21.6 Biodiversity

### Offsets

#### Summary of issues

Concern the project directly impacts the existing Acacia Ausfeldi biodiversity offset area which is required by the Ulan Coal Mine project approval and protected by a conservation agreement. The submission outlines the need to ensure the mining operations are not placed in a position where they are unable to comply with exiting approvals and conservation agreements, and as such, prior to approval, EnergyCo should:

- identify and secure alternative biodiversity offsets that achieve the biodiversity outcomes required in the approvals issued for the mining operations; and
- support mining operations in seeking modifications to the relevant environmental and planning approvals and support the associated changes to the BMPs and/or conservation agreements to reflect the location of the transmission easements and consequential reduced offset areas.

#### Response

The impacts to biodiversity offset sites associated with mining area were assessed. Determining the appropriate offsets for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating an offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives. Properties have already been acquired near Goulburn River National Park to offset the mining biodiversity offset areas impacted by the project and near Capertee National Park to offset surplus Regent Honeyeater credit requirements.

As per mitigation LP8, EnergyCo will, in consultation with applicable regulatory authorities, Glencore, YanCoal and Peabody, identify and secure biodiversity offsets for impacts to existing biodiversity offset sites (associated with the Wilpinjong, Moolarben and Ulan coal mines approvals).

### Management and mitigation

#### Summary of issues

Concern that while EnergyCo commits to managing biodiversity impacts by the preparation and implementation of a BMP, there is no commitment provided in relation to the monitoring and managing corridor easement edge effects including but not limited to weed infestation in the existing Acacia Ausfeldii offset area. The submission requests EnergyCo commit to including this in the BMP or that a condition be imposed on any approval to address this issue.

## Response

A range of biodiversity mitigation measures have been identified to minimise biodiversity impacts from the project as listed in Appendix B of this report. Controls such as fencing would be put in place to demarcate and protect sensitive areas in the *Acacia Ausfeldii* offset area.

A BMP will be prepared and implemented for the duration of construction. The plan is to include (mitigation measure B8):

- the location and extent of areas of vegetation clearance and habitat disturbance, and how these will be suitably demarcated on site
- the location and extent of areas to be protected (e.g. retained vegetation, hollow-bearing trees, nests, burrows and other habitat features (including applicable buffers to habitat features) located inside the construction or in close proximity to the clearing areas
- measures to be implemented on site to clearly demarcate areas to be retained as ‘no go areas’ with suitable fencing or equivalent exclusion barrier
- monitoring requirements and compliance management.

A Biosecurity Management Plan will also be prepared and implemented to ensure biosecurity risks are suitably controlled. The plan will include protocols to be followed to minimise biosecurity risks and a monitoring program to track the effectiveness of the controls identified in the Biosecurity Management Plan (mitigation measure AG5).

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## 5.21.7 Hazard and risk

### Management and mitigation

#### Summary of issues

Concerns regarding the impacts of mine subsidence in the vicinity of transmission lines. Requesting that project approval should include requirement for the operator to implement a management plan to address potential impacts and including obligation to manage risk and reinstating damage to transmission lines, should it occur. UCMLP have requested this plan be developed in consultation with the mine operator, and be approved by NSW mining, exploration and Geoscience and the secretary of the DPHI.

#### Response

Under Section 22 of the *Coal Mine Subsidence Compensation Act 2017*, approval from Subsidence Advisory NSW is required for the design and construction of portions of the alignment which traverse the Mudgee Mine Subsidence District.

The application to Subsidence Advisory NSW must include an assessment of the anticipated subsidence on the transmission infrastructure, and any approval would impose conditions on the design and construction of the relevant portion of the transmission alignment.

EnergyCo is obliged to comply with any conditions of approval imposed by Subsidence Advisory NSW under Section 22 of the *Coal Mine Subsidence Compensation Act 2017*.

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## 5.22 Wilpinjong Coal Pty Ltd

Wilpinjong Coal Pty LTD (WCPL) provided a response to the public exhibition of the EIS dated 7 November 2023. The WCPL does not object to the project and supports the upgrades to establish the electricity infrastructure to support NSW's energy transition, however as the project traverses the Wilpinjong Coal Mine, WCPL have raised project implications for their current and future operations and approvals. This section provides a summary of the issues raised within the WCPL submission and consideration of those issues.

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### 5.22.1 Land use and property

#### Impact to mining operations

##### Summary of issues

The project would traverse Wilpinjong Coal Mine's existing approved mining operation (SSD-6364), and as such, WCPL identified impacts the project may have on operations. Specifically, WCPL identified the following interactions between the project and their operations as having potential for impacts:

- critical 24-hour operational activities such as the construction of twin 500 kV transmission lines over the main coal haulage road
- blasting activities within adjacent active mining areas
- interaction with the Sandy Hollow Gulgong Railway
- existing exploration licences, including where future mining projects are planned.
- the existing Environmental Protection licence (ELP 12425)
- exposure of capped carbonaceous (high carbon) waste rock during construction activities.

WCLP also identified implications to their operations due to:

- excisions from their existing rehabilitation obligations under development consent (SD-6764) and EPBC Approval (2015/7431) which includes around 33 hectares of established biodiversity offset revegetation
- excisions from existing consented biodiversity conservation areas
- excisions from committed regeneration areas
- compulsory acquisition of lands, including those set aside as biodiversity offset areas for future planned projects.

Modifications to the existing Wilpinjong Coal Mine approvals should be determined concurrently with approval of the project, and the WCM should not be economically or operationally disadvantaged from the construction and operation of the project.

##### Response

EnergyCo notes the potential interactions with the operations of Wilpinjong Coal Mine. EnergyCo have developed the transmission line alignment in the mining areas in consultation with mine operators to avoid or minimise interactions with active mining areas, thereby minimising the disruptions to mining operations during construction. However, the construction of transmission line towers, access roads, brake and winch sites, as well as activities such as the stringing of transmission lines, may result in some temporary short term reconfigurations of some ancillary operations. These would be managed in coordination with mine operators to minimise any temporary impacts to operations so that mining can continue as planned.

To minimise disruption to mining activities, mine operators will be consulted on construction methodologies and activities as part of continued design development and prior to and during construction activities (mitigation measure LP7). This will include consultation relating to:

- any adjustments to existing mining-related infrastructure (fences, tracks, mine roads, access tracks etc)
- the timing and location of construction works, especially where there are some restrictions on vehicle or construction equipment movements
- the timing and location of construction works which have the potential to impact mine operations, such as the stringing of transmission lines over existing mine infrastructure or active mining areas.

Mitigation measures SC2, SC4, SC6 and SC7 described in Appendix B of this report, would address impact from disturbance of land within Wilpinjong Coal Mine areas including areas with high carbon material.

The operational maintenance requirements of the project and respective mining operations would be managed through interface agreements with mining operators, where required.

Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

As per mitigation LP8, EnergyCo will, in consultation with applicable regulatory authorities, Glencore, YanCoal and Peabody, identify and secure biodiversity offsets for impacts to existing biodiversity offset sites (associated with the Wilpinjong, Moolarben and Ulan coal mines approvals).

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. The following properties have been acquired:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

## **Impacts to conservation lands/offsets**

### **Summary of issues**

The EIS does not include all biodiversity offset areas that will be traversed by the project. At the date of submission EnergyCo and WCPL have not reached agreement on the above matters. Any approval requires modifications to Wilpinjong Coal Mine's existing primary approvals.

### **Response**

The construction areas and operation area of the project as amended since exhibition is provided in Chapter 3 of the Amendment Report. Section 5.2.3 of the Amendment Report includes reference to Enhancement and Conservation areas EAC-D and EAC-E. These EACs were previously included in the construction and operation areas, however not specifically mentioned in the EIS. This has not been amended. The final offset obligation would be confirmed during detailed design and based on the final clearing extent in the mining offset area within the construction area.

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## 5.22.2 Environmental management

### Impacts to existing management plans

#### Summary of issues

Concern the required modifications to existing Wilpinjong Coal Mine management plans would be more extensive than those identified within the EIS (Biodiversity and conservation agreements).

#### Response

Mine operators will be consulted on project impacts on mining area operations as part of continued design development and prior to and during construction activities.

In recognition of the importance of the land identified for enhancement and conservation areas for Wilpinjong Mine, as well as areas identified for rehabilitation following the closure of the mine, EnergyCo has committed to 'offset the offset', which would be in addition to the offsets required under the BAM. The proposed amendments to the project since exhibition of the EIS are described in Chapter 3 of the Amendment Report. The updated BDAR in Appendix G of the Amendment Report details the potential impacts to the biodiversity from the project. The final design would not have greater biodiversity impacts than identified in the Amendment Report.

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## 5.23 Wollar Progress Association

The Wollar Progress Association provided a response to the public exhibition of the EIS dated 6 November 2023. Their submission outlined support for renewable energy and the transmission away from fossil fuels, however raised concerns relating to the scale of the project, its cumulative impacts as well as specific impacts associated with bushfire, traffic and transport, visual impacts and biodiversity.

This section provides a summary of the issues raised in the Wollar Progress Association submission and consideration of those issues.

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### 5.23.1 Strategic context

#### Route selection – transmission lines (above vs below ground)

##### Summary of issues

Concern the project EIS does not consider alternative options such as undergrounding of transmission lines or large-scale renewable energy projects in or near urban areas.

##### Response

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. However, it was not considered a viable option due to a range of factors including land use impacts. Further information on the consideration of underground transmission lines is provided in Section 4.1.6 of this report.

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## 5.23.2 Statutory context

### Detail provided in the EIS

#### Summary of issues

Concern the project EIS is unfinished as the final route of the transmission line is not determined.

#### Response

As discussed in further detail in Section 5.4.2 of this report, some flexibility has been factored into the design to allow for certain design elements and construction methodologies to be refined as part of the detailed design development and construction planning process.

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## 5.23.3 Traffic and transport

### Construction traffic impacts

#### Summary of issues

Concern the issue of road safety and deterioration of road infrastructure, which has not been adequately addressed in the EIS. The number and timing of traffic movements associated with the transmission line, as the heavy vehicle numbers are only provided for the Wollar Switching Station. The Wollar community are experiencing increased heavy vehicle movements from the Wollar Solar Farm construction, resulting in safety issues and accidents. The project will cause additional safety issues.

#### Response

The assessment has considered the maximum number of construction vehicles that would use the construction routes by applying the indicative movements to and from construction sites as summarised in Table 17-8 of the EIS. These volumes represent the worst-case scenario as in reality, construction activities for the switching stations and transmission lines would likely be lower and completed progressively throughout the length of the project (i.e. not concurrently).

Management of road safety impacts due to the increase in traffic volume is detailed in Section 4.14.5 of this report. While additional traffic movements from the project would bring a noticeable change to the local road environment, all local roads would still operate within capacity.

The impact of project construction traffic on road pavement condition is expected to be minor. Heavy vehicles and OSOM vehicles would likely have a larger impact on road pavement conditions. However, the impact would depend on the existing road condition including remaining life of the pavement.

Prior to construction, the Network Operator would be required to undertake road dilapidation surveys and routine inspections along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

Construction vehicle movements would occur across the road network as vehicles travel to/from construction compounds, workforce accommodation camps and the transmission line corridor. The increase in traffic due to the project would increase the number of interactions with other road users, and also introduces risks associated with traffic movements into/out of multiple access points. Accordingly, appropriate traffic management, intersection treatments, signs and line marking are to be implemented at vehicle access points to minimise this impact. Further consideration of the issues related to road safety risk from the project are detailed in Section 4.16.7 of this report.

Additionally, as per mitigation measure T11, A Vehicle Movement Plan will be prepared which identifies the construction vehicle routes (including OSOM routes) to be used during construction. The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations. Ongoing consultation will be undertaken with Transport for NSW regarding the use of State roads for OSOM vehicle routes.

## Management and mitigation

### Summary of issues

Concerns relating to the management of heavy vehicles.

### Response

A range of mitigation measures for traffic and transport impacts have been identified to minimise impacts as listed in Appendix B of this report. Specifically, mitigation measure T11 details implementation of a Vehicle Movement Plan which identifies construction vehicle routes, including OSOM routes to be used during construction.

Traffic and transport impacts during construction would also be managed in accordance with a traffic management sub-plan, which would form part of the CEMP. The sub-plan would be prepared in consultation with local councils and Transport for NSW.

Further consideration of the issues related to traffic management for the project are detailed in Section 4.16.9 of this report.

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## 5.23.4 Hazard and risk

### Bushfire impacts (operation)/management and mitigation

#### Summary of issues

Concern the EIS has failed to adequately identify or mitigate bushfire risk in the Wollar area and on adjoining land uses such as mining areas and Goulburn River National Park. The submission raised concerns related to the bushfire impacts (operation) and management and mitigation of the project. Specifically, their concerns related to:

- a lack of acknowledgement in Technical paper 10 – Bushfire that major source of bushfires in the Wollar district originate in the Barrigan Valley, where new infrastructure is proposed
- the proximity of the proposed transmission line easement close to heavily wooded areas/escarpments of the Goulburn River National Park, and the risk of ignition caused by transmission lines in this narrow corridor
- impacts on local emergency services (which should be expanded), including the local RFS which have historically been stretched during previous bushfire events (due to a major loss of volunteers caused by acquisition of property by Wilpinjong Coal Mine). The submission highlighted a bushfire incident in 2017, where protection of the existing Wollar substation was prioritised over private properties, with no support from the operator
- a lack of adequate management and mitigation measures for bushfire impacts in the EIS.

#### Response

In Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk) it was acknowledged that bushfires are a common occurrence in the central west region and the broader landscape has a history of large bushfires. Bushfires between 2011 and 2012, and 2016 and 2017 were referenced. It was noted that regardless of the fire history affecting the study area and the broader surrounding



area, bushfires can occur at any time of the year, and as such, further documenting of historic fires will not necessarily inform the assessment of bushfire risk.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations. Vegetation within transmission line easements would be managed to ensure safe electrical clearances would be achieved during operation. Trees adjacent to easement for 500 kV transmission lines, including between Merotherie Energy Hub and New Wollar Switching Station, would be removed if they fall within the risk category height range 20–30 metres and have poor structural stability posing a risk of falling.

APZs for appropriate components of switching stations, energy hubs (including the maintenance facility), construction compounds and workforce accommodation camps will be established in accordance with the requirements of the RFS's documents Planning for Bushfire Protection 2019 (Appendix 4) and Standards for APZs. The final design and associated APZs of appropriate components of switching stations and energy hubs (including the maintenance facility), will be developed in consultation with RFS.

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared prior to construction and operation, to outline emergency response plan for the project and the FMP during construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. Further detail on proposed mitigation measures is provided in Section 4.15.8 of this report.

## **EMF**

### **Summary of issues**

Concerns the impacts of Electromagnetic radiation have not been adequately addressed and poorly communicated in Technical paper 12 – Electro Magnetic Field Assessment.

### **Response**

A detailed assessment of EMFs from the project was carried as detailed in Technical paper 12 – Electro Magnetic Field Assessment and summarised in EIS Chapter 16 (Hazard and risk). The assessment of potential EMF risks from the project was carried out in accordance with the ICNIRP Guideline for Limiting Exposure to time-varying electric, magnetic and electromagnetic fields (ICNIRP, 2010).

A simple fact sheet on EMF in the Central-West Orana REZ was published to provide a simpler summary of EMF risks. The fact sheet can be found here

<https://www.energyco.nsw.gov.au/sites/default/files/2023-01/cwo-rez-fact-sheet-electric-magnetic.pdf> .

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## **5.23.5 Landscape character and visual amenity**

### **Impact assessment approach**

#### **Summary of issues**

Concerns regarding the adequacy of the visual impact assessment of the landscape around Wollar, the approach failing to take into consideration the cumulative or future land use change within the 'low' visual impact on the mining areas. The lifespan of the project will be longer than current mining operations, with areas rehabilitated.

There was disagreement of the assessed visual impact of 'low moderate' between the Munghorn Gap Nature Reserve and the Goulburn River National Park.

## Response

The mining dominated landscapes are highly modified and have low scenic quality. Mining activity has been characteristic of this landscape over many years and is the baseline for the assessment of landscape and visual impact of this project. The mining activity represents approved activities that have changed the landscape. They have a high capacity to absorb large-scale transmission and are low sensitivity receiving environment due to their not having features of high scenic quality.

The changes to the landscape due to the mining activity are permanent. Future rehabilitation activities would only result in a slight improvement in the scenic quality of these landscapes. The corridor between Munghorn Gap Nature Reserve and Goulburn River National Park would be viewed together with these highly modified mining areas from vehicles accessing these mines. The assessment has determined that there would be no significant visual impacts through these areas.

## General visual and landscape impacts – operation

### Summary of issues

Concern regarding the visual impact of the project, specifically where the transmission lines cross and extend adjacent to the Wollar-Mudgee Road and the Wollar-Ulan Road. The visual assessment considers this a high magnitude of impact.

### Response

The project would result in visual impacts during operation from the introduction of large-scale structures including transmission towers and energy hubs. Operation of the project and the presence of permanent project infrastructure would have moderate-low to moderate landscape character impacts within the identified landscape character zones during the daytime. Further discussion of the visual impacts of the project are discussed in Section 5.2.6 of this report.

Two of the representative viewpoints assessed were from Wollar Road (viewpoint 3) and Wollar-Ulan Road (viewpoint 3). The assessment of these viewpoints and photos are provided in section 6.2.3 of Technical paper 3 – Visual and landscape character.

From Wollar Road, the project would be seen running parallel to the existing transmission lines, forming a wide easement cleared of vegetation. The project would increase the prominence of electricity infrastructure seen in this view. The project would be seen at close range, crossing over Wollar Road, and extending both east and west into the surrounding rural valley. Overall, there would be a high magnitude of change to a view of very low sensitivity, and a low-moderate visual impact during operation.

From Wollar-Ulan Road, the project would be seen in the middle ground of this view, crossing the road, running parallel to the existing transmission line and located in a wide easement cleared of vegetation. The project would increase the prominence of electricity infrastructure seen in this view. The project would be seen at close range, and would avoid vegetation clearing within Goulburn River National Park. The project would be viewed against the backdrop of a working coal mine and surrounding vegetated hills. Overall, there would be a moderate magnitude of change to a view of very low sensitivity, and a low visual impact during operation.

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## 5.23.6 Cumulative impacts

### Impact assessment approach

#### Summary of issues

Concern regarding the assessment of the cumulative impacts of the project (including the Wilpinjong Coal Mine drilling program) on the Wollar district and local community, including no assessment of hazards and risks, bushfire, transport and traffic, visual impacts, EMF, and biodiversity.

## Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is provided in Appendix L of the Amendment Report.

The cumulative impact assessment considered hazards and risks, bushfire, transport and traffic, visual impacts, EMF, and biodiversity impacts.

## Visual impacts

### Summary of issues

Concern regarding the cumulative assessment of visual impacts, and loss of rural amenity in the Wollar area. Specifically, the continued industrialisation of the area.

### Response

The assessment of cumulative landscape character and visual impacts has considered the potential for the project, together with other projects planned or approved and not yet constructed, to transform the landscapes in which the projects are located. The cumulative impact assessment considered cumulative landscape character and visual impacts during the daytime and nighttime. Further detail on the cumulative visual impacts is in Section 5.2.17 of this report.

## Transport and traffic

### Summary of issues

Concern the traffic assessment does not identify the cumulative impacts of the increased heavy vehicle movement through Wollar village and on roads to and from the Wollar village. Concerns were raised over the interaction of the project with the Wollar Solar Farm, and ongoing mine operations. The Wollar Progress Association disputes the outcome of the traffic assessment that cumulative impacts would be minimal.

### Response

The updated cumulative impact assessment in Appendix L of the Amendment Report included assessment of Wollar Solar Farm with respect to traffic generation. To quantitatively assess the cumulative impact of this project along with this project, a sensitivity assessment has been completed to assess additional traffic potentially using Ulan Road. The increase of 86 peak hour trips on Ulan Road would reduce the mid-block level of service from LoS A to LoS B for the south/east bound travel direction in the morning peak and north west bound travel direction in the afternoon peak. This is considered a medium impact as under LoS B, traffic would still be free-flowing with slight reduction in freedom to manoeuvre within the traffic stream.

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## 5.23.7 Biodiversity

### Offsets/terrestrial biodiversity impacts (construction)

#### Summary of issues

Concern regarding the assessment of the impacts of the project on the Wilpinjong coal mine offset area for the Regent Honeyeater. The calculation of species credits for this species is not accounted for within the loss of this approved offset area.

## Response

The impacts to biodiversity offset sites associated with mining area were assessed and included in the credit calculations for biodiversity offsets as part of the project. The assessment of impact to the Regent Honeyeater is detailed in updated BDAR in Appendix G of the Amendment Report.

The project would impact around 111 hectares of mapped 'important habitat' for the Regent Honeyeater, which represents around 0.37 per cent of the species' geographical range. This would result in localised fragmentation of the species habitat. However, the population is not currently considered to be severely fragmented (based on EPBC Act criteria and regulations), and therefore there is no evidence that the population would become unviable as a result of the project's construction.

The Biodiversity Assessment Method does not provide for additionality, such as offsetting an offset. For these reasons the BDAR and revised BDAR do not include offset credits for this type of impact. However as identified in the EIS, and described more fully in the Amendment Report, EnergyCo applied a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives. These related to protecting minimum areas and restoring and enhancing ecosystem function including TECs, habitat for threatened species and wildlife corridors that connected to national park reserves.

EnergyCo has acquired a 684 hectare property adjacent to Goulburn River National Park. The land predominantly contains native vegetation in high to very high condition, around 80 hectares of Box Gum Woodland (compared to around 55 hectares impacted in mining offset areas), contains potential habitat for threatened species such as large forest owls and woodlands birds, is around six times the offset area impacted, and contains around 40 hectares of land needing restoration.

Given the size and biodiversity values present the land provides residual value for the project's offset liability which has been calculated in accordance with the BAM.

It is EnergyCo's intention to subsume the land into the adjacent Goulburn River National Park.

In addition, Energy has purchased a property 1,708 hectares in size that is located adjacent to Capertee National Park. The property is assessed as having surplus credits for the Regent Honeyeater.

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## 5.24 Yancoal Australia Ltd

Yancoal Australia Ltd (Yancoal) provided a response to the public exhibition of the EIS dated 23 October 2023. This section provides a summary of the issues raised regarding Moolarben Coal Mine within the Yancoal submission and consideration of those issues.

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### 5.24.1 Land use and property

#### Impacts to mining operations

##### Summary of issues

The submission highlighted that while Yancoal and EnergyCo are currently in discussions regarding the interaction between the Transmission infrastructure and Yancoal interests, at the date of submission, no agreement has been reached for the granting of easements across Yancoal's interests.

The submission outlined several concerns with respect to the Yancoal's obligations and rights under the Mine Tenements and Mine consents which must be resolved, specifically:

- there is no pathway for EnergyCo to meet and fully indemnify Yancoal against breaches of Yancoal's obligations to meet the *Work Health & Safety (Mines & Petroleum Sites) Act 2013* (NSW) and Work Health and Safety (WHS) (Mines and Petroleum Sites) Regulation 2014
- the construction and operation of the transmission infrastructure would complicate Yancoal's ability to comply with various environmental, biodiversity, heritage, management and reporting requirements.

With respect to the proposed exercitation of the active mining area from the construction area, this interaction would need to be resolved prior to approval.

The submission highlighted concern that the conclusion of the operational impacts of the project on mine operations are premature given the interactions and potential mine impacts are still being considered as apart of ongoing commercial discussions.

The submission outlines the need to resolve how the interactions between internal construction routes, access roads and tailings dams would be managed, highlighting areas identified in the EIS (longwall 401), proposed to be impacted, are proposed to be mined prior to construction.

The submission sought assurance that issues outlined in the submission would be resolved prior to approval, however noted if this is not the case, Yancoal requested that any approval is granted subject to conditions which would require:

- construction across the Yancoal Interests (as they are defined in this submission) shall not commence until the easements (as defined in this submission) and other EnergyCo work areas are excised from the Mine Tenements and the Mine Consents [as they are defined in this submission], or an agreed outcome is reached with Yancoal to the satisfaction of the Resources Regulator and the Secretary of Planning'
- identification and securing of alternative biodiversity offsets sites (included in Section 5.24.2)
- the proponent to assist and support Yancoal:
  - in seeking modifications to the relevant mine consents and associated management plans to reflect the location of the easements and consequential reduced offset areas
  - where relevant, to modify or vary applicable biodiversity conservation arrangements, and
  - to remove or vary notations on title in respect to any biodiversity conservation arrangements.

The operational maintenance requirements of the project and respective mining operations would be managed through interface agreements with mining operators, where required.

## Response

EnergyCo notes the potential interactions with the operations of YanCoal. EnergyCo have developed the transmission line alignment in the mining areas in consultation with mine operators to avoid or minimise interactions with active mining areas, thereby minimising the disruptions to mining operations during construction. However, the construction of transmission line towers, access roads, brake and winch sites, as well as activities such as the stringing of transmission lines, may result in some temporary short term reconfigurations of some ancillary operations. These would be managed in coordination with mine operators to minimise any temporary impacts to operations so that mining can continue as planned. Safety obligations and measures would also be coordinated with YanCoal for construction and operation.

To minimise disruption to mining activities, mine operators will be consulted on construction methodologies and activities as part of continued design development and prior to and during construction activities (mitigation LP7). This will include consultation relating to:

- any adjustments to existing mining-related infrastructure (fences, tracks, mine roads, access tracks etc)
- the timing and location of construction works, especially where there are some restrictions to vehicle or construction equipment movements
- the timing and location of construction works which have the potential to impact mine operations, such as the stringing of transmission lines over existing mine infrastructure or active mining areas.

Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives. Properties have already been acquired near Goulburn River National Park to offset the mining biodiversity offset areas impacted by the project and near Capertee National Park to offset surplus Regent Honeyeater credit requirements..

EnergyCo continues to engage with YanCoal in relation to various issues raised in its submission, including:

- indemnification of Yancoal against breaches of Yancoal's obligations to meet the *Work Health & Safety (Mines & Petroleum Sites) Act 2013* (NSW) and WHS (Mines and Petroleum Sites) Regulation 2014; and
- commencement of construction ahead of easements and other EnergyCo work areas being excised from the Mine Tenements and the Mine Consents.

However, these items are considered outside the scope of the EIS.

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## 5.24.2 Biodiversity

### Offsets/management and mitigation

#### Summary of issues

The submission requested that Energy Co identify alternative biodiversity offset areas to offset Yancoal's established offset areas directly impacted by the Project. These would need to be secured in a manner which achieves the biodiversity outcome required under the Mine Consent, and be determine in consultation with DPHI, DCCEEW and NPWS as relevant.

#### Response

The impacts to biodiversity offset sites associated with mining area were assessed and included in the credit calculations for biodiversity offsets as part of the project.

Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. The following properties have been acquired:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

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## 5.24.3 Hazard and risk

### Operational hazards/management and mitigation

#### Summary of issues

The submission raised concern that the EIS does not discuss or assess the impacts of electrical earthing, lighting, induction or current or voltage transfer from the transmission infrastructure on work health and safety of mine workers, or fixed and mobile equipment. The project needs to include a management plan which addresses the above.

#### Response

Mine operators will be consulted on safety risk and relevant safety controls as part of continued design development and prior to and during construction activities. Safety measures in the mining areas would be captured in the CEMP and OEMP (or equivalent).

The impacts of electrical earthing, lightning, induction or voltage transfer from the transmission infrastructure on the safety of mine workers and fixed and mobile equipment would be addressed in the detailed design phase of the project.

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## 5.25 NSW Farmers' Association

NSW Farmers' Association provided a response to the public exhibition. This section provides a summary of the issues raised regarding the agricultural impact assessment, biodiversity impacts to landowners, effects on rural communities, economic impacts, bushfire risk, transport and water use.

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### 5.25.1 Strategic context

#### Renewable energy transition

##### Summary of issues

The submission supports the renewable energy transition in the CWO REZ and the required upgrade to infrastructure to support this transition. It is noted this support is based on the requirements that sufficient, ongoing compensation is available, the social and economic impacts to rural communities are minimised and that undergrounding of transmission lines is utilised.

##### Response

EnergyCo acknowledges the support from the NSW Farmers' Association for the renewable energy transmission in the REZ.

In terms of compensation, property acquisition in NSW is governed by the Just Terms Act, which provides the procedures a government agency must follow to acquire land from a landowner. Compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act.

A Community and Employment benefit fund for the Central-West Orana REZ will be established to deliver community projects and employment opportunities. The fund will be administered by NSW EnergyCo in accordance with the *Electricity Infrastructure Investment Act 2020*. The Minister for Energy announced an initial fund of \$128 million to be allocated through the Community and Employment benefit fund. Upfront funding will come from the Transmission Acceleration Facility, and after 2028 will be funded through access fees paid by renewable energy generators connecting

to new transmission lines in the Central-West Orana REZ. Individual compensation payments from cumulative impacts are not proposed to be provided to the broader community.

As part of the development of the project's design, EnergyCo has considered the potential to place the transmission lines underground instead of above ground supported on transmission line towers. Based on the factors outlined in Section 2.7.3 of the EIS, and in Section 4.1.6 of this report, locating high voltage transmission lines underground is not considered to be a viable option for this project and is not being considered.

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## 5.25.2 Agriculture

### Assessment approach

#### Summary of issues

The agricultural impact assessment relied on seven landowner interviews, council engagement and one Local Land Services entity and did not consider other agricultural enterprises in the project area.

#### Response

The selection of the seven properties for landowner interviews/survey as part of the assessment of potential impacts of the project on agriculture was to ensure representation across various geographical locations, project impacts, and types of agricultural enterprises within the construction area. The interviews were structured to obtain information on the agricultural enterprises at each property including usual crops grown, crop areas, normal livestock numbers, types of livestock, type of pastures and property areas, as well as their perceived impacts of the project. It was generally considered that additional interviews would not necessarily increase the level of knowledge of the general issues of the project area. However, further consultation with individual property owners where the project is located would be undertaken during the preparation of individual Property Management Plans (as detailed in mitigation measure AG3) to identify property-specific impacts on agriculture and opportunities for mitigation.

### Impacts to agricultural practices during construction

#### Summary of issues

The assessment does not take into consideration the associated financial losses through lowered productivity during construction such as from restricted access to livestock and machinery.

#### Response

An assessment of the potential economic impacts of the project on agriculture during construction and operation of the project was completed as part of the EIS, and included in Technical paper 8 – Economic of the EIS.

In general, impacts to agricultural practices would be managed in accordance with mitigation measure AG3 which outlines the development of individual Property Management Plans. An overview Property Management Plan has been provided to all affected landholders. This plan outlines the principles and measures EnergyCo and the contractor will take to mitigate impacts on landowner's property, farming operations, biosecurity and existing infrastructure. The overview Property Management Plan outlines that property specific Property Access Plans will be developed in consultation with individual landowners to provide much greater detail on the construction timeline and activities, and to minimise the potential disruptions during construction. The intent of this mitigation measure is to provide a flexible approach to balance construction with agricultural operations, which includes management of livestock, access, as well as impacts to farm infrastructure.



In terms of financial loss, landowners that are hosting project infrastructure are compensated in accordance with the Just Terms Act. This includes payment for use of land (construction area) during the entire construction period. However it is noted the actual construction activities would be transient and not be required for the entire construction duration.

## Biosecurity

### Summary of issues

The EIS fails to evaluate the threats to agricultural productivity from increased biosecurity risks and is concerned these issues will not be adequately addressed in management plans.

### Response

It is noted that construction and operation of the project has the potential to introduce or spread animal and plant diseases, feral pests and weeds, if not properly managed. There are a number of weeds, pests, and animal and plant diseases, which pose a high risk to agricultural production in the wider study area which have been identified in Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture). Footrot and ODJ were identified as biosecurity risks present in the area.

The mitigation measures outlined in the EIS have been developed to align with the requirements of the *Biosecurity Act 2015* and *Biosecurity Regulation 2017*.

Section 4.7.8 details the measures that would be implemented to manage biosecurity risks from the project.

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## 5.25.3 Biodiversity

### Biodiversity offsets

#### Summary of issues

The biodiversity credit system does not mitigate the loss of biodiversity on individual properties, including the diminished overall appeal.

#### Response

The project impacts to biodiversity are being offset in accordance with the SEARs requirements and using the Biodiversity Offsets Scheme (BOS), which was established under the *Biodiversity Conservation Act 2016* and is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project and would need to be secured in accordance with the BOS. Additional information regarding biodiversity offsets is included in the Updated BDAR, provided as Appendix G of the Amendment Report for the project.

### Cumulative impacts

#### Summary of issues

The cumulative negative impacts on biodiversity are likely to have substantial environmental consequences, and there are no assurances there would be enough biodiversity credits available.

#### Response

EnergyCo has sought to minimise its contribution to the cumulative effect to biodiversity in the REZ by developing an alignment that avoided or minimised environmental constraints. This has been generally applied throughout the project development process including minimising direct impacts to areas of high value biodiversity, such as listed threatened ecological communities, species and

habitats. While efforts have been made to avoid impacts to biodiversity, some impacts could not be avoided.

The Biodiversity Offsets Scheme (BOS), established under the *Biodiversity Conservation Act 2016*, is the framework for offsetting unavoidable impacts on biodiversity from development. The offsets required for full and partial clearing of native vegetation have been estimated for project would need to be secured in accordance with the Biodiversity Offset Scheme.

EnergyCo recognises the concerns raised by the NSW Farmers Association and is working with government authorities, renewable energy developers, landowners and other stakeholders to assess impact to biodiversity, and explore strategic biodiversity offsetting and other measures to provide long-term biodiversity outcomes.

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## 5.25.4 Social

### Assessment approach

#### Summary of issues

There is a lack of understanding of the communities that are being impacted, and inadequate engagement has led to a lack of trust. The SIA engagement and surveys are not sufficient to gain an understanding of the issues, with specific concerns relating to:

- mitigation measures not being developed
- cumulative workforce and associated impacts
- impacts to health and medical services
- traffic impacts from construction movements.

#### Response

EnergyCo acknowledges the concern raised by the NSW Farmers' Association regarding the adequacy of the engagement to inform the SIA. The SIA, (EIS Technical paper 7 – Social), was prepared in accordance with the SEARs and SIA Guidelines (DPE, 2023b). Engagement for the SIA focused on those who would most likely be affected by the project, and on providing opportunities for stakeholders to raise concerns and provide feedback, while also being mindful of avoiding consultation fatigue.

The criteria for selecting participants is outlined in section 3.4.2 of Technical paper 7 – Social and included:

- landowners and businesses located near project infrastructure including energy hubs
- dwellings identified as noise and or traffic-sensitive receivers or
- dwellings subject to potential visual impacts from project infrastructure.

Interviewees were also invited to suggest other landowners or community members to be interviewed. Stakeholders, landowners, and community representatives were located in Merotherie, Gulgong, Coolah, Uarbry, Turill, Tallawang, Mudgee, Leadville, Dunedoo, Stubbo, Cope, Elong Elong, Cassilis, Bungaba, and Wollar.

Three main engagement methods were used to inform the SIA, comprising:

- face-to-face interviews over three weeks in November 2022. Interviews were conducted at times and locations suggested by participants. While 23 in-person meetings were conducted, this number is not reflective of the number of people who attended each interview. In most instances, there were at least two people present in meetings, and in interviews with community organisations, often larger groups were present

- phone and online interviews. The SIA team interviewed stakeholders between October 2022 and May 2023. A total of 21 interviews were completed. Several attempts were made to interview public services and First Nations representatives, some of which chose to decline a formal interview
- online survey. The online survey provided an opportunity for landowners located adjacent to and within the construction area to provide feedback and insights regarding the project. The survey was open between 10 November and 8 December 2022, with 104 responses received.

Based on the engagement outlined above, it was found that in-depth and detailed information was provided by those landowners, community members and Councils that were interviewed, including in survey responses. It was found that key concerns, aspirations, ideas, and interest were commonly repeated across stakeholders interviewed, indicating a general ‘saturation of information’ (i.e. that further interviews would not lead to better information). Interview findings were consistent with online survey findings and were cross-checked against EnergyCo stakeholder engagement findings. The SIA further contextualised the project with a review of relevant Council and community strategic planning documents within the regional social locality, which gave further context regarding key priorities and views of the diverse communities surrounding the project.

The development and implementation of management plans and strategies has been considered to provide a structured and accountable approach to managing social and environmental performance. The Social Impact Management Plan, developed in accordance with the SIA guidelines, would set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation. Monitoring findings will be presented to the project’s Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision.

EnergyCo will track implementation of the Social Impact Management Plan, and review performance measures quarterly, to facilitate continual improvement. The plan will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.

In recognition of the concerns raised, the Network Operator has committed to the provision of medical services to reduce demand on existing medical services in the region. This includes plans to engage medical practitioners (likely to comprise two full time paramedics and one full time nurse), who would administer antibiotics and pain medication for the project construction workforce.

In terms of traffic, estimates of the maximum number of construction vehicle movements per hour associated with the workforce accommodation camps, energy hubs and switching stations were included and presented in Table 17-8 and depicted in Figure 17-4 of the EIS. Considering the low volumes of existing traffic on the roads, even with the addition of the project construction traffic, the road network is assessed as operating at an acceptable LoS.

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

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## 5.25.5 Economic

### Assessment approach

#### Summary of issues

The assumptions made within Technical Paper 8 do not provide a broader picture of how construction will impact the local community. The analysis does not consider regional price changes such as competition for workers and increases in wages.

The increased demand for construction materials will have a flow on affect to local communities in terms of shortages.

#### Response

While recognising the concerns raised, construction and operation of the project would provide positive economic activity for the regional and NSW economy. The positive flow-on effects to the economy during construction and operation of the project would mainly be due to employment and purchase of materials and services. The positive impact of the project on the regional economy during construction is estimated to be up to \$512 million in average annual output (the gross value of business turnover in a region). The impacts on the regional economy during project operation are estimated at up to \$134 million in average annual output.

Cost of wages and materials are influenced by a wide range of factors such as market demands and inflation. Increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and contribute to inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to respond to increased demand. Economic impacts on the housing and accommodation costs are expected to be minimal due to the provision of workforce accommodation camps.

The project would not lead generalised cost of living increases. During construction there would be a demand for construction labour and specific construction materials, which would have the potential to result in increase in wages as well as shortage in construction materials.

Direct economic impacts would primarily be in the construction sector during construction of the project. Increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and rising inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to response to increased demand. In addition, the excess demand for resources for construction, such as quarry materials, concrete, and other construction materials, can result in rising costs for these resources and potentially shortages for other uses. However, these impacts need to be considered in the context of the positive economic effect that they create, namely that the project creates employment opportunities and a market for local goods and services.

Similar to consideration of the concerns raised about wage growth, the economic implications of the accommodation camps have both positive economic implications (i.e. they mitigate upward price pressure on local goods and services that would arise from workers being based in local towns, but in doing so, reduce the benefits of local spend on goods and services). In practice, the workers in the camps would use local shops and businesses to some degree.

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## 5.25.6 Bushfire risk

### Mitigation measures

#### Summary of issues

Greater transparency regarding specific mitigation is needed given the increased bushfire risk of the project, and the contribution of this has to community anxiety.

#### Response

Ignition of bushfires as a result of the project's operation has the potential to occur during maintenance of project infrastructure and from the infrastructure itself. The potential sources of ignition resulting from the operation of the project have been identified in Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk). The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations.

The risk of a bushfire being ignited by high voltage transmission lines is low. High voltage (above 220 kV) transmission lines have lower risk than distribution lines, as they are suspended higher above the ground, significantly reducing the likelihood of physical contact with vegetation or arcing to ground (EnergyCo, 2023f).

To ensure safe electrical clearances would be achieved during operation, vegetation within the transmission easements with growth heights of two metres and above (largely trees and shrubs) would be removed by the Network Operator prior to and during operation, whereas native vegetation with growth heights less than two metres would be retained. In addition, large trees in close proximity to the easement (deemed 'hazard trees') would also be removed where they pose a potential risk. This approach seeks to balance sufficient bushfire risk mitigation with protection of biodiversity, and has been applied in other recent transmission infrastructure projects in NSW. EnergyCo will work with landowners during the easement acquisition process to understand individual property constraints in relation to fire management.

As a licenced transmission operator, the Network Operator will be required to implement an Electricity Network Safety Management System to *Australian Standard 5577 – Electricity network safety management systems*, undertake hazard identification associated with bushfire risk, implement and maintain appropriate fire protection measures. As part of this, the Network Operator will collaborate with RFS to determine any additional resources required to manage bushfire risk to an acceptable level.

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared for construction and operation, to outline the emergency response for the project and the fire management during construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. The plan would be prepared in accordance with the *Guide to Developing a Bushfire Emergency Management Plan* (RFS, 2014) and meet the requirements of *Australian Standard AS3745-2010 Planning for emergencies in facilities* and would include:

- protocols for the relocation of workers to nominated safe refuge zones during a bushfire emergency, either within or remote to the work zone
- protocols for the management of bushfire risk and fuel management during construction and operation. This would include the restriction and/or prevention of certain activities that present

bushfire risks on days with a fire danger rating of equal to or greater than ‘high’, and as directed by relevant state authorities

- training to inform workers of bushfire risks and preventative actions, including risks associated with the operation (and maintenance) of vehicles, plant and equipment.

Firefighting equipment will be installed at construction compounds and workforce accommodation camps. As outlined in mitigation measure BF5, firefighting equipment will be maintained and made available for use during the construction phase in accordance with *Planning for Bushfire Protection 2019* (RFS, 2019) including the following:

- static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes (final construction water storage volume would be confirmed during detailed design)
- 38 millimetre metal Storz outlets with a gate or ball valve will be provided as an outlet on each of the tanks
- non-combustible water tanks and fittings will be used
- firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.

Switching stations and energy hubs would be designed and constructed in accordance with *AS3959 – 2018 Construction of Buildings in Bushfire Prone Areas* including installation of fire systems.

The Network Operator would be liable for any directly attributable damage caused to land and property during the construction and operation of the transmission line, such as ignition of a fire. The Network Operator holds insurance policies with reputable insurers to cover any risks to workers, contractors and landowner property as a result of constructing and operating the transmission network.

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## 5.25.7 Transport

### Mitigation measures

#### Summary of issues

The submission acknowledges impacts on transportation will be outlined in the Construction Environmental Management Plan, and subsidiary plan will be developed in collaboration with local councils and TfNSW. Consultation with landowners should also be considered given matters such as livestock movements, needs to be taken into account.

EnergyCo should invest in maintenance and enhancements of regional roads to ensure they effectively accommodate the movement of large vehicles without causing damage to roads.

#### Response

A range of mitigation measures for traffic and transport impacts that may arise from construction and operation of the project have been identified to minimise potential impacts as listed in Appendix B of this report. Traffic and transport impacts during construction would be managed in accordance with a Construction traffic management sub-plan, which would form part of the CEMP. The sub-plan would be prepared in consultation with local councils and Transport for NSW and incorporate the construction traffic mitigation measures listed in Appendix B of this report.

Prior to construction, road dilapidation surveys and routine inspections would be undertaken along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required (mitigation measure T7). Access tracks used for construction sites,

construction compounds and workforce accommodation camps will be maintained to safe standard (mitigation measure T6).

The movement of livestock along roads and TSRs intersected by the project would be affected temporarily by restricted access where they intersect with construction activities. However, these restrictions would be of limited duration and not expected to significantly prevent or hinder livestock movements or impact the use of TSRs or livestock routes. Where road closures are likely to result in a significant traffic impact (e.g. short-term full road closure and long-term temporary lane/road closures), prior consultation will be undertaken with potentially affected stakeholders (e.g. landowners, emergency services, transport services) and relevant approval(s) obtained from the relevant roads authority.

Road upgrades are planned along Merotherie Road, at the existing causeway on Spring Ridge Road and at the intersection of Golden Highway with Merotherie Road, the intersection of Ulan Road and Neeley's Lane, the intersection of Spring Ridge Road and Dapper Road as described in Chapter 3 of the Amendment Report. These upgrades are planned to be undertaken early in construction to facilitate safe access to the workforce accommodation camps. Widening and sealing of roads along the construction routes would not be undertaken outside the locations selected for road upgrades. Prior to construction, the Network Operator would be required to undertake road dilapidation surveys and routine inspections along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

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## 5.25.8 Hydrology and water

### Water sourcing

#### Summary of issue

The NSW Farmers Association submission states there is insufficient detail of the variable needs to the project with the variable availability of local water. It has not considered rainfall fluctuations, and provides no details on how the supply of water to the construction workforce camps will be guaranteed .

#### Response

EnergyCo recognises the concerns raised regarding the project's water demand, and the impact it may have on an important resource for the farming community. EnergyCo also recognises water availability is a critical matter for the farming community having experienced drought and bushfires in recent history.

The analysis undertaken for the EIS estimated the peak construction phase water need for the project is 700 megalitres of water per year during construction. Of this total quantity, approximately 450 megalitres would be potable water, with the remaining 250 megalitres being non-potable.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

The actual water usage is expected to vary during the construction period depending on the nature and extent of construction activities taking place. Water would be required for maintenance activities, but the operational water demand would be minor.

Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater from the treatment plant at each of the workforce accommodation camps (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under water access licences for the project
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (non-potable water)
- reuse of treated mine water (non-potable water), where it meets reuse requirements.

Since exhibition of the EIS, EnergyCo has been in consultation with a water broker to identify available surface and groundwater sources that can meet the project's water supply requirements. Based on a review of the water trading market, it was found there is sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard sourcing water from existing entitlements is a feasible and realistic option for the project.

To supply the potable water demands of the project (associated with workforce personnel), water would be purchased from council-owned potable water supplies in Dunedoo and Coolah (in the Warrumbungle LGA) and Gulgong (in the Mid-Western Regional LGA) where possible. Other sources would be investigated if these council owned supplies are not able to supply water to the project.

Separately to the project, EnergyCo is working with Councils and DPHI's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the CWO REZ by improving access to safe, secure and accessible water supply. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

## Geomorphic impacts

### Summary of issue

The NSW Farmers Association raised concern in their submission that there is an acceptance in the EIS that construction will impact first and second order Strahler streams and on overland flows when they are present. There is no modelled impacts in flow speed, duration and direction. There is also no detail on the rectification of watercourses crosses once completed.



## Response

As discussed in section 6.1 of Technical paper 14 – Hydrology and water quality, the project would have minimal and localised impacts on geomorphic conditions at the locations where the transmission line spans watercourses. For first and second Strahler order streams, the placement of transmission line towers within the flood prone area could result in changes to low flow runoff behaviour. However, the potential minor and localised impact would be mitigated through the identified mitigation measures (specifically mitigation measure WA3).

Transmission towers are to be designed to Australian Standards that require design loadings from floods and water flow to be included in the design. Transmission lines are commonly built within flood plain areas and the design of the towers and foundations are conducted so as to be suitable for flood loading.

Mitigation measure WA3 details management of impacts to watercourse geomorphology. During detailed design and construction planning phases of the project, permanent erosion control measures will be designed and implemented where relevantly required at energy hubs, switching stations, transmission line towers and local roads, to minimise potential scour and erosion risks associated with surface water runoff from the project. Further, localised increased in flow velocities at drainage outlets and waterway crossings would be mitigated through the provision of scour protection and energy dissipation measures (mitigation measure FL9).

Temporary impacts associated with vehicle watercourse crossings during construction would be limited where practicable to existing farm tracks and crossing points, and any impact to water quality would be temporary and negligible with the implementation of mitigation measures. Temporary watercourse crossings in the form of culverts, causeway, bridges or fords may be required during construction where alternative vehicle access routes are impractical.

Where infrastructure does interact with creek crossings, measures will be put in place to minimise impacts (refer to Mitigation measures regarding creek impacts). As per mitigation measure B17, watercourse crossings would be designed and installed in accordance with relevant NSW Department of Primary Industries (DPI) guidelines for watercourse crossings including:

- *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge, 2003)
- *Guidelines for Controlled Activities on Waterfront Land* (DPI, 2022)
- *Policy and Guidelines for Fish Habitat and Conservation and Management* (DPI, 2013).

Each riparian area would continue to function as it currently performs. It is considered unlikely that temporary impacts would result in any long-term degradation.

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## 5.25.9 Flooding

### Construction impacts to flooding

#### Summary of issues

The NSW Farmers Association notes that the EIS does not address in detail the route and impacts of changes in flows from road upgrades, as well as duration of flood inundation and velocity of flows.

#### Response

The project as amended now includes the upgrade of a section of Merotherie Road and Spring Ridge Road to allow safe access for construction vehicles using these roads to access the Merotherie and Elong Elong energy hubs. The flood impact assessment of this upgrade is detailed in the Amendment Report.

The amended flooding assessment (Appendix K of the Amendment Report) includes an assessment of the impact that the proposed road upgrades would have on flood behaviour. It is noted that the road upgrades are primarily a widening and surfacing of Merotherie Road and would include drainage control measures such as cross banks, level spreaders, outlet scour protection and energy dissipation to manage runoff and the impact it could have on scour to the road and surrounding areas during intense rainfall event.

The new bridge at Merotherie Road would be designed to manage its impact of flood behaviour in the Talbragar River in comparison to the existing bridge arrangement. The Amended flooding assessment (Appendix K of the Amendment Report) includes an assessment of the impact that the proposed road upgrades would have on flood behaviour.

# 6 Response to local council submissions

This section outlines the issues raised by the four local councils who provided submissions on the EIS for the project Mid-Western Regional Council, Dubbo Regional Council, Warrumbungle Shire Council and Upper Hunter Shire Council in their submissions and provides responses.

The issues raised in each submission were summarised, broadly according to the order provided in each submission. In some instances, related issues have been grouped under a single topic.

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## 6.1 Mid-Western Regional Council

The Mid-Western Regional Council submission raised a number of issues, addressed in the following sections.

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### 6.1.1 Environmental management plans

#### Summary of issue

Mid-Western Regional Council commented that a significant number of the management plans that will be required to mitigate the environmental impacts of the project have not yet been written and expressed that it is impossible to fully assess the potential impacts of the project without seeing the measures outlined in those plans (as these are not provide as part of the EIS).

Mid-Western Regional Council strongly disagrees with the risk mitigation measures, in particular where risk levels have been reduced by the delivery of future management plans. Mid-Western Regional Council commented that the EIS is misleading in noting that risks have been reduced when plans have not been written.

Mid-Western Regional Council commented that it cannot provide a detailed and informed response to the EIS without the proposed documentation that needs to be provided prior to consent for this project.

#### Response

The selection of management plans and strategies as a method for managing potential project environmental impacts is based on managing medium and high environmental risks as identified in EIS Chapter 22 (Environmental risk analysis) and on the implementation of best practice construction and operation methods. Management plans approved by DPHI will be made publicly available on EnergyCo's website and the Major Projects portal prior to construction, where required.

Mitigation measures have been developed to manage key impacts from the project (as documented in Appendix B of this report) as an outcome of the assessment process detailed in the EIS and Amendment Report. The mitigation measures determine the scope and nature of environmental management plans for the project, which would be prepared by the Network Operator based on the conditions of approval and final construction methodology and design.

The development and implementation of management plans and strategies is considered to provide a structured and accountable approach to managing social and environmental performance. Consistent with industry best practice, management plans for the project are developed and consulted on with relevant stakeholders following planning approval. This ensures appropriate management processes and protocols can be tailored to the project, incorporate mitigation measures detailed in Appendix B to minimise impacts identified in the EIS, and prepared in accordance with the conditions of approval. This industry best practice approach is known to be effective in best mitigating impacts of a project.

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## 6.1.2 Workforce accommodation camps

### Summary of issues

Mid-Western Regional Council requested the following information on the workforce accommodation camps be provided:

- indicative construction program
- layout of camps, including type of recreational facilities included in the camp
- lighting levels
- whether the camp is dry/alcohol free or not
- safety measures including firefighting measures and medical facilities.

Mid-Western Regional Council commented that the workforce accommodation camps will be decommissioned at the end of the construction period. Mid-Western Regional Council requested that this is noted in the conditions of approval (if approved) and a completion date or time period is included in this. Conditions should also identify that the camp is for the workforce to support this project only and further utilisation for other projects will require a modification of consent.

Further, Mid-Western Regional Council commented that the EIS states that a small number of construction workers would utilise existing local hotel, motel and rental accommodation. It was requested that further details are provided in relation to this number including what constitutes a 'small number'. Mid-Western Regional Council requested further information in regard to the accommodation for the workers who are constructing the workforce accommodation camps.

### Response

Construction of the workforce accommodation camps is planned to occur between November 2024 and April 2025 as part of the enabling works (refer to Figure 3-12 of the EIS), subject to obtaining planning approval.

The layout of the workforce accommodation camps would be finalised during detailed construction planning and prior to the commencement of construction. The workforce accommodation camps are planned to be demobilised following the completion of construction.

The workforce accommodation camps would include a range of features and services, including:

- demountable accommodation and office buildings
- workforce amenities, including food and catering, laundry, bathroom and first aid facilities
- sporting facilities, such as outdoor training sports fields, running tracks, gymnasium
- entertainments facilities, such as indoor recreation rooms, media rooms and cinema facilities
- utilities, including telecommunication services, electricity and water
- parking areas including designated pick up and drop off locations for workers traveling to site
- first aid facilities and medical practitioners

- fire fighting equipment
- security and surveillance measures such as boundary fencing, CCTV, locked gates, movement/sensor lights, and alarms
- wastewater treatment plant.

As per mitigation measure LV2, lighting at construction compounds and workforce accommodation camps will be designed and operated in accordance with Australian and New Zealand Standard AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting and the design guidelines contained in the Siding Springs Dark Sky Planning Guideline (DPE, 2023d).

A project wide emergency plan will be established for the project with consideration of emergency services access to sites and if required safe evacuation of the workforce.

Should alcohol be available at the workforce accommodation camps, that service will not be open to the public and would be subject to NSW legislated liquor service requirements.

It is anticipated that during enabling works, prior to the establishment of the workforce accommodation camps, around 100 construction workers would be employed, primarily comprising the workforce to construct the camps, along with a number of project management personnel. The construction of workforce accommodation camps would take around four to six months to construct, during which time the workforce would utilise existing local hotel, motel and rental accommodation.

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## 6.1.3 Community and stakeholder engagement

### Summary of issue

Mid-Western Regional Council requested EnergyCo improve its community consultation and engagement on transmission line projects. Mid-Western Regional Council believe that the community engagement has not been adequate considering the scale of the project and broad regional impacts. The submissions expressed a view that there had been low levels of advertising and promotion of consultation opportunities, and little engagement in Mudgee. The submission stated that engagement activities in Gulgong have often been held during working hours and not in a practical participatory manner. Also, Mid-Western Regional Council commented that the EIS refers to advertising undertaken in a publication that does not exist (the Gulgong Advertiser).

Mid-Western Regional Council stated that it has received a number of complaints from the community that EnergyCo is not listening to their concerns about the placement of transmission lines on their properties. Mid-Western Regional Council commented that the community members feel that EnergyCo is not proactively engaging with them to address their issues and concerns. Mid-Western Regional Council requested EnergyCo to ensure that transmission lines are placed in a way that is respectful of current landowners, does not impact established homes and avoids negative impacts on the community (where possible).

Mid-Western Regional Council commented that EnergyCo is in the process of appointing a Network Operator and once this is completed, they will be responsible for compliance of the project and engagement with communities and stakeholders about project-related matters during construction and operation. Mid-Western Regional Council requested that a full hand over is undertaken between EnergyCo and the Network Operator so that residents and stakeholders do not have to repeat or provide information that has been previously provided regarding this project.

### Response

In 2020, the NSW Government engaged Transgrid, as the operator of NSW's existing transmission network, to carry out early development work to guide the planning of new transmission infrastructure for the Central-West Orana REZ.

Engagement with the community regarding the project commenced in December 2020, with the release of a preliminary study corridor in the Study Corridor Identification Report (Transgrid, 2021). Since that time the community has been kept informed of the project's development and invited to provide feedback. EnergyCo assumed responsibility for planning and design of the transmission corridor 2021. EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. Community and stakeholder feedback is an essential part of the development process to make sure the best outcomes for communities, energy consumers and the REZ is delivered, as discussed in further detail in Section 4.5.2 of this report.

Between January 2022 and the close of the EIS exhibition, EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

As part of engagement activities for the project, EnergyCo placed print advertisements in the 'Mudgee Guardian and Gulgong Advertiser', which is a publication by Australian Community Media (ACM) that exclusively covers Mudgee, Gulgong, Kandos, Rylstone, Coolah, Goolma and Dunedoo. However, it is noted that this publication is frequently referred to as only the 'Mudgee Guardian' (ACM, 2023).

Consultation activities over the course of the EIS exhibition included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop up displays.

Three of the eight community information sessions hosted during the EIS display took place in the Mid-Western Regional Council area. This included two information sessions in Gulgong on Thursday 12 October 2023 between 3 pm and 6 pm and Thursday 19 October 2023 between 11 am and 2 pm and one information session in Mudgee on Wednesday 18 October 2023 between 4 pm and 6 pm. EnergyCo also hosted four in-person pop-up displays in the Mid-Western Local Government Area (LGA).

The EIS was distributed to Mid-Western Regional Council offices in Gulgong and Mudgee, in addition to being available on the DPPI Major Projects website ([planningportal.nsw.gov.au/major-projects/projects/central-west-orana-rez-transmission](http://planningportal.nsw.gov.au/major-projects/projects/central-west-orana-rez-transmission)).

EnergyCo notes Council's comment in relation to the placement of transmission lines, and community members feeling that their concerns and issues have not been addressed.

The transmission alignment has been developed to balance a variety of constraints between the energy hubs and switching stations. This has resulted in sections of the alignment where all of the landowner concerns have not been able to be met.

EnergyCo has developed the proposed route for the project following a program of investigation and landowner consultation which started in early 2022. Several factors were considered in developing the transmission alignment, including the local environment, geography, the presence of high value agricultural land, landowner sentiment, distance to nearby dwellings, technical design constraints and other considerations.

Where EnergyCo has become aware that landowner concerns have not been addressed and have engaged with landowners to minimise impacts. To this end, the transmission line alignment is proposed to be amended at multiple locations. These areas are described in further detail in Section 3.2.1 and Section 3.3.2 of the Amendment Report.

EnergyCo's Place Managers act as a point of contact for community members and landowners for the Central-West Orana REZ. They also work closely with our team of Land Acquisition Managers to manage landowner relationships in the REZ transmission project area.

Place managers will continue to play an important role in maintaining close and ongoing contact with local communities and stakeholders during the design and delivery of the project. The team of Place Managers and Land Acquisition Managers are based at EnergyCo's office at 155 Macquarie Street, Dubbo. Often the team is out visiting landowners in the REZ and it is encouraged that the community reaches out by dialling 1800 032 101 to make an appointment before visiting the office. This is to ensure that the right team members are present to discuss any questions or concerns.

EnergyCo has identified the first ranked Network Operator proponent for the project (ACEREZ), who is working with EnergyCo on the next phase of project development. The Network Operator appointed by EnergyCo would design, build, finance, operate and maintain the project. EnergyCo will continue to be involved in the delivery of the project. EnergyCo will conduct a thorough handover of responsibilities to the Network Operator including relevant information collected during engagement activities to date.

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## 6.1.4 Land use and property

### Summary of issue

Mid-Western Regional Council highlighted the significant impact the project would have on landowners and noted that the EIS identifies that around 4,000 hectares of land would be directly impacted by the construction of the project. Mid-Western Regional Council requested that landowners are compensated fairly for the loss of their land. This means paying them the highest and best use value of their land.

### Response

The project has been designed and developed to minimise impacts on private landowners, however private land is required for the following purposes:

- temporary use of land during construction
- permanent acquisition of freehold land for the energy hubs, switching stations, maintenance facility and temporary workforce accommodation camps
- easements for transmission lines infrastructure during operation.

Construction of the amended project would require around 3,755 hectares of agricultural land, which once established would result in a change in the existing land use, either permanently or temporarily until construction activities are completed. As noted in EIS Chapter 7 (Land use and property), the temporary restrictions imposed on the land during construction would generally be of short duration due to the progressive nature of construction along the transmission line alignment. This may require landowners to use alternative routes at times to access parts of their property. The impacts of these temporary restrictions would also be dependent on the location of the construction area, in relation to property boundaries and paddock configurations. These impacts would place temporary restrictions on agricultural activities, rather than resulting in complete removal of agricultural practices. As per mitigation measure AG3, individual Property Management Plan will be developed in consultation with landowners, directly affected by construction activities. Once the amended project is operational, around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure (the operation area is subject to ongoing refinement and would be finalised as part of continued design development). The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to easement restrictions

Acquisitions of all interests in land would be carried out in consultation with the relevant landowner in accordance with the requirements of the Just Terms Act and preferably resolved by negotiated agreement. To the extent that subdivisions are required to facilitate acquisitions of part-lots, the project would also incorporate subdivisions.

Compensation typically includes the market value of the property interests as well as payment of reasonable fees associated with the landowner obtaining their own legal and valuation advice. It may also include compensation for any disruption to business activities as a result of the acquisition. The valuation of the property interests considers factors such as the area of land to be affected, location, any improvements, zoning and recent sales in the area. Additionally, the NSW Government has also introduced the Strategic Benefit Payments (SBPs) Scheme for new major transmission projects. Under this scheme, affected landowners will receive \$200,000 per kilometre of transmission line over a 20-year period in annual instalments. These payments are distinct from any compensation provided to landowners for transmission easements under the Just Terms Act.

## 6.1.5 Agriculture

### Summary of issues

Mid-Western Regional Council requested that the assessment separates LGAs for the purpose of communicating impacts on loss of agricultural land. While soil classes are identified in the EIS, Mid-Western Regional Council highlighted that there is no Class 1 Soil and limited Class 2 Soil in the region. The EIS identifies that 9.9 per cent of construction area would be on Soil Class 3, 6 per cent on Soil Class 4 and 74.7 per cent on Soil Class 5. Therefore, it is of the view that the protection of Soil Class 3-5 is important in protecting ongoing farming activities in the region.

Mid-Western Regional Council noted that the EIS identified that the project has the potential to disrupt the use of internal access to adjoining land during construction. Mid-Western Regional Council requested that any potential disruption to farming activities is discussed with impacted landowners, no less than two weeks prior so that farmers can plan around this. Further, if any loss of income occurs due to disruption that financial compensation is paid to the impacted landowner.

### Response

Loss of agricultural land (in hectares) and loss of agricultural productivity (dollar per annum) by LGA during construction and operation of the amended project have been assessed and provided in section 5.3.3 and 5.15.2 of the Amendment Report. Table 6-1 provides a breakdown of construction impacts to agricultural productivity by LGA, however as discussed above for most of the construction area, impacts would be relatively short term.

Table 6-1 Total area of agricultural land within construction area

Local Government Area	Total area of agricultural land within the construction area (hectares)	Loss of agricultural productivity (\$ per annum)
Upper Hunter Shire Council	245	\$80,045
Warrumbungle Shire Council	840	\$295,270
Mid-Western Regional Council	2,650	\$930,470
Dubbo Regional Council	20	\$10,740
<b>TOTAL</b>	<b>3,755</b>	<b>\$1,316,525</b>



During operation, the proposed project amendments and refinements would result in an estimated reduction in agricultural productivity loss to around \$285,900 per annum. This represents around 0.04 per cent of the total annual gross value of agricultural production across the four impacted LGAs. The calculations relate to areas of the project that would be permanently removed from production (such as the energy hubs) and does not include easements, where agricultural activity can continue following construction. Table 6-2 provides a breakdown of operational impacts to agricultural productivity by LGA.

Table 6-2 Total area of agricultural land within operation area

Local Government Area	Total area of agricultural land directly impacted by operation (hectares)	Loss of agricultural productivity (\$ per annum)
Upper Hunter Shire Council	55	\$16,800
Warrumbungle Shire Council	200	\$69,210
Mid-Western Regional Council	530	\$195,850
Dubbo Regional Council	10	\$4,040
<b>TOTAL</b>	<b>795</b>	<b>\$285,900</b>

The project was developed using tiered constraints, including avoiding where practical high value agricultural land such as Biophysical Strategic Agricultural Land (BSAL). Land and soil capability (LSC) class 5 (moderate-low capability) is the dominant land type comprising 75 per cent of the land use study area.

Furthermore, the operation of the project would not generally affect the intrinsic capability or the physical characteristics of the land in the operation area. The exception is where permanent infrastructure would remove the areas from agricultural production. Around 795 hectares of agricultural land would be permanently removed due to the establishment of permanent infrastructure, including the energy hubs, switching stations and transmission line towers. The remainder of the agricultural land within the operational area consists of transmission line easements, where land would continue to be used for grazing and other agricultural activities such as cropping, subject to certain restrictions.

Construction of the transmission lines would not prevent access across the length of the alignment for the duration of construction and severance of properties is not anticipated. There would be some temporary restrictions on livestock grazing and movement, movement of agricultural plant and machinery within and across the construction area. The severity of these impacts would also depend on the location, scale, and intensity of construction activities. The temporary disruptions due to restricted construction area and access are expected to be managed in consultation with landowners and in accordance with individual Property Management Plans. The EIS also notes that the restrictions are more likely in cropping than grazing areas given the higher land use intensity and mechanisations requirement of these areas. Impacts to livestock movement would be manageable with the listed mitigation measures in the EIS during construction.

The impacts of these temporary restrictions would be dependent on the location of the construction area in relation to property boundaries and paddock configurations. While these restrictions are likely to be of short duration due to the progressive nature of construction along the transmission line alignment, they may require the landowners to use alternative routes at times to access parts of their property.

The severity of these impacts would also depend on the location, scale and intensity of construction activities. In areas where a lower scale and intensity of construction activities is required, such as along the transmission line alignment between transmission towers (considered part of the construction area), agricultural land uses, such as grazing of livestock may continue where transmission lines are proposed to be constructed, subject to the timing and location of planned construction activities at that location.

Restricted movements would be managed in accordance with Property Management Plans to be developed for each landowner impacted by the project (mitigation measure AG3). The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities. Individual Property Management Plans will be developed prior to the commencement of relevant works which will impact the applicable property, activity, equipment and/or property infrastructure. The requirements of the individual Property Management Plans will be adhered to/implemented throughout the construction period and will address relevant matters such as access arrangements and protocols and any required adjustments to property infrastructure (e.g. fences, access tracks, etc).

With regards to valuation and compensation for loss of income, compensation has been assessed by EnergyCo, with assistance from an independent valuer, in accordance with the Just Terms Act. EnergyCo is required to pay the market value of residual land as a consequence of the project, which includes any loss attributable to disturbance. Additionally, it is acknowledged that landowners affected by critical project infrastructure contribute significantly to the project's delivery and the NSW Government's transition to renewable energy. To address this, the NSW Government has also introduced the SBPs Scheme for new major transmission projects. Under this scheme, affected landowners will receive \$200,000 per kilometre of transmission line over a 20-year period in annual instalments. These payments are distinct from any compensation provided to landowners for transmission easements under the Just Terms Act.

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## 6.1.6 Landscape character and visual amenity

### Assessment approach – project features

#### Summary of issue

Mid-Western Regional Council commented that the EIS does not provide an assessment of the Botobolar Microwave Repeater site and no detailed assessment is provided for any locations of construction compounds covering concrete batching plants or material stockpiles. Mid-Western Regional Council requested this be included in the visual assessment and not delayed to the submission report stage.

Mid-Western Regional Council commented that consideration of total vegetation removal for easements being up to 140 metres wide has not been included in the assessment (despite a 'worst case scenario' that has been applied for all other parts of the assessment).

#### Response

At the time of writing the EIS, only preliminary information about the Botobolar microwave repeater site was available, limiting the extent of assessment that could be completed. Further details about the Botobolar microwave repeater site are provided in section 3.2.4 of the Amendment Report. A visual assessment of the microwave repeater site has been completed and is detailed in Section 3.1.1 of the Appendix F of the Amendment Report (Landscape Character and Visual Impact Assessment Addendum).

The assessment of potential impacts to landscape character and visual amenity during construction included the facilities proposed at each construction compound (section 3.5.7 of the EIS), including concrete batching plants, storage and laydown areas and stockpiles. The visual impacts associated with construction activities would be temporary and limited to the construction period and have been assessed in Technical paper 3 – Visual and landscape character and section 9.2.2 of the EIS. Additional assessment regarding landscape character and visual amenity during project construction is detailed in section 5.4.3 of the Amendment Report.

Clearing works in the transmission easement would involve removal of vegetation that is either greater than or has the potential to grow higher than two metres. The assessment of potential impacts to landscape character and visual amenity accounted for the proposed vegetation clearing regime for construction and operation of the project. While the clearing of vegetation is not shown on the photomontages, the assessment focuses on the visibility of transmission towers for the assignment of magnitude of change and impact.

## Assessment approach – reference documents

### Summary of issue

A reference document included within Technical paper 3 – Visual and landscape character refers to the Australian Institute of Landscape Architects (AILA) Queensland (AILA, 2018). Mid-Western Regional Council commented that the project is in NSW and therefore terms and source documents are required from NSW references.

### Response

At the time of preparing the EIS there was no specific guidance for the assessment of landscape and visual impacts of transmission lines in NSW. However, there was guidance available for the assessment of landscape and visual impact generally and for specific project types. The assessment of this project is approached generally in accordance with the following guidance for landscape character and visual impact assessment:

- Guidance Note for Landscape and Visual Assessment (AILA, 2018)
- Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management & Assessment, 2013).

It is acknowledged that the Guidance Note for Landscape and Visual Assessment was prepared by members of the Queensland chapter of the Australian Institute of Landscape Architects (AILA). However, the AILA is the peak industry for Landscape Architects nationwide, and the Guidance Note has been widely adopted and is in the process of being endorsed by AILA as a national document. The approaches to assessment of impacts are applicable regardless of state jurisdiction.

The assessment also considered the following guidelines that have been prepared by NSW Government agencies to inform landscape character and visual impact assessments for infrastructure projects in NSW, including:

- Guideline for Landscape Character and Visual Impact Assessment EIA-N04 (Transport for NSW, 2023)
- Large-Scale Solar Energy Guideline, Technical Supplement – Landscape Character and Visual Impact (DPE, 2022f).

The methodology prepared for this technical paper draws upon the guidance in these documents, as appropriate to the scale and particular landscape and visual characteristics of this project.

In November 2023, DPHI released the *Draft Transmission Guideline – Guidance for state significant infrastructure and critical state significant infrastructure* (DPE, 2023e) and accompanying *Technical Supplement for Landscape and Visual Assessment*. These draft guidelines do not apply to the methodology for assessment of the exhibited project, which is assessed against the Secretary's Environmental Assessment Requirement (SEARs) issued for the project in 2022. However, following the release of the November 2023 guideline, a review of the guideline has been completed as a part of the addendum Landscape Character and Visual Impact Assessment available in Appendix F of the Amendment Report. It is noted that the new guideline is in draft form and does not apply to the amended project. A review of Technical paper 3 – Visual and landscape character against the draft Guideline confirmed that the method used to assess visual impacts of the project was conservative and comprehensive.

## Assessment approach – study area

### Summary of issue

The visibility analysis applying a two-kilometre project footprint assessment is based on a 3D digital terrain model and the points at the height of each tower. The submission expressed the view that when the proposed development footprint is located in an undulating rural and scenic landscape, a two kilometre radius is not sufficient. Mid-Western Regional Council requested the landscape character and visual impact assessment be extended to five kilometres either side of the project. This is consistent with Council 's development controls under the Mid-Western Regional Development Control Plan 2013 for visual impact assessments of wind and solar energy systems and should be used as a baseline requirement for this project assessment.

### Response

A visibility analysis of the exhibited project was undertaken to identify the area in which the project is potentially visible, as detailed in section 3.5 of Technical paper 3 – Visual and landscape character. This visibility analysis used a 3D digital terrain model (i.e. a digital graphic representation of elevation data to represent existing landform) and points at the height of each transmission tower, to identify the areas from which views to the transmission line may be seen. It was determined that beyond two kilometres from the project, the transmission line towers would either not be visible due to intervening landforms or would not be prominent in the view. Therefore dwellings within two kilometres of the project were considered.

At the time of preparing the technical paper, there was no guidance for the assessment of landscape character and visual impact assessment of large-scale transmission infrastructure. However, in November 2023 the *Draft Transmission Guideline – Guidance for state significant infrastructure and critical state significant infrastructure* (DPE, 2023e) and accompanying *Technical Supplement for Landscape and Visual Assessment* was exhibited by DPHI for comment. This document introduces guidance for determining the study area for the scoping stage of the visual impact assessment. Applying the draft transmission Guideline (specifically the diagram provided at Figure 6 in the technical supplement), the study area for this project would be about 1.5 kilometres, which is less than what was undertaken for the project (DPE, 2023e). In this regard, the two kilometre distance used, with other criteria in the initial screening assessment is considered conservative.

The potential visibility (or viewshed) of the project was identified using a digital elevation model. This model was generated using the project reference design (including details of tower heights and locations) and GIS Software, supported by topographic data from recent Light Detection and Ranging (LiDAR) data is a technology used to create high-resolution models of ground elevation) collected for the project. It does not take into account the screening effect of vegetation and therefore represents a conservative approach by overestimating visibility. The visibility of the project is illustrated in Appendix D of Technical paper 3 – Visual and landscape character and section 5.4 of the Amendment Report.

## Assessment approach – viewpoints

### Summary of issue

The submission considered that the viewpoint assessment does not cover all public viewpoints, for example, Flirtation Hill at Gulgong, has wide and vast panoramic views to the north and north-west of the Gulgong township for many kilometres.

Mid-Western Regional Council stated that the assessment must also include land that has dwelling consent in place and vacant land that has a dwelling entitlement as part of the stage 1 visual assessment process and prior to elimination of the site stage 2 impact assessment progressing.

Mid-Western Regional Council also stated that the visual assessment fails to identify all private air strips that operate in the area and requested these be identified and assessed.

## Response

The assessment of visual impacts from the public domain has been completed using a representative viewpoint assessment approach. Site visits were undertaken in October and December 2022 and April 2023 and viewpoints were selected to include a range of geographical locations and landscape character types, to show a range of different types of views towards the project. Representative viewpoints within the public domain were chosen to include locations where the greatest number of viewers are likely to congregate, such as lookouts and road corridors, as well as locations in sensitive recreational and natural areas. The Flirtation Hill lookout, mentioned by Mid-Western Council in its submission, is located about 14 kilometres south-west of the project at its closest point and although it provides panoramic views of the region, the distance from the project would mean that any potential view to the project from this location would not have permanent project features as a prominent feature in the viewpoint.

The potential visual impacts of the project from private dwellings included undertaking a preliminary visual impact screening assessment to identify potentially impacted private dwellings in the study area to be subject to a more detailed view assessment. The private dwellings that were considered as part of this preliminary impact screening included consideration of properties with planning approval for a residential property. Where changes to the project have occurred, representative viewpoints from the public domain assessed in the EIS have been either removed (if they no longer have views of the project) or reassessed. Where necessary, additional views have been assessed to identify the potential visual impacts of the amended project, as detailed in section 5.4 of the Amendment Report.

Aircraft Landing Areas (ALAs) were not considered receivers that are sensitive to visual impact. However, the assessment considered recreational flights operating from both Dubbo and Mudgee. While the construction of the energy hubs, switching stations and interlinking transmission line easements would be visible from the air, they would not be a focus or in an area that is a destination for scenic flights from Dubbo and Mudgee, resulting in low-moderate visual impacts during construction and operation, on views during these recreational flights. Technical paper 1 – Aviation provided an assessment of potential impact to ALAs and aircraft operations as a result of the construction and operation of the project.

## Landscape character

### Summary of issue

Undulating rural hills landscape character type with 'low landscape sensitivity' refers to areas along the highways and rural roads, used by local residents, their visitors and some tourists passing through the area. This assessment of landscape character type is not supported by Council as it covers several areas of high scenic value (covering the main road entry to the historic town of Gulgong) to residents, their visitors and a considerable number of tourists that visit the region daily. These scenic locations and rural settings are sought to be protected by the Mid-Western Regional Local Environmental Plan (LEP) 2012 objectives. Mid-Western Regional Council stated that the assessment fails to highlight the importance of these views to both the economic and social value of the region.

### Response

Determination of landscape character sensitivity levels was based on criteria that incorporated the scenic quality values referenced in the technical supplement of the *NSW Large-Scale Solar Guideline* (DPE, 2022f). Historic character and the presence scenic lookouts were considered in the assessment. The historic Gulgong town is located beyond the landscape and visual study area for the project.

The undulating rural hills rural landscape character type would be appreciated by a small number of people when travelling along the highways and network of rural roads, including mainly local residents and their visitors, as well as some tourists visiting and passing through the area. This is a regionally common landscape which includes features such as undulating landforms, modified and

natural watercourses and lower scale transport infrastructure. There are existing transmission lines and approved renewable energy projects in some areas. In this regard, the presence of the new infrastructure would not be substantially different to other landscape features and visual elements already present locally and regionally. Overall, the features of the undulating rural hills landscape character zone were consistent with the low sensitivity criterion.

The State and local legislation and policies relevant to the assessment of landscape character and visual impacts were considered in the assessment. Section 2.2.1 of Technical paper 3 – Visual and landscape character provides a review of plans and policies relevant to the Mid-Western LGA.

## Cumulative impacts

### Summary of issue

Council requested a cumulative landscape character and visual impact assessment to be carried out for the proposed development and all approved, constructed and proposed renewable energy projects in the Central-West Orana REZ as part of the one document, not separately.

### Response

The cumulative assessment of the project including visual impacts was prepared separately (as a standalone report) as part of the EIS and in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). This was due to:

- the need for all cumulative impacts (not just those associated with landscape and visual impact) to be considered in combination
- it was recognised that cumulative assessment was such a critical issue that it required a dedicated assessment report

The cumulative visual impact assessment included in the EIS is consistent with the approach described in the guidelines. An addendum visual assessment has been prepared to take into account the proposed amendments and is included in Section L3.2 of Appendix L of the Amendment Report.

## Lighting

### Summary of issue

Mid-Western Regional Council would like to see further details in terms of operational lighting for the energy hubs, the maintenance facility and switching stations. These are located in traditional dark sky areas and Mid-Western Regional Council expresses that lighting would introduce a momentous change of landscape for local residents and wildlife.

Of particular concern to Mid-Western Regional Council is the inclusion of 15 metre lighting masts with flood lights emitting up to 52,000 lumens. Mid-Western Regional Council believes the night-time visual sensitivities of landscape character zones would be highly impacted and not moderately as stated in the EIS. Further it is requested that should lighting have an impact on residents that solutions such as black-out blinds be provided to local residents at the cost of the developer.

### Response

#### Lighting impacts

Lighting at the energy hubs, maintenance facility and switching stations would operate from dusk until dawn, seven days a week, and would be designed to minimise light spill to areas beyond the site boundary. Lights would incorporate LED technology, mounted on poles or buildings and would be controlled via a daylight sensor. A lighting study would be completed as part of continued design development to determine the most appropriate outdoor lighting design at energy hubs and switching stations.

The following general specifications have been included and are subject to further design development:

- lighting masts typically at a height of 15 metres with standard flood lights fitted to each mast, comprising a LED light of about 300 watts that would emit 52,000 lumens
- 20 lux for lighting around cubicles and marshalling boxes/kiosks, in proximity of all operating points and around the areas of control buildings
- 10 lux along access roads
- 2.5 lux within general open areas where lighting would be required.

The energy hubs would be located in the rural valley landscape types, which are areas of low district brightness and therefore have a moderate landscape sensitivity at night. The rural valley landscape character type has low level light sources at night, such as lighting associated with the scattered homesteads and agricultural buildings on rural properties and vehicles travelling along local roads and highways such as the Golden Highway. There would be some denser clusters of residences in the vicinity of the towns such as Wollar and Cassilis, where there would also be more vehicles travelling along local roads. Overall, the landscape character zones in this type are of low district brightness and have a moderate visual sensitivity at night.

Section 6.3.2 of Technical paper 3 – Visual and landscape character noted two sensitive receivers (ID 880 and ID 876) would have views to lighting at the Merotherie Energy Hub at night. The EIS noted that an additional two receivers (ID 719 and ID 611) would have views to night-time lighting at the Elong Elong Energy Hub.

#### Mitigation

No at-property controls such as block out blinds are required based on the predicted impacts at nearby receivers. Mitigation measures are focussed on addressing lighting impacts at the energy hubs and switching stations.

Exterior lighting would primarily be designed in consideration of the *Dark Sky Planning Guidelines* (DPE, 2016a) and Australian and New Zealand Standard AS/NZS 4282:19 *Control of the obtrusive effects of outdoor lighting* (Standards Australia, 2019) as detailed in the mitigation measure LV4 (lighting control). Other guidelines that would inform exterior lighting design include the *Australian Standard AS1158.3.1:2005 Lighting for roads and public spaces* (Standards Australia, 2005) and *Australian Standard AS2067:2016 Substations and high voltage installations exceeding 1 kV a.c* (Standards Australia, 2016). Lighting at the energy hubs and switching stations will be designed and operated to include:

- eliminating upward spill light
- ensuring lighting is directed downwards
- using shielded fittings
- avoiding over lighting
- switching lights off when not required, such as with the use of sensor lights
- using asymmetric beams if floodlighting is required
- ensuring lights are not directed towards reflective surfaces
- using warm white colours.

Additionally, the operation of the project would be undertaken in line with Network Operator's procedures and processes and the operational management measures identified in this EIS. An Operational Environmental Management Plan (OEMP) (or equivalent) would be developed prior to commissioning of the project. The OEMP would include the performance outcomes, commitments and mitigation measures including mitigation measure LV4 lighting control.

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## 6.1.7 Biosecurity

### Summary of issues

Mid-Western Regional Council requested up to date (2023) weed data be used for all biosecurity measures and the Biosecurity Management Plan be developed in consultation with relevant stakeholders, including Mid-Western Regional Council, State Government agencies, and local landholders. If up-to-date weed data is not available, Mid-Western Regional Council recommended that weed surveys be conducted to collect this information.

Mid-Western Regional Council requested all factors that may contribute to biosecurity risk, not just the frequency of vehicle movements be considered in the Biosecurity Management Plan and the appropriate measures implemented. It was requested that the Biosecurity Management Plan be approved by Mid-Western Regional Council prior to the start of construction to address specific controls during the construction phase.

The EIS noted in the event of new infestations of State priority weeds as a result of construction activities, the relevant control authority will be notified in accordance with the requirements of the *Biosecurity Act 2015* and Biosecurity Regulation 2017. In addition, Mid-Western Regional Council requested that all new infestations of priority weeds listed in the Central Tablelands Regional Strategic Weed Management Plan 2023-2027 (Local Land Services, 2022), as a result of construction activities, be reported to Mid-Western Regional Council.

### Response

As noted in the EIS Chapter 8 (Agriculture), there is a risk that animal diseases, plant diseases, feral pests and weeds could be introduced or spread during construction of the project. Vehicles, machinery, personnel and earthworks were identified as potential carriers of weed seeds, plant material, and diseases.

As per updated mitigation measure AG5, biosecurity controls will be implemented during construction to minimise the risk of transport or spread of disease, pests or weed. A Biosecurity Management Plan will be developed that will take into consideration the latest publicly available weed data, including relevant Regional Strategic Weed Management Plans, as well as data on weeds obtained during the biodiversity field surveys undertaken for the project.

The Biosecurity Management Plan would:

- incorporate weed management controls, including inspection and cleaning of plant and equipment, and management of earthworks and clearing activities
- develop specific controls where high biosecurity risks are identified. For example appropriate measures will be implemented with respect to foot and mouth disease to control any risk of introduction of the pathogen as a result of project activities
- provide a monitoring program to track the effectiveness of the controls identified in the Biosecurity Management Plan
- provide for consultation with the owners of organic certified properties to identify the specific risks and controls required to be implemented for their property
- provide a mechanism for notification of relevant councils of new infestations of priority weeds listed in the relevant Regional Strategic Weed Management Plans if identified.

The Biosecurity Management Plan will be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas. However, DPHI would be the relevant approval authority for the plan. This would be set out in the Critical State Significant Infrastructure (CSSI) conditions of approval for the project.

The specific controls applicable to a property will be consistent with property biosecurity management plans, approved in accordance with the *Biosecurity Act 2015*.



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## 6.1.8 Biodiversity

### Summary of issues

Mid-Western Council raised concern that field surveys were limited to limited to 550 hectares of the 1300 hectare total. The submission requested further field investigation to cover the entire construction area to understand the full impact of this project. It requested that the EIS reflects further investigation into the presence of koalas (*Phascolarctos cinereus*) and core koala habitat within the impacted area. As indicated by BioNet Atlas, Mid-Western Regional Council stated that there has been koala sightings as recently as 2023, within the construction area, that have not been considered within the Biodiversity Development Assessment Report (BDAR).

Mid-Western Regional Council also made the following observations, comments or requests with respect to the biodiversity matters:

- the EIS does not contain any explanation of the impact on Endangered Ecological Communities. Further information is required to understand the full impact of work on these communities
- the Regent Honeyeater (*Anthochaera Phrygia*) is mentioned; however, it is not included with the threatened species. As the Ulan/Wollar area is considered core habitat for the Regent Honeyeater, the impacts on habitat need to be stated within the main report
- Pine Donkey Orchid (*Diuris tricolor*) is not addressed within the EIS. Mid-Western Regional Council requested appropriate surveillance for this plant within its growing season is undertaken
- the BDAR requires further development as to the impact of increased in traffic on native animal strikes
- a revegetation plan for the workforce accommodation camps is prepared prior to camp approval
- the identification of the location of the Biodiversity Stewardship Sites ensures that vegetation is being replaced “like for like”.

### Response

Field surveys undertaken as part of Technical paper 4 – BDAR covered around 1,300 hectares of the total construction area or 70 per cent the subject land as defined for the biodiversity assessment. Since the exhibition of the EIS, additional biodiversity field surveys have been undertaken to account for the proposed amendments to the project, as well as areas where access was not possible during preparation of the exhibited BDAR. An additional area of around 1,335 hectares has been surveyed, bringing the total survey coverage to around 2,635 hectares or around 89 per cent of the subject land. Access constraints limited survey coverage for around eight per cent or around 253 hectares of the subject land. An updated BDAR, which incorporates the additional surveys and amendments to the project since the EIS, is provided in the Appendix G of the Amendment Report.

The biodiversity assessment for the project has been undertaken in accordance with the Biodiversity Assessment Method (BAM) (DPIE, 2020a), including field surveys. The BAM sets out how biodiversity values will be assessed, prescribes requirements to avoid and minimise impacts, establishes rules for calculating the number and class of credits required for unavoidable impacts on a range of matters including on endangered ecological communities. The BAM calculator (BAM-C) specifies the type and extent of surveys required for a biodiversity assessment. A variety of survey methods were used to identify native vegetation, threatened ecological communities (TECs), as well as threatened flora and fauna species in the construction area.

The impact to endangered ecological communities were assessed and detailed in the EIS Chapter 10 (Biodiversity), Technical paper 4 – BDAR of the EIS, and the updated BDAR. However the term TEC was used, which means a critically endangered ecological community, an endangered ecological community or a vulnerable ecological community listed in Schedule 2 of the *Biodiversity Conservation Act 2016* (BC Act) or any additional ecological community listed under Part 13 of the EPBC Act as critically endangered, endangered or vulnerable.

Impacts to the Regent Honeyeater and the Pine Donkey Orchid has been described in section 5.5.3 of the Amendment Report of the EIS. The updated BDAR has assessed the potential impacts to the Regent Honeyeater, Pine Donkey Orchid and the Koala. These species are identified in the updated BDAR as threatened species that are known or have the potential to occur within and near the construction area.

The BDAR has considered the potential for an increased risk of vehicle and animal interaction during construction and operation. The majority of project-related vehicular movements would be generated during construction. The risk of vehicle animal strike due to vehicle movements could increase temporarily during construction, however the overall risks to native animals within Mid-Western Regional Council LGA and across the broader construction area are not anticipated to increase substantially. It is unlikely that the project would result in significant levels of roadkill and native animal mortality. During operation of the project, vehicular movements along the local road network are not expected to significantly increase compared to the existing situation and would be generally associated with ongoing inspection and maintenance.

As stated in section 22.2 of the EIS, access tracks near areas of fauna habitat will be designed to minimise impacts and the implementation of road designs and speed limits ensures that the consequence of vehicle strikes remain minor. The workforce accommodation camps are predominantly located in cleared areas (with minimal biodiversity value). As per updated mitigation measure LP9, disturbed areas will be stabilised and appropriately rehabilitated in consultation with the relevant landowner. A specific revegetation plan is not proposed for the workforce accommodation camp sites.

EnergyCo's strategy to secure biodiversity offsets comprises four options of:

- establishing a biodiversity stewardship site(s) on lands with like for like biodiversity values to those impacted by the project
- working with the Credit Supply Taskforce to purchase and retire biodiversity credits
- purchasing and retirement of existing biodiversity credits currently available on the biodiversity credit register
- making a payment into the Biodiversity Conservation Fund,

EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund. EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

Subject to ongoing interest and detailed biodiversity surveys, the biodiversity stewardship agreements would address around half of the project's biodiversity offset liability, or most of the project ecosystem credits. It is noted that around 45 per cent of the project's offset liability relates to species credits, which aren't always present at biodiversity stewardship sites, or historically available on the market. If species credits cannot be retired through stewardship agreements, purchased on the open market or through the Taskforce, EnergyCo would need to pay into the Biodiversity Conservation Fund.

Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. The following properties have been acquired:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## 6.1.9 Heritage

### Summary of issues

The submission noted the comprehensive field survey conducted on both Aboriginal and Non-Aboriginal Heritage within the LGA.

The submission stated support for the preparation of the Aboriginal Cultural Heritage Management Plan (ACHMP) that includes measures to mitigate and manage potential impacts on Aboriginal cultural heritage, archival recording and salvage where required prior to approval of the project. The submission made the following recommendations:

- an Unexpected Aboriginal Heritage Finds Procedure (UAHFP) should be developed for any confirmed or suspected Aboriginal objects identified during construction
- the incorporation of an Aboriginal heritage component into the project's standard site induction to ensure heritage awareness for relevant personnel involved in the project
- all light and heavy vehicle movements within construction boundaries should be restricted to a single track to minimise potential impacts to significant heritage sites not yet realised.

With regard to non-Aboriginal heritage, Mid-Western Regional Council requested specific mitigation measures to protect Spir Road Cottage and Laheys Creek Cemetery.

Mid-Western Regional Council requested more detailed information regarding any blasting near heritage sites.

Mid-Western Regional Council also noted that any changes to the project from that presented, should be supported by an appropriate assessment to avoid, or minimise any further potential impacts.

### Response

As per mitigation measure AH4, an ACHMP will be jointly prepared by the proponent and a suitably qualified heritage professional, with the latter providing archaeological and cultural heritage inputs and requirements, and final endorsement of the document. The ACHMP would be developed in consultation with the Registered Aboriginal Parties (RAPs) and Heritage NSW. The contents and guiding principles for the management of identified site types for the ACHMP include:

- inputs and content of a cultural heritage induction package for all construction personnel and subcontractors
- delineating and protecting Aboriginal and cultural sites within or in close proximity to the construction area, including clear marking, appropriate screen for any gender-specific areas, surface protection, etc
- procedures for managing the unexpected discovery of Aboriginal objects, sites and/or human remains during the project.

For non-Aboriginal heritage items, including Spir Road Cottage and Laheys Creek Cemetery, construction methodologies will be refined as part of continued development of the project design and detailed construction planning to avoid and/or minimise direct impacts to listed and potential historic heritage items where reasonable and feasible. Prior to construction in the vicinity of Laheys Creek Cemetery, an exclusion area of a suitable minimum width, as confirmed by a vibration assessment, will be installed to ensure impacts to the cemetery are avoided (as per mitigation measure HH10).

Management of impacts to Aboriginal objects and/or sites within the construction area that require specific attention based on the outcomes on the Aboriginal Cultural Heritage Assessment Report (ACHAR) have been captured in mitigation measure AH1 and AH2. A heritage protection zone will be implemented to avoid the heritage items. Additionally, the ACHMP will align with and contain measures for avoidance and/or impact minimisation as detailed in Appendix F of Technical paper 5 – Aboriginal cultural heritage and the updated ACHAR available in Appendix H of the Amendment Report. The alignment and width or access tracks will be confirmed during detailed design and construction phase of the project.

Spir Road Cottage (Heritage item ID CWO-22-HH08), is located within the construction area and may be directly impacted by construction activities such as vegetation clearance and tower placement. As per mitigation measure HH2, construction methodologies will be refined as part of continued development of the project design and detailed construction planning to avoid and/or minimise direct impacts to Spir Road Cottage, where reasonable and feasible. Vibration impacts will be managed in accordance with the criteria for prevention of sensitive structures outlined in German Standard *DIN 4150-3: Structural vibration – Effects of vibration on structures*.

A blasting vibration and overpressure assessment will be required as part of any potential blast design as committed to in mitigation measure NV2. This assessment will determine the Maximum Instantaneous Charge to achieve the recommended ground vibration and overpressure limits. In addition, a Blast Management Strategy will be prepared in accordance with Section 4 of AS 2187.2-2006 for inclusion in the CNVMP.

Amendments to the project have been proposed since exhibition of the EIS. Further assessment of impact on Aboriginal and non-Aboriginal heritage has been undertaken and are provided in Appendix H of the Amendment Report, as well as section 5.6 and 5.7 of the Amendment Report.

Approximately 254 kilometres of additional field survey was undertaken as part of the addendum ACHAR, and which identified a further 73 Aboriginal sites and places. Of these, 22 are outside of the construction area. The sites within the construction area were dominated by isolated and low density stone artefacts, but included additional rockshelters, grinding grooves, and cultural modified trees. In combination with the ACHAR investigations, 94 per cent of the 4,404 hectares of the construction area has been inspected.

Opportunities to further minimise potential impacts (e.g. micro-siting of transmission towers, access tracks and pads) would be investigated and ongoing input from stakeholders and the community would be taken into account during detailed design and construction planning in accordance with the mitigation measures and conditions of approval.

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## 6.1.10 Social

### Construction impacts and management

#### Summary of issues

##### Management of construction impacts – general

The submission considered that the project will deliver significant disruption to the lives of many whom both live near the project and others who reside in the region. It commented that impacts during construction should not be considered to be temporary given the project has a four year construction period and any measures that can ensure sense of place is maintained should be delivered.

##### Construction workforce

Mid-Western Regional Council requested that potential negative effects such as sense of safety should be addressed in the consideration of workforce makeup, and that security at camps and large worksites should be considered. Further, a Zero Tolerance for negative social behaviour should be contained in all employment contracts of both direct and contract workers.

## Impacts on services

The submission stated that the EIS identifies that the construction workforce would place additional demand on local emergency and primary health care resources. It noted there is already a general practitioner (GP) shortage in Mudgee and Gulgong with long wait list times to see a GP.

It noted that the construction workforce would likely comprise of a different demographic to the local community and would place different types of demands on local medical facilities. Mid-Western Regional Council requested that a suitably qualified health professional is hired and financed by the proponent for the duration of the construction period to mitigate the risk of further impacting access to healthcare services by residents. Mental health professionals should also be engaged due to the current shortages already in the region.

Mid-Western Regional Council requested that the proponent provides a proportionate amount of prescribing health professionals per capita of workforce, either GP or Nurse Practitioner (on site and via Telehealth) to provide comprehensive primary health care services to all construction workforce personnel and that this be negotiated with other renewable energy projects operating simultaneously to negate cumulative impacts on local health care services.

Mid-Western Regional Council also notes that internet and phone reception is intermittent around the proposed camps at Turill and Merotherie. Mid-Western Regional Council requested that internet connectivity and phone services be upgraded by the proponent as a matter of social importance and for the benefit of the mental health of the construction workforce.

## Response

### Management of construction impacts – general

Construction is expected to last approximately four years, and whilst impacts relating to this phase of the project are assessed in terms of being temporary it is recognised this could be considered a long time. As noted in Chapter 6 of Technical paper 7 – Social of the EIS, the construction of the project would generate impacts that would be considered disruptive, including people's sense of place. Whilst complete avoidance of impacts is not achievable, the implementation of mitigation measures would help minimise these impacts. Acknowledging the potential social impacts that may occur during construction of the project, a pre-construction and construction Communication and Engagement Plan and Social Impact Management Plan will be prepared and implemented.

The Communication and Engagement Plan would be prepared to ensure that (amongst other requirements) landowners, businesses and local residents with the potential to be affected by construction activities are notified in a timely manner about the timing of activities and potential for impacts, and the measures that will be implemented to minimise the potential for impacts on individual properties. Additionally, it would include measures related to communication methods, information sharing and the management of enquiries and complaints.

The Social Impact Management Plan would describe the social impact mitigation measures to be implemented and the impacts that they are intended to address set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation. Furthermore, the monitoring findings will be presented to the project's Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision. As per mitigation measure SI8, EnergyCo will track implementation of the Social Impact Management Plan and review performance measures quarterly, to facilitate continual improvement. The plan will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.

In addition to the monitoring review, proposed mitigation measures will also be reviewed to assess whether they are still applicable and on track to meet the residual risk rating applied in the EIS. Any new issues or initiatives that have emerged and that should be included in ongoing mitigations and/or monitoring will be addressed. The results of Social Impact Management Plan reviews will be published on the EnergyCo website.

## Construction workforce

The workforce accommodation camps would provide sufficient accommodation for all construction workers, including during the peak construction period. Food, sporting and recreation facilities, first aid facilities and medical practitioners (likely to comprise two full time paramedics and one full time nurse) would be provided at the camps, to minimise impacts of the construction workforce on local and regional health services. Internet connection would also be provided at the workforce accommodation camps.

The Network Operator would be required to conduct screening background checks as part of the onboarding process. In addition, as part of the commencement of employment (or subcontractor engagement) all workers will complete project induction training on commencement of work on the project. The induction would outline expectations with respect to worker behaviours, project rules and consequences. This includes behaviour expectations of being a good neighbour.

Prior to construction, a Workforce Management Plan (mitigation measure SI2) will be prepared and include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc.

The Workforce Management Plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others.

Additionally, security and surveillance measures for the workforce accommodation camps will be provided, and include boundary fencing, CCTV cameras, locked gates, movement/sensor lights and alarms.

## Impacts on services

EnergyCo has recently signed a Memorandum of Understanding (MOU) with Health NSW to investigate co-funding the delivery of key health worker accommodation in four locations – Coolah, Mudgee, Dubbo and Wellington. The availability of accommodation has been identified as a constraint to mobilising additional medical resources to regional areas.

As per the updated mitigation measure SI10 EnergyCo has provided a mental health support telephone service to assist landowners whose properties are subject to acquisition for the transmission line. This phone line will be maintained after the project has been commissioned. A broader mental health strategy is being developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support for the broader community. Section 6.1.23 of this report provides a response to cumulative impacts on medical services in the region.

A survey of existing mobile coverage in the vicinity of the project was completed, and based on that survey, a number of telecommunications solutions are being investigated that will both provide the coverage required during construction of the project. Several telecommunication solutions are being investigated by the Network Operator to provide both the coverage required for the project and reduce the risk of network congestion and capacity, due to the increased workforce associated with the project. This would reduce the risk of decreasing coverage for the local communities as a result of the increase in the number of people in the area associated with construction of the project. These investigations and any initiatives that follow would be undertaken by EnergyCo in its role as the Infrastructure Planner and does not form part of the environmental assessment of the project.

## Assessment outcomes

### Summary of issues

The submission notes that the EIS identifies that one of the impacts of the project would be reducing/changing the way in which landowners enjoy and utilise their properties. The submission requested further quantification of this impact to be provided in the Amendment Report.

The submission disagrees that impacts on Local Social Locality are generally low in terms of “surroundings”. While not all residents are physically located in the development zone, the natural environment and current farmlands form the social fabric of the region and the loss of this would impact a far broader community than those currently looking upon the project.

The submission raised concerns that the post-mitigation residual social impacts are assumed to be reduced based on unwritten plans and requested that the assessment (refer to Table 13-20 of the EIS) is updated once plans are drafted to ensure the accuracy of assessment.

### Response

The assessment of the potential social impact of the project associated with the way landowners use and enjoy their land considered the operational impacts to agricultural land use documented in Technical paper 2 – Agriculture and the amenity impacts such as those identified in Technical paper 3 – Visual and landscape character and Technical paper 9 – Noise and vibration.

The social locality for the Social Impact Assessment (SIA) comprised a local social locality and regional social locality, determined in accordance with the SIA guideline, including consideration of who is most likely to experience direct and indirect social impacts and where those groups of people are located. The local social locality is the area expected to experience the most social change as a result of the project during construction and/or operation. It includes the people living and/or accessing services within, or in close proximity, to the project.

During construction, the unmitigated impact to the surrounding environment, encompassing both built and the natural environment inhabited by people within the construction area, was assessed. The assessment included aspects such as ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment, as well as aesthetic value and amenity.

As per section 6.7.1 of Technical paper 7 – Social, the assessment indicates a low unmitigated impact primarily because the unexpected changes would predominantly affect landowners, with the potential for minor adjustments to how they interact with the environment. While these adjustments might be noticeable to them, they are not expected to significantly disrupt their overall experience. Additionally, for the wider community within the local social locality, the projected impacts are even lower, with no major changes anticipated for the majority of the residents. Consequently, the anticipated impact on the regional social locality is negligible. This assessment suggests that the proposed changes are unlikely to have a substantial or widespread effect, thereby justifying the classification of a low unmitigated impact.

The residual impact for the SIA considers not only the implementation of a range of management plans but also the mitigation measures identified to address other issues such as amenity impacts, traffic and transport impacts and land use impacts and biodiversity impacts. The mitigation measures detailed to address the assessed impacts will form the basis of the listed management plans. Additionally, the Social Impact Management Plan will provide an updated residual impact assessment once plans are developed. The plan will also monitor and assess the effectiveness of the proposed measures and serve to update and refine any measures during their implementation.

## Management

### Summary of issues

Mid-Western Regional Council requested EnergyCo fund a well-being survey in the region where there is an impact to ensure ongoing monitoring of the impact of such developments on the local community.

Further mitigation tools are recommended by Mid-Western Council include:

- mental health support for residents surrounding development where their way of life has significantly changed, such as changes to their day-to-day vista
- support for farmers whose working styles are disrupted and income impacted. This may include where new techniques need to be deployed due to change of working environment.

The EIS identifies that monitoring of the Social Impact Management Plan will be provided to the projects' Community Reference Group. Mid-Western Regional Council requested that monitoring is also provided to it directly on a quarterly basis.

### Response

As per mitigation measure S18, a Social Impact Management Plan will be prepared that will:

- describe the social impact mitigation measures to be implemented and the impacts that they are intended to address
- set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation.

A new mitigation measure SI10 will be implemented, which details that a mental health support telephone service as already established by EnergyCo will be maintained to assist landowners whose properties are subject to acquisition for the transmission line. A broader mental health strategy will be developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support.

EnergyCo will track implementation of the Social Impact Management Plan and review performance measures quarterly, to facilitate continual improvement. The plan will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.

As per mitigation measure S18, monitoring findings will be presented at the project's Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision. Representatives from local councils are invited to participate in the Community Reference Group.

Impacted landowners will be fairly compensated, for loss of land and impact to farming operations as a consequence of the easement in accordance with the Just Terms Act. In addition, the NSW Government has introduced the SBPs Scheme for new major transmission projects. Under this scheme, affected landowners will receive \$200,000 per kilometre of transmission line over a 20-year period in annual instalments. These payments are distinct from any compensation provided to landowners for transmission easements under the Just Terms Act.

Regarding support to farmers, farming operations will generally be unaffected during operation of the project. As per mitigation measure AG3, disruption impacts to property will be managed through individual Property Management Plans, which will be developed in consultation with the affected landowners.

In addition to the monitoring review, proposed mitigation measures will also be reviewed to assess whether they are still applicable and on track to meet the residual risk rating applied in the EIS. Any new issues or initiatives that have emerged and that should be included in ongoing mitigations and/or monitoring will be addressed as per mitigation measure S18. Due to the detailed monitoring process outlined in mitigation measure S18, annual meetings will be sufficient to address key



aspects of the project's progress. The results of the Social Impact Management Plan reviews will be published on the EnergyCo website.

## Benefits

### Summary of issues

Mid-Western Regional Council commented that the long-term social benefits are highlighted as 'access to renewable energy sources, lowering of carbon emissions and cheaper energy,' however there are no current plans or policies that deliver cheaper electricity to locals in the region. Mid-Western Regional Council requested this be addressed immediately, and processes are delivered to ensure infrastructure host regions benefit from lower energy costs.

### Response

A Community and Employment benefit fund for the Central-West Orana REZ will be established to deliver community projects and employment opportunities. The fund will be administered by EnergyCo in accordance with the *Electricity Infrastructure Investment Act 2020*. The Minister for Energy announced an initial fund of \$128 million to be allocated through the Community and Employment benefit fund. Upfront funding will come from the Transmission Acceleration Facility, and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ. Individual compensation payments from cumulative impacts are not proposed to be provided to the broader community.

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## 6.1.11 Economic

### Summary of issues

Mid-Western Regional Council notes there is very little direct economic value specifically to the host LGAs. Economic benefits are broadly to the Australian and NSW economy but not to the host regions. Mid-Western Regional Council calls on EnergyCo to drive stronger investment in host LGAs to gain long term economic benefits to the regions that are facing the disruption from this project. These should include major investment in creating added support industries such as renewable product recycling or component manufacturing.

### Response

Construction and operation of the project would provide positive economic activity for the regional and NSW economy. The positive flow-on effects to the economy during construction and operation of the project would mainly be due to employment and purchase of materials and services. The positive impact of the project on the regional economy during construction is estimated to be up to \$512 million in average annual output (the gross value of business turnover in a region).

Mitigation measures have been identified to ensure local suppliers are considered during construction. As per mitigation measure SI4, an Industry Participation Plan will include targets from the *Renewable Energy Sector Board Plan* (Office of Energy and Climate Change, 2022) and implemented which will:

- identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery)
- identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand
- provide local and Indigenous procurement targets
- identify tailored 'meet-the-contractor' events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project
- monitor the availability of key goods and services to the local community when procured locally.

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## 6.1.12 Noise and vibration

### Construction

#### Summary of issues

##### Construction hours

Mid-Western Regional Council requested confirmation of construction hours as EnergyCo had indicated in representations to Mid-Western Regional Council that construction works would only occur outside standard construction hours in rare instances, such as needing to cross a road or rail line. However Mid-Western Regional Council stated that the EIS states the majority of construction activities would generally be undertaken across a seven-day work week between 7 am and 7 pm, consisting of a mixture of both standard and non-standard construction hours as defined in the Interim Construction Noise Guideline (ICNG) (NSW Department of Environment and Climate Change, 2009). Mid-Western Regional Council does not support these hours, especially given the predicted exceedance of Noise Management Levels (NMLs) to nearby receivers resulting from construction activities.

##### Respite for highly impacted receivers

Mid-Western Regional Council noted that respite would be provided for sensitive receivers experiencing highly intrusive events (exceedances >25 above NML) and requested that this is also provided for receivers experiencing moderately intrusive events (exceedances 15–25 above NML). Sensitive receivers disturbed at night should also be offered alternate accommodation.

Mid-Western Regional Council identified that that potential human comfort impacts may be experienced at up to four sensitive receivers located within 100 metres of the construction area due to construction vibration. Mid-Western Regional Council requested that these four receivers are offered respite accommodation during any of the predicted vibration generating activities.

Mid-Western Regional Council highlighted a strong shift-working economy in the region and commented that daytime noise exceedances will have an impact on these workers who are required to sleep during the day.

##### Impact to animals

The submission commented that impact of noise on animals such as working dogs has not been considered including the impact of drones and/or helicopters and other machinery and then the follow-on noise of barking dogs as a response to this disturbance.

##### Complaints management

Mid-Western Regional Council noted that mitigation measure NV3 sets out a requirement to offer monitoring if a noise complaint is made during construction to confirm the noise level at the receiver, and to implement changes to reduce construction noise levels to be compliant with noise predictions where reasonable and feasible if exceedances are identified. Mid-Western Regional Council recommended that the same mitigation measure is provided during operation for residences experiencing offensive noise if a complaint is made.

### Response

##### Construction hours

The noise assessment presented in the EIS represents 'realistic worst-case' scenarios that are based on likely construction scenarios and plant and equipment during standard and non-standard construction hours (as defined by the ICNG).

Construction of the project is proposed to be carried out during recommended standard hours as defined by the ICNG where possible:

- Monday to Friday between 7 am and 6 pm
- Saturday between 8 am and 1 pm
- no work on Sundays or public holidays.

However, due to the remote nature of the work, and the requirement to accommodate a rostered fly-in fly-out and drive-in drive-out workforce, there would be a need to extend construction hours across a seven-day work week between 7 am and 7 pm. To support construction activities during these extended hours, operation of the main construction compounds would also be required. The workforce accommodation camps would be operational 24 hours a day, seven days a week to provide accommodation for the workforce.

In addition, the following Out Of Hours (OOH) work would be required at certain locations within the construction area to satisfy third party or safety requirements or to accommodate specific long lead items:

- stringing of transmission lines across a road or railway
- transmission line construction within areas currently forming part of mining operations, to coordinate works with 24/7 mining operations
- where road occupancy licences are required require the works to occur outside standard construction hours
- transmission line cutover or commissioning where the relevant network operator requires these to occur outside standard construction hours
- the delivery of equipment or materials as requested by police or other authorities for safety reasons (such as the delivery of transformer units)
- oil filling of the transformers at energy hubs
- emergency work to avoid the loss of lives and/or property and/or to prevent environmental harm
- work timed to correlate with system planning outages (likely 24-hour operations when required to minimise impact to electrical supply services)
- situations where agreement is reached with affected receivers
- potential utilities adjustment works (in consultation with the requirements of asset operators)
- large concrete pours (including concrete batching plant operation which may require commencement before 7 am for early pours)
- any works that do not exceed the applicable NMLs in accordance with the ICNG.

Except for emergencies, OOH works would be carried out in accordance with an OOH protocol and would not take place outside construction hours without prior notification in line with that protocol.

Where sensitive receivers are noise affected during extended construction hours (that is, where construction noise is above the NML), and the works cannot be undertaken during standard work hours, measures would be implemented through an OOH work protocol and the project's conditions of approval.

#### Respite for highly impacted receivers

For OOH work that would result in noise that is clearly audible or higher at sensitive receivers, respite periods will be offered as outlined in Table 15-29 of Chapter 15 (Noise and vibration) of the EIS. The respite offer provides breaks from high noise generating activities and also considers receivers moderately impacted. For example, work would be carried out in blocks not exceeding three hours each, followed by a minimum one-hour respite period, to ensure receivers have relief from the impact.

The offer of alternative accommodation would be considered where noise levels are exceeded by 25 dBA over more than two consecutive nights. It is noted that due to the rural residential nature of the study area it may not be feasible or reasonable to be able to provide alternative accommodation. As per mitigation measures NV3 and NV4, construction noise and vibration will be managed in accordance with the ICNG and Construction Noise and Vibration Guideline (CNVG). Furthermore, OOH can proceed in accordance with ICNG where NMLs are achieved.

As part of development of the detailed design and construction methodology, all feasible and reasonable mitigation measures will be considered, confirmed and implemented to minimise construction noise impacts and to avoid exceedances of the applicable noise goals at adjacent sensitive receivers where practicable, including during standard daytime construction hours.

The assessment was prepared in accordance with the ICNG guidelines and specific consideration was not given to night shift workers in the study area. The daytime NMLs are higher than OOH, as they are based on Rating Background Levels (RBLs) which are lower in the evening and night. Sleep disturbance impacts were assessed in accordance with relevant NSW guidelines.

### **Impact to animals**

It is noted that there may be disturbance to animals by construction activities and construction vehicle movement, which have the potential to cause panic amongst livestock. As per mitigation measure AG3, any potential impacts would be minimised through consultation with impacted landowners, to adjust the timing of construction activities and to adjust the timing of the construction activities. Individual Property Management Plans will also be developed with each landowner directly affected in carrying out agricultural operations during the construction activities.

### **Complaints management**

A complaints management system will be maintained throughout the construction period and for a minimum of 12 months after the completion of construction. Any complaints concerning operational noise will be investigated with consideration the Project Noise Trigger Levels (PNTLs) and the conditions of approval and addressed accordingly.

## **Operation**

### **Summary of issues**

The operational noise assessment predicts two receivers would exceed the PNTL from audible corona noise. The exceedance is rated as moderate and negligible, during evening and nighttime. Mid-Western Regional Council requested that these receivers (moderate at least) are either upgraded to ameliorate noise impacts or are offered compensation/buy out given these exceedances would be ongoing.

### **Response**

The noise and vibration assessment has been updated in response to proposed amendment to the project since exhibition of the EIS which identified that impacts on receivers have been reduced, and that only one exceedance is predicted, experiencing a 'negligible' level of exceedance of PNTLs due to corona noise from the transmission lines. Audible corona noise would not be a constant occurrence but would be present during mild, wet and misty conditions.

Sleep disturbance impacts have also been predicted to potentially occur at two switching stations. If mitigation is found to be required, it is recommended that circuit breaker switches are screened or housed within sound insulated enclosures. This would eliminate noise impacts.

An Operational Noise Review will be prepared to confirm the predicted noise impacts from the project (as per mitigation measure NV6). Where exceedances of the PNTL are predicted (i.e. transmission lines audible noise), feasible and reasonable operational noise mitigation measures will be further investigated and implemented as soon as practicable. This will include:

- monitoring after the commissioning of the project to be conducted at each residence where potential operational noise levels are predicted to exceed project trigger levels
- noise control at the receiver, such as 'at property' treatment to upgrade aspects of the dwellings including the façade or ventilation systems.

An Operational Communication Plan will be developed and implemented during operation of the project. The plan will outline how communications with those located in close proximity to the transmission line will be maintained to provide updated information and monitor experience and concerns (mitigation measure SI9).

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## 6.1.13 Hazard and risk

### Summary of issues

Due to high fire risk and the remote nature of the project, Mid-Western Regional Council requested that all switching stations have firefighting equipment on site. All construction sites and workers camps should also have appropriate firefighting equipment on site and numerous staff trained.

Mid-Western Regional Council stated that residents have concerns about fire spreading where there are Battery Energy Storage Systems (BESS) or solar panels due to limited capacity to stop fires under electrical arrangements. Therefore, they requested surrounding neighbours be provided (should they request) with additional firefighting equipment to help best protect their properties should a fire escape a site.

### Response

The switching station and energy hubs would be designed and constructed in accordance with *AS3959-2018 Construction of Buildings in Bushfire Prone Areas* including installation of fire systems. Firefighting equipment will be maintained and made available at and/or accessible to all construction site personnel at construction compounds (energy hub and switching station sites) and the workforce accommodation camps, during the construction phase in accordance with *Planning for Bushfire Protection 2019* (RFS, 2019). Firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.

Emergency response training for the workforce is required. In addition, the project is required to have an Electrical Network Safety Management System in place prior to the commencement of operations. It will include risk identification and treatments for bushfire and public safety risk.

As a licenced transmission operator, the Network Operator will be required to implement an Electricity Network Safety Management System to *Australian Standard 5577- Electricity network safety management systems*, undertake hazard identification associated with bushfire risk, implement and maintain appropriate fire protection measures. As part of this, the Network Operator will collaborate with NSW Rural Fire Service (RFS) to determine any additional resources required to manage bushfire risk to an acceptable level.

Bushfire Emergency Management and Evacuation Plans would be prepared as part of the construction and operation emergency response plan(s) for the project. The plans would be prepared in accordance with RFS's *Guide to Developing a Bushfire Emergency Management Plan* (RFS, 2014) and meet the requirements of *Australian Standard AS3745-2010 Planning for Emergencies in facilities* and would include as relevant:

- protocols for the relocation of workers to nominated safe refuge zones during a bushfire emergency, either within or remote to the work zone
- protocols for the management of bushfire risk and fuel management during construction and operation. This would include the restriction and/or prevention of certain activities that present bushfire risks on days with a fire danger rating of equal to or greater than 'high', and as directed by relevant state authorities
- training to inform workers of bushfire risks and preventative actions, including risks associated with the operation (and maintenance) of vehicles, plant and equipment.

The potential BESS at the Merotherie Energy Hub that was described in EIS Chapter 3 (Project description) has been removed from the project scope. Solar panels may be used to generate electricity at the construction compounds and workforce accommodation camps. The solar panels would be installed in accordance with relevant guideline and firefighting equipment would be available at these sites.

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## 6.1.14 Traffic and transport

### Construction traffic volumes

#### Summary of issues

The submission disagrees with the conclusion that roads have sufficient capacity, and that the project would only have minor impacts on the road network during construction. It is of the view that this statement appears to be derived from estimations of Average Daily Traffic (ADT) traffic counts made in Technical paper 13 – Traffic and transport and that the estimations of ADT in this technical paper come from “rule of thumb” estimations derived from estimations of peak period traffic through intersections, which is not acceptable to Mid-Western Regional Council.

Mid-Western Regional Council requested that the Cumulative Annual Average Daily Traffic (AADT) for each access route is determined and the EIS amended for reassessment. The Cumulative AADT must account for:

- existing traffic usage (by traffic counts)
- forecast AADT generated by this project
- trips generated from the workers' accommodation (in and out of work hours)
- all other SSD projects with overlapping construction periods utilising the same routes.

Similarly, Mid-Western Regional Council requested all intersections on the road access routes are to be assessed for swept paths of the largest Oversize and Over mass (OSOM), heavy vehicle and forecast peak cumulative traffic generation during construction, operation, and decommissioning phases. Peak traffic through intersections generated from the workers accommodation camps outside of work hours must also be considered.

Mid-Western Regional Council requested that the crash data provided in the report is updated as it does not reflect the current population and greater consideration should be provided for cumulative impact and future crash likelihood.

## Response

### Traffic counts

Existing traffic conditions were estimated using a combination of publicly available data and intersection traffic counts and midblock surveys completed as part of the environmental assessment of the project. The intersection counts and midblock (automatic traffic counters) surveys were conducted to understand the current traffic demands, conditions and travel patterns.

Intersection traffic counts were undertaken between 6:00 am and 10:00 am and 3:00 pm and 7:00 pm to capture the traffic movements at key intersections during peak hours. The survey provided separated traffic counts for light and heavy vehicles. Twenty four-hour midblock counts (Automatic Traffic Counters) were conducted at key mid-block locations between 16 and 23 October 2022 to capture traffic data including volume, speed and vehicle classifications across this period.

Estimates of the maximum number of construction vehicle movements per hour from the project included consideration of vehicle movements to and from the workforce accommodations camps. These would be at their peak between 6:00 am and 10:00 am and 3:00 pm and 7:00 pm. Traffic generated by workers outside of standard working hours is expected to be minimal, and its inclusion is unlikely to change the impacts associated with the construction of the project.

Since exhibition of the EIS, additional intersection traffic count surveys have been completed as detailed in section 5.11.3 and Appendix J of the Amendment Report. The assessment noted that traffic generated during the construction of the project does not impact the LoS on the local roads, even at peak morning and afternoon periods.

A cumulative construction traffic assessment is detailed in Appendix E of the EIS, which accounts for major projects that are expected to be under construction at the same time as the project and utilising common roads along the road network. The cumulative traffic and transport assessment, including projects considered as part of the assessment, has been completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). An updated cumulative impact assessment has been prepared to address changes to potential cumulative impacts associated with the amended project, detailed in section Appendix L of the Amendment Report.

### Oversize over mass vehicle movement

Construction of the project would require OSOM movements from the Port of Newcastle (Newcastle) to the project area via gazetted OSOM routes. Materials would also be transported from the Merotherie and Elong Elong energy hubs and other discrete locations across the construction compound for the delivery of specialist electrical equipment and construction plant, materials and equipment. The number of OSOM movements anticipated is small and associated with the delivery of equipment for inclusion in switching stations and energy hubs.

Appropriate travel permits for OSOM movements outside of pre-approved routes (i.e. 'last mile' sections) would be sought from the National Heavy Vehicle Regulator.

EnergyCo is proposing to upgrade certain roads, including sections of Merotherie Road and Spring Ridge Road as part of the project, which have been described and assessed in the Amendment Report. In addition, further upgrades to the regional road network between the Central West REZ and the Port of Newcastle are planned to accommodate OSOM deliveries for the development of the REZ, however these works are outside the scope of this project.

It is also noted that intersection warrant assessment has been carried out for the intersections which is based on traffic volumes and weight of the vehicles, irrespective of the vehicle length. Swept path analysis primarily serves as a design requirement, aimed at ensuring the adequacy of road designs to accommodate vehicles effectively. While it is noted that it can contribute valuable insights into traffic management and safety consideration, it is generally undertaken as part of the detailed design process following planning approval.

During operation of the project, due to the small number of operational staff and the main activities being inspection and maintenance, the predicted vehicle movements along the local road network as a result of the project would be low and infrequent. Therefore, a qualitative assessment of the operational traffic impacts of the project was conducted considering road capacity, road condition, road safety, efficiency, active transport, public transport and property access.

The crash analysis completed as part of the EIS traffic assessment was undertaken using the crash data available at the time of the assessment. Additional crash data analysis has since been completed using the updated data available and included in Section 4.2 of Appendix J of the Amendment Report.

## Construction mitigation measures

### Summary of issues

Mid-Western Regional Council requested the following mitigation measures:

- driver education for the entire workforce and contractors including the risks of rural driving such as wildlife strikes
- a requirement that all workers consider cyclists on the road especially on cycle trails
- installation of signage and markings that clearly identify cycle trails and remind workers to yield to cyclists.

### Response

Mitigation measure T4 requires that the following road safety measures will be implemented with regard to driver management during construction:

- a Driver Code of Conduct will be developed and implemented for the entire workforce. The code will define acceptable driver behaviour for proposal personnel to promote road safety and ensure that the impacts of construction-related vehicle movements on local roads and the local community are minimised
- a Driver Fatigue Management Plan will be developed and implemented as part of the Construction Environmental Management Plan (CEMP), and will incorporate appropriate measures to manage driver fatigue risks, including, but not limited to:
  - planning of regular breaks
  - mapping locations of driver rest areas along the proposed construction routes.

As per mitigation measure T10, the project will actively consult with local bicycle groups such as Central West Cycle (CWC), throughout the construction phase. The consultation will specifically address construction routes proposed on CWC's cycling routes between Gulgong and Dunedoo, ensuring their concerns and inputs are considered. Safe pedestrian and cyclist access will be maintained where the project interacts with existing pedestrian or bicycle facilities. Where this is not feasible, temporary alternative access arrangements will be provided following consultation with affected stakeholders and the relevant road authority.

## Road upgrades

### Summary of issues

Mid-Western Regional Council requested that all existing public roads used to access the project are upgraded by EnergyCo, including road pavement, culverts, bridges, causeways and associated road and drainage infrastructure. The necessary road upgrades are to be determined in accordance with *Guide to Road Design Part 3* (Austroads, 2021). Mid-Western Regional Council specifically requested that EnergyCo upgrades Merotherie Road and Neeleys Lane. Mid-Western Regional Council stated that road drainage provision for 10 per cent AEP is acceptable.



Mid-Western Regional Council requested that roads and intersection upgrades are assessed under section 138 of the Roads Act, noting it is the roads authority for all local and regional roads and that Transport for NSW will be the roads authority for State roads and a referral authority for regional road upgrades. Mid-Western Regional Council also state that all road upgrade works must be completed prior to issuing approval for the project.

Mid-Western Regional Council has recently undertaken a study to measure the impact of additional population from the Central-West Orana REZ and associated projects (including this one) on local roads and maintenance costs. At this point in time, it is estimated that due to increased vehicles on the roads the average maintenance cost per kilometre would increase from \$8,539 per kilometre to \$13,270 per kilometre. Mid-Western Regional Council requested EnergyCo engage in discussions on how these costs will be covered into the future so that local rate payers do not have to cover this additional cost.

## Response

As detailed in Section 3.3.4 of the Amendment Report, additional road upgrades have been included as part of this project. The road upgrades are proposed to ensure safe access of construction vehicles to the construction area. The proposed road upgrades within the Mid-Western Regional Council area include:

- road widening and sealing of Merotherie Road
- installing a new bridge on Merotherie Road at its crossing of the Talbragar River to replace the existing crossing
- road widening Spring Ridge Road, near the intersection with Dapper Road
- installing a new bridge on Spring Ridge Road at its crossing of Laheys Creek to replace the existing causeway
- upgrading Dapper Road to tie into the upgraded Spring Ridge Road
- upgrading the Spring Ridge Road/Dapper Road intersection to tie into the upgraded Dapper Road and Spring Ridge Road.

Road upgrades required as a result of the project will be designed and constructed in accordance with Austroads Guidelines, relevant applicable standards and consider the appropriate design vehicles that are anticipated to be using these roads. Road drainage provisions to cater for run-off from the road surface and the immediate road corridor areas would be designed for up to a 10 per cent Annual Exceedance Probability (AEP) flood event, where practicable, noting that this is not achievable at some locations due existing topography and flooding constraints. The road upgrades are a part of the project and would only begin after approval for the project.

EnergyCo would require consent from the relevant roads authority under Section 138 of the Roads Act to undertake work on or over classified roads. However, by reason of clause 5(1) of Schedule 2 of the Roads Act, EnergyCo, as a public authority, is not required to obtain approval to carry out work on unclassified roads other than a Crown road (subject to that clause ceasing to have effect by proclamation).

EIS mitigation measure T7 requires that pre-construction road dilapidation surveys and routine inspections would be completed along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

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## 6.1.15 Waste management

### Summary of issues

Mid-Western Regional Council advised that none of its waste facilities are appropriate or capable of handling the disposal of landfill waste generated by the project and requested that any other materials requiring disposal should be discussed with the Council.

Mid-Western Regional Council requested clarification of whether the volumes of construction waste provided in Table 18-2 are per year or for full construction phase. Mid-Western Regional Council requested further information as to how the volume of waste generated by the workforce accommodation camp was calculated. Mid-Western Regional Council would like to understand where this material will be taken to and disposed of.

Mid-Western Regional Council commented that the EIS does not provide an estimate of annual waste quantities during operation of the project (other than minimal). These figures would be beneficial for Mid-Western Regional Council to better understand cumulative impacts.

### Response

Council's comment that none of its waste facilities are appropriate or capable of handling and disposal of landfill waste generated by the project is acknowledged.

EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project. Table 18-2 in the EIS provides the waste streams and quantities generated by the project, based on the current design and indicative construction methodology, for the full construction phase, which is expected to extend for about four years.

Waste generated by the project would be disposed of at the nearest licenced waste facility (where capacity is available). This would potentially require transportation of waste over longer distances to reach facilities where capacity is available.

The estimated volume of waste generated by the workforce accommodation camps is based on peak workforce numbers and anticipated camp facilities.

The expected waste streams during operation of the amended project are expected to be low given the design life of the infrastructure being built.

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## 6.1.16 Flooding, stormwater and drainage

### Summary of issues

Mid-Western Regional Council requires that post development stormwater flows leaving the site(s) not exceed pre-development flows. Mid-Western Regional Council request on site detention is designed for all storm events up to and including one per cent AEP ensuring peak discharge and volumes are not exceeded. Water quality of levels acceptable to Mid-Western Regional Council must be achieved before any stormwater is allowed to be released from the site catchment(s).

Mid-Western Regional Council commented that if flows leaving the site are likely to cause scouring or nuisance to downstream property owners, then EnergyCo must be required to obtain drainage easement over impacted downstream properties prior to issue of a construction certificate to give legal right to discharge over downstream property where the upstream natural surface flow is altered.

Mid-Western Regional Council request the final designs of transmission lines is provided to Council for comment as the siting of towers near minor streams and some first and second order streams may have a minor impact on flow paths and sediment runoff, and re-consideration of impacts will need to occur.

## Response

### Stormwater flow during operation

Where transmission line towers occur within flood affected areas, any changes in the depth and velocity of flood flows would be confined to a relatively localised area around the footings and tower legs of each tower. Scour protection measures would be incorporated into the design of the transmission line towers where required, to manage localised increases in flow velocities and scour potential. Access tracks would also be designed with appropriate drainage control measures to manage runoff and scour potential.

During detailed design, scour protection measures would be incorporated into the design of the transmission line towers where it is required to manage localised increases in flow velocities and scour potential around their footings. For roadways drainage control measures such as cross banks, level spreaders and lined waterway crossings would be incorporated into the upgraded or new access tracks to manage runoff and the impact it could have on scour to the tracks and surrounding areas.

During operation of the project, the energy hubs and switching stations have the potential to impact overland flows due to increases in the rate and volume of runoff from an increased impervious area, along with redistribution of flows. The drainage design at the energy hubs and switching stations will be designed to manage and avoid adverse impacts on the receiving drainage lines including changes in the depth, velocity, extent and duration of stormwater flows leaving these site(s) during storms up to one per cent AEP in intensity (mitigation measure FL7).

The project will be designed to minimise adverse flood related impacts on:

- surrounding development for storms up to one per cent AEP in intensity
- critical infrastructure, vulnerable development or increases in risk to life due to a significant increase in flood hazard for floods up to the Probable Maximum Flood (PMF) event.

As per mitigation measure WA3, where relevant, permanent erosion control measures will be designed and implemented at relevant energy hubs, switching stations and transmission line towers to minimise potential scour and erosion risks associated with surface water runoff during operation.

In relation to Energy Hubs and Switching Stations, the assessment in the EIS has not made any allowance for stormwater detention or other flow control measures. The assessment provides an indication of the upper bound estimate of the potential impacts that the energy hub could have on flood behaviour in the receiving drainage lines in the absence of such controls. Further refinement of the drainage strategy will be conducted in detailed design with the aim of managing increases in flows, minimising changes in distribution of flow and increased runoff from hardstand that would lead to adverse impacts on the duration and extent of inundation in the receiving drainage lines.

### Final design

The detailed design will be required to provide arrangements to minimise impacts on downstream property owners and the measure may include flow control measures or stormwater detention. For the transmission line towers, their obstruction to floodwaters would be confined to the area of the footing and tower legs that support each structure. While the obstruction caused by the footings and legs of the transmission line towers have the potential to lead to an increase in the depth and velocity of floodwaters, impacts would be confined to a relatively localised area in the vicinity of each tower.

The final location and specification of each transmission line tower would be dependent on a range of factors such as distance between each structure, structure loading, required ground clearances, transmission line voltage, changes in direction of the transmission line route, local geotechnical conditions, topography and local environmental constraints (such as the need to avoid specific areas of biodiversity value or to span watercourses).

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## 6.1.17 Air quality

### Summary of issues

Mid-Western Regional Council requested an air quality monitoring network similar to the Ulan Coal Mine. For baseline and future air quality reporting, Mid-Western Regional Council requested air quality monitoring stations installed specifically at the accommodation camp, batching plant, unsealed roads, sensitive receivers within 350 metres (ID539 and ID543) and sporadically along construction routes. Mid-Western Regional Council requested stations be erected immediately to establish a baseline for the project and that the stations should be monitored three times per day during construction and once per day during operation.

Mid-Western Regional Council notes once construction commences, 1200 workers would be inhabiting the Merotherie workforce accommodation camp near construction activities at the construction compound and energy hub. According to Work, Health, and Safety laws, workers exposure to silica dust must not exceed  $0.05\text{mg}/\text{m}^3$  over eight hour working day, for a five-day working week. Since the levels are unknown, air quality monitoring and health monitoring for workers should be implemented.

Mid-Western Regional Council requested the use of native vegetation for windbreaks to help mitigate dust emissions. Mid-Western Regional Council requested the use of a water cart on unsealed roads during high wind days as they believe dust emissions from unsealed roads are underestimated and slowing a heavy vehicle will be insignificant in reducing dust emissions.

### Response

The potential for substantial dust generation would be highest during the construction phase. Where earthworks, civil construction and construction vehicle movements are considered to have medium to high emission magnitude potential, the distance between most of the sensitive receivers in the air quality study area and the construction area means that construction activities are anticipated as having an overall negligible to low risk rating (unmitigated) for construction air quality impacts.

During operation of the project, windblown dust may be generated from vehicle movements along unsealed areas within the operational area. The potential for dust generation during operation is expected to be low and of minimal impact at sensitive receivers in the study area due to infrequent use and low number of vehicle movements.

Due to the predicted air quality impacts being low, an air quality monitoring network for the project is not warranted or proposed. A range of mitigation measures (AQ1 to AQ5) have been identified to minimise dust emissions during construction of the project including regularly conducting visual inspections of dust emissions and applying additional controls as required. Native vegetation plantings along the construction area or roadways would not be feasible or reasonable based upon assessed risks and application of standard controls.

Potential risks to on-site workers during construction and operation are regulated by workplace health and safety legislation (including the *Work Health and Safety Act 2011* NSW). The Network Operator would manage the site in accordance with the *Work Health and Safety Act 2011*, along with any other relevant regulatory requirements.

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## 6.1.18 Water supply

### Summary of issues

The EIS notes 250 megalitres per year non potable water requirements and 450 megalitres per year potable water requirements for the construction period. Mid-Western Regional Council requested more detail regarding how potable water would be sourced. The existing facility operated by Mid-Western Regional Council at Gulgong is utilised by established water carters to supply rural potable domestic water within the LGA and does not have the capacity for potential cumulative impact of water carting to EnergyCo or other REZ projects without upgrade consideration.

Mid-Western Regional Council requested vegetation management and fire system servicing the project should be via non-potable sources only. Mid-Western Regional Council 's concern is the cumulative impact of servicing the operational potable water supplies of both this project and others not considered by this EIS.

### Response

The actual water usage during construction is expected to vary depending on the nature and extent of construction activities taking place at any point in time throughout the duration of construction. Opportunities to minimise water demand would be identified during detailed construction planning and implemented where feasible.

The use of non-potable water rather than potable water is preferred, however this is dependent on the location and nature of the water use activity as well as the quantity and quality of available water at the time. Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under Water Access Licences (WALs) for the project. The available water in each water source is dependent on conditions in each water source, which are dependent on the climate
- reuse of treated mine water (non-potable water), if practicable. extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (potable water). Potable water would be sourced from council owned potable water supplies in Dunedoo and Coolah (in the Warrumbungle LGA) and Gulgong (in the Mid-Western Regional LGA) where possible. Other sources would be investigated if these council owned supplies are not able to supply water to the project.

EnergyCo has been in consultation with a water broker to identify surface and groundwater sources that can meet the projects water supply requirements. Based on a review of the market, there are sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard EnergyCo has been advised sourcing water from existing entitlements is a feasible and realistic option for the project. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

The updated cumulative impact assessment completed for the amended project (Appendix L of the Amendment Report) identified one additional project, the Narragamba solar farm that would have a

substantial water demand overlap with the amended project during the construction phase. However, the solar farm project is proposing to source water from commercially treated wastewater, and opportunistically from farm dams within the study area. Therefore, is not expected to contribute to cumulative impacts on water supply. Furthermore, no changes are expected to potential cumulative impacts on surface water and ground water supply during operation as described in the EIS.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ through safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

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## 6.1.19 Wastewater management

### Summary of issues

Mid-Western Regional Council advises that treated effluent reuse for non-potable construction use has not been established within the LGA and welcomes the opportunity to discuss sewage treatment upgrades to facilitate potentially 3–4 megalitres per day non-potable water source availability.

Mid-Western Regional Council currently operates a facility at Mudgee Sewage Treatment Plant (STP) that would require upgrades to receive waste from this project. Mid-Western Regional Council requested further detail regarding management of sewage and liquid trade waste including sludge management and proposed quantities.

### Response

EnergyCo acknowledges Mid-Western Councils offer to discuss sewage treatment upgrades to facilitate potential non-potable water source availability. As noted above, EnergyCo will work with council to investigate augmentation of the wastewater treatment capacity through the CEBP. These initiative would be delivered separately to the project.

During construction of the project, wastewater treatment facilities would be established at the construction compounds and workforce accommodation camps to manage effluent and greywater. The systems would be designed to collect wastewater from construction activities (including concrete washout), showers, kitchens, laundries and toilets, with toilet and kitchen facilities located both at the workforce accommodation camps and the office areas.

All wastewater treatments plants produce sludge that requires disposal on regular intervals. Liquid waste sludge would be transported to a facility licenced to accept the waste. The wastewater treatment facilities would be designed to produce effluent that meets the water quality

requirements for dust suppression and use for other construction activities within the construction area.

Wastewater produced during the initial establishment of the workforce accommodation camps are currently proposed to be collected and transported to a council wastewater treatment plant. This process would be in place during the site establishment works for the project and would cease once the main wastewater treatment facilities are operational.

A new mitigation measure has been included to ensure wastewater disposal to a local wastewater treatment facility is conducted in consultation with local council (mitigation measure WM7).

The volume of water to be treated at the workforce accommodation camps would depend on the number of personnel at each accommodation camp at any given time. The water treatment plant would be designed with a capacity able to treat the estimated peak construction workforce at each accommodation camp site and would assume up to 240 litres of water would be used per day, per person. On this basis, an Environment Protection Licence (EPL) for sewage treatment in accordance with clause 36 of Schedule 1 of the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act) is not anticipated to be required.

At construction work areas outside the workforce accommodation camps, bathroom facilities would be installed to provide amenity to workers at these locations. All liquid waste generated from these locations would be removed and transported to a licenced facility.

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## 6.1.20 Contamination

### Summary of issues

Mid-Western Regional Council raised concern with the associated workers accommodation and the concrete batching plant, with questions around the historical land use history search on past agricultural uses which may have heavily used pesticides. Mid-Western Regional Council requested the contamination assessment include:

- a more comprehensive breakdown of specific agricultural land uses is requested, with a focus on intensive agricultural activities where pesticides may have been used or stored
- assessment of the proposed workers' accommodation and the future residential land use.
- sampling of the locations nominated for workers' accommodation
- the location and assessment of the concrete batching plants.

Mid-Western Regional Council also requested the following operational details be submitted:

- details of materials to be stored on the site
- details of likely contaminants from oil spills, vehicle use, ground water contamination etc
- methods to prevent contaminants from discharging from the site.

### Response

EIS Technical paper 16 – Contamination assesses the potential impacts to and from contamination in relation to the construction and operation of the project and was prepared to address the relevant SEARs for the project. The assessment comprises a preliminary site (also referred to as Phase 1) investigation which assesses the potential for contamination to exist based on a desktop study of investigation reports for the project, historical land uses, public databases and aerial imagery and a review of results from geotechnical investigations for the project.

Outside of the active mining leases, areas of contamination concern identified as part of the assessment are generally limited to existing substations, transmission line infrastructure, roadways, and areas surrounding farm structures and dams. The potential to encounter contamination is

generally considered low in areas with existing transmission infrastructure and medium at farm dams and structures.

As outlined in mitigation measure SC5, additional intrusive investigations will be undertaken to confirm the presence/absence of the contaminants of concern prior to commencing ground disturbance within approximately 50 metres of farm structures or farm dams (if applicable). Additionally, the management of contamination and any resulting remediation will be carried out in accordance with the relevant legislation, standards and guidelines.

During construction, concrete batch plants would be operated at the construction compounds at the Merotherie and Elong Elong energy hubs and New Wollar Switching Station. Measures will be implemented at concrete batching plants to minimise emissions to air as far as practicable. The measures will be regularly inspected with additional controls implemented as required (mitigation measure AQ3).

The use and types of hazardous materials used during construction are temporary and variable. Hazardous materials associated with the construction phase of the project are not expected to be significant quantities. During operation, dangerous goods and hazardous materials would be used throughout the operation area and stored on site at energy hubs and switching stations. The expected types of dangerous goods and hazardous materials and their purpose are described in section 16.5 of the EIS and in Technical paper 11 – Preliminary hazard analysis.

As outlined in mitigation measure SC9 and HA1, during construction and operation all chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards, and applicable guidelines. Any storage areas will be designed in accordance with Australian Standard AS1940: The storage and handling of flammable and combustible liquids, where applicable.

As outlined in mitigation measure SC10, incident response procedures will be implemented to avoid and manage accidental spillages of fuels, chemicals or fluids during operation and maintenance activities. Environmental spill kits will be provided at strategic, accessible locations, and staff will be trained in spill response procedures (as a minimum spill kits will be located at the energy hubs and New Wollar Switching Station).

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## 6.1.21 Operational employment and resources

### Summary of issues

Mid-Western Regional Council would like further clarification in regard to the ongoing operational workforce of 50 to 60 roles. Mid-Western Regional Council requested that EnergyCo confirm that the office-based roles would be located in the Central-West Orana REZ and not in a city location. If these roles are proposed to be city-based, Mid-Western Regional Council requested further detail on what local workforce would remain during operation of the project in the region.

### Response

Operational roles would primarily be based at the maintenance facility proposed near the Merotherie Energy Hub.

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## 6.1.22 Resource use

### Summary of issues

Mid-Western Regional Council raised concerns of resource shortages in the region and requested that EnergyCo ensures a total resource drain on local suppliers does not take place. This includes and is not limited to road base, crushed sandstone, blue metal, food, and medical supplies.



Mid-Western Regional Council requested a Resource Management Plan is put in place and that EnergyCo takes an active role in supply chain solutions if shortages of materials take place.

Mid-Western Regional Council believes the anticipated source/origin details of quantities and resources for construction are too vague to understand potential routes for the delivery of materials. Mid-Western Regional Council requested that this information is updated, and more detailed sources are provided to understand further traffic and other movements in the region.

## Response

All quantities in the EIS have been estimated based on the current project design and would be subject to further refinement during further design development and detailed construction planning. The project would minimise its use of resources through the re-use of excavated material and on site concrete batch plants.

Construction material and supplies would be sourced locally and in consultation with resource providers, where practicable, to benefit the local economy. Materials that are not available locally, or are not available at the required quantity (without placing pressure on local resource requirements) would be sourced from other locations within NSW, or within Australia if not available in NSW.

A Resource Management Plan is not specifically proposed. However as per mitigation measure SI4, an Industry Participation Plan will be prepared that will include targets from the *Renewable Energy Sector Board Plan* (Office of Energy and Climate Change, 2022) and implemented. This plan will identify services and goods that could be sourced locally, consider capacity for potential additional demand and monitor the availability of key goods and services to the local community when procured locally.

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## 6.1.23 Cumulative impacts

### Assessment approach

#### Summary of issues

Mid-Western Regional Council requested the cumulative impact assessment be updated with accurate information and include all projects that are in the planning portal with potential overlap, including but not limited to multiple coal mine extensions, Mayfair Solar, Barneys Reef Wind Farm, Beryl BESS, Wollar Solar, Narragamba Solar, Bellambi Heights BESS, Burrendong Wind Farm, Spicers Creek Wind.

Mid-Western Regional Council believe the assessment should include, but not be limited to, the following cumulative impacts:

- flora, fauna, and habitat loss, particularly impacts on threatened species, increased risk of grass fire escape and spread with loss of woodland communities
- greater potential for bio-security impacts such as weed dispersal and new incursions on the site and surrounding agricultural areas
- increased risk of feral animal incursion and impacts to stock, wildlife and human safety
- groundwater impacts
- contamination effects
- waste disposal impacts
- cultural heritage impacts including Aboriginal and European heritage
- visual impacts on private properties, important local features. and the public domain
- land use conflicts, which may affect primary production and rural-residential land uses

- transport and traffic impacts
- tourism impacts that affect local accommodation availability and the unique character of the Gulgong area
- economic impacts
- acoustic impacts, as well as increased traffic movements
- social and amenity impacts the community with a large workforce, including unskilled workers temporarily located in the region to support the projects
- consideration of medical, educational, and other social service impacts should be considered
- potable water requirements, as well as raw water required
- sewage generated.

## Response

A cumulative impact assessment for the project was completed in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). Projects identified as having the potential to result in the generation of cumulative impacts with the project, and with following planning status were considered in the cumulative impact assessment as part of the EIS:

- proposed projects: projects currently under assessment where an application has been lodged such as an EIS or Statement of Environment Effects (not including a scoping report)
- approved projects: approved projects that have not started construction or that are currently under construction where construction periods overlap with this project
- changes to existing projects, including projects where:
  - an approval is due to run out and operations are likely to cease
  - an announcement has been made that operations will cease
  - the intensity of the project’s operations may change over time
  - approval is being sought for a major expansion of the project.

A specific category of relevant future projects has been considered as part of the cumulative impact assessment – ‘related development’ defined as development that responds to the opportunities created by the project or which is required as a result of the project. Wollar Solar was considered and excluded as it was under construction at the time of assessment. Barneys Reef Wind Farm and Spicers Creek Wind Farm were included in the cumulative assessment undertaken as part of the EIS.

An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and includes projects which have advanced to exhibition since of the preparation of the project EIS, including Narragamba Solar, Bellambi Heights BESS and Burrendong Wind Farm. The updated cumulative impact assessment is included in Appendix L of the Amendment Report. The scope of the EIS and Amendment Report is focussed on the project. The cumulative impact assessment for the project assesses the potential impacts of the project alongside the potential impacts of other relevant proposed projects. Potential cumulative impacts to tourism are considered in Section 4.23.7 of this report.

As Mayfair Solar and Beryl BESS are not a related development or do not have an EIS available, they have been excluded from the cumulative impact assessment as per the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d).

## Agriculture

### Summary of issues

Mid-Western Regional Council would like to note further work is required regarding impacts on and loss of agriculture as an outcome of the Central-West Orana REZ Declaration. To date, Mid-Western Regional Council has noted over eight per cent of the region's RU1 zoned land is now subject to renewable energy developments. Whilst some of this may continue to be utilised for farming, Mid-Western Regional Council is concerned that without ongoing monitoring of cumulative impacts as land is switched from farming to renewables, there would be a significant impact on the local economy and food production.

Mid-Western Regional Council requested that further work is undertaken to determine a maximum land space in the LGA that would be approved for renewable energy projects.

### Response

The Central-West Orana REZ has a long history of agricultural and mining activities, and while these land uses are expected to continue, the region is experiencing a shift as part of the larger energy transition. This shift is supported by the *Central West and Orana Regional Plan 2041* (DPE, 2022g), which recognises and supports the establishment of the Central-West Orana REZ, while aiming to ensure compatibility with existing land use practices and minimise the associated environmental and social impacts. Once operational, the project would support the future land use as envisioned by the Central-West and Orana Regional Plan 2041.

The permanent loss of agricultural land for the amended project is equivalent to 0.04 per cent of the total area of agricultural land use in the four impacted LGAs. Within Mid-Western LGA a total permanent loss of land of 530 hectares (of a project-wide total of 795 hectares) would occur. Most of the relevant future projects would have a relatively minor impact on agricultural production, as some agricultural activities would be allowed to continue across the respective project areas during operation, depending on the type of project and the type of agriculture. For example, wind farms would allow cropping to continue within the project footprint, whereas solar farms would remove existing arable land within their project footprints from future crop production. However, grazing could most likely continue within the project footprint of both solar and wind farms.

The NSW Agriculture Commissioner completed a review of the forecast growth in renewable energy development in Regional NSW with respect to the potential land use conflict with agricultural land. The review noted that the likely worst case scenario of land use changes from the energy transition up to 2051 would not materially affect agricultural production. It is estimated that up to about 0.1 per cent of rural land would be subject to rural change across NSW (NSW Agriculture Commissioner, 2022). Furthermore, under the SBP Scheme for new major transmission projects, private landowners hosting transmission infrastructure will receive \$200,000 per kilometre over 20 years. This would provide a regular income stream, which can be beneficial where agricultural operations are impacted during flood and drought periods.

EnergyCo has been investigating how potential cumulative impacts will be mitigated within the REZ while also providing long-term community and employment benefits. These investigations include engagement with communities, local councils, government agencies and other key stakeholders to understand key local issues and priorities in the REZ in addition to data gathering and research to inform decision making.

The Central-West Orana REZ Steering Committee (the committee) was established in July 2023 to ensure whole of government REZ coordination and accountability for delivery of actions to mitigate cumulative impacts and provide community benefits in the Central-West Orana REZ.

The development of renewable energy generation projects in the Central-West Orana REZ does not form part of the project and those generation projects are subject to separate planning and environmental approvals. The environmental, social and cumulative impacts of each project would be assessed and determined in accordance with Commonwealth and NSW planning legislation.

## Social

### Summary of issues

Further work is required to be undertaken in relation to cumulative impacts regarding medical and support services. Mid-Western Regional Council has recently undertaken a study showing a direct impact of increased workforce from the Central-West Orana REZ and major projects which would require an additional eight GPs, an additional eight emergency department beds, seven additional nurses and potentially up to an additional 30 paramedics to sustain current service levels in the region based on projects in the planning process.

### Response

The availability of accommodation has been identified as a constraint to mobilising additional medical resources to regional areas. EnergyCo is working with Health NSW to investigate co-funding the delivery of key health worker accommodation in four locations including Coolah, Mudgee, Dubbo and Wellington.

## Water supply

### Summary of issues

Mid-Western Regional Council stated that the EIS indicates that the cumulative impact regarding water supply has only included the potential overlap of two other projects and that further cumulative impact is not undertaken due to unavailability of data from other projects. Mid-Western Regional Council requested all SSD and SSI projects within Mid-Western Regional LGA and surrounding LGAs be considered for the impact assessment, including coal mine expansions and a silver mine and Mid-Western Regional Council's Urban Growth Strategy. Mid-Western Regional Council disagrees that construction water impact is a low risk and requested that significantly more investigation is carried out and a detailed assessment on the risk of be undertaken prior to consent for this project.

### Response

As outlined earlier in this section, the cumulative impact assessment has considered projects that have the potential to result in the generation of cumulative impacts with the amended project and depending on the planning status of that project. State significant projects, including mining projects with applications in the planning system, have been included in the cumulative assessment, as per the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). An updated cumulative impact assessment to identify cumulative impacts on water supply during the construction of the project has been undertaken in Appendix L of the Amendment Report.

Three projects were identified in the Amendment Report as likely to have a substantial water demand overlap with the amended project during construction, based on publicly available information, they are:

- Liverpool Range Wind Farm, which overlaps the project along the Cassilis connection
- Tallawang Solar Farm, which overlaps the project along the Tallawang south connection
- Narragamba Solar Farm, which overlaps the project along the Merotherie south connection.

The potential cumulative impact on surface water supply is predicted to be minimal. Liverpool Range Wind Farm and Tallawang Solar Farm have not confirmed their proposed source of water supply, the assessment has assumed that the projects would extract water from the same surface water sources as the project (worst case scenario). Surface water sources considered for the supply of non-potable water for this project include the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water. Narragamba Solar Farm project is proposing to source water from commercially treated wastewater, and opportunistically from farm dams within the study area as agreed with landowners hosting project infrastructure, and is therefore not expected to contribute to cumulative impacts on surface water supplies. All other

relevant future projects would use either bore water or transport water from other water sources, or do not provide detail of the project water demands of the project or source of surface water supply.

Between 2024 and 2026, Liverpool Range Wind Farm and Tallawang Solar Farm would require 95 megalitres from the Upper Talbragar River Water Source and Lower Talbragar River Water Source, in addition to this project's water demand. There is currently sufficient water available in these surface water sources in an average rainfall year, to accommodate this additional demand. It is noted that during low rainfall or a drought period, there is likely to be an impact on the available water in the Upper Talbragar River Water Source and Lower Talbragar River Water Source.

EnergyCo has been in consultation with a water broker to identify surface and groundwater sources that can meet the projects water supply requirements. Based on a review of the market, there is sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard the preferred approach would be to source water from existing entitlements. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming CEBP in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ through safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

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## 6.2 Dubbo Regional Council

The Dubbo Regional Council submission (10 November 2023) raised a number of issues, addressed in the following sections.

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### 6.2.1 Community and stakeholder engagement

#### Summary of issues

Our community needs to have the benefit of real, on-going consultation and genuine consultation. Dubbo Regional Council requested the community has physical access to consultation professionals that can build up genuine community relationships to understand the communities of interest for the project and ensure the community can be heard around such an important issue.

#### Response

As further described in Section 4.1.2 and Section 6.1.3 of this report (and in Section 2.6 of the EIS), engagement with the community regarding the project initially commenced as part of TransGrid's study corridor development process between December 2020 and September 2021.

Since that time the community has been kept informed of the project's development and invited to provide feedback at key decision points.

In November 2021, EnergyCo assumed responsibility for planning and design of the transmission corridor and engaging local communities and stakeholders to inform the development of new transmission network infrastructure within the REZ. Since January 2022, across the Central-West Orana REZ, EnergyCo has completed around 5,100 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Furthermore, EnergyCo has engaged with the local community since 2022 about the revised study corridor project, most recently during the exhibition of the EIS.

Community and stakeholder feedback is an essential part of the development process to make sure we deliver the best outcomes for communities, energy consumers and the Central-West Orana REZ.

EnergyCo developed the proposed route for the project following a program of investigation and landowner consultation which started in early 2022. Several factors were considered in developing the preferred transmission alignment, including the local environment, geography, the presence of high value agricultural land, landowner sentiment, distance to nearby dwellings, technical design constraints and other considerations.

Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ.

There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Consultation activities over the course of the EIS exhibition included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop up displays.

NSW government agencies and other key stakeholders were briefed via emails, phone calls, meetings and presentations to ensure they received the relevant information to make a submission. Nine in-person meetings and presentations were held with key councils and associations and seven councils received copies of the EIS and supporting collateral for display.

EnergyCo's Place Managers act as a point of contact for community members and landowners for the Central-West Orana REZ. They also work closely with our team of Land Acquisition Managers to manage landowner relationships in the REZ transmission project area.

Place Managers attended each of the in-person community information sessions and pop-up displays during the EIS exhibition and provided a critical local point of contact for the community. Place managers will continue to play an important role in maintaining close and ongoing contact with local communities and stakeholders during the design and delivery of the project.

EnergyCo's Place Managers and Land Acquisition Managers are based at EnergyCo's office at 155 Macquarie Street, Dubbo. As the team is often visiting landowners in the Central-West Orana REZ, the community are encouraged to make an appointment before visiting the office.

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## 6.2.2 Workforce accommodation

### Summary of issues

Dubbo Regional Council prefers temporary and construction workers' accommodation to be provided within or in close proximity to existing urban areas and villages to ensure they have a positive and long-lasting legacy for these communities. This approach would:

- allow infrastructure to be appropriately converted and used for future and permanent residential accommodation
- allow for the natural expansion of urban areas and villages after decommissioning of accommodation
- ensure there are no unreasonable impacts to council on extending infrastructure to service new development in unserviced areas
- allow workers to integrate into the community rather than being isolated in a rural area, which provides appropriate structures to allow the region to capture a percentage of the temporary workforce as permanent residents in the future.

While the provision of workforce accommodation is welcomed, Dubbo Regional Council is concerned as to what arrangements would be in place for the lead contractor to actually provide the accommodation. This includes what mechanisms DPHI would utilise to ensure accommodation is delivered as planned and in a timely manner.

Whilst Dubbo Regional Council encourages investment in accommodation projects in both Dubbo and Wellington, there cannot be broad assumptions made that both Dubbo and Wellington cannot continue to absorb accommodation through use of serviced accommodation.

Dubbo Regional Council also has concerns that the 1,800 workers to be accommodated in the two temporary workforce accommodation camps does not include ancillary and other workers that may be involved with contractors and activities, which have not been included in the workforce accommodation numbers. This is especially in respect of the fact that accommodation availability is constrained across the REZ.

### Response

Dubbo Regional Council's preference for locating the accommodation camps is noted. Preferences for locating the workforce accommodation camps varies amongst stakeholders, with some preferring the camps to be located within existing urban areas, and others preferring a location outside. EnergyCo's key considerations for selecting workforce accommodation camp locations included:

- minimising the number of camps required to minimise community impacts
- minimising travel time to the construction area
- avoiding the need for compulsory acquisition of land where possible
- ensuring suitable access to the road network
- minimising clearing by using land that has already been disturbed.

The workforce accommodation camps for the project would provide sufficient accommodation for the project workforce and would be located at the main construction compound at Merotherie Road, Merotherie on land adjacent to the Merotherie Energy Hub (around 1,200 personnel capacity) and at Neeleys Lane in Turill (around 600 personnel capacity).

The workforce accommodation would not be suitable for conversion to permanent housing and accommodation for the region as camps will be constructed for temporary use to house a construction workforce, and services would be centralised. No plans have been proposed to connect the camps to services in Dubbo LGA.

Construction and use of the workforce accommodation camps would be completed in general accordance with EIS and Amendment Report and the project conditions of approval. Construction of the workforce accommodation camps is planned to occur in the early phase of the project, as part of the enabling work phase. At the end of construction, the workforce accommodation camps would be demobilised, and the sites would be cleared of any temporary infrastructure and equipment and rehabilitated.

Workforce accommodation camps would provide sufficient accommodation for the peak workforce. It is anticipated that at the commencement of construction, prior to the operation of the workforce accommodation camps, a small number (around 100) of construction workers would utilise existing local hotel, motel and rental accommodation. The workforce required to utilise existing accommodation facilities would be limited primarily to those required for the establishment and decommissioning of workforce accommodation camps only, and as such would be short term (up to six months). It is noted that for this phase of work, broad assumptions should not be made that both Dubbo and Wellington cannot continue to absorb accommodation through use of serviced accommodation, and their capacity to host the initial workforce prior to establishment of the camps would be investigated during detailed construction planning.

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## 6.2.3 Cumulative impacts

### Summary of issues

While Dubbo Regional Council is supportive of the economic development opportunities the project can provide, the cumulative impacts must be adequately understood, planned for and ameliorated. This includes understanding that this project would bring the 11 Candidate Foundation Generators in addition to a whole range of other projects that aren't necessarily accounted for in the planning and understanding of cumulative impacts.

Dubbo Regional Council recommended the EIS should include modelling the cumulative impacts of development based on a number of scenarios agreed with the councils within the REZ, DPHI and the EnergyCo. This would provide a more robust way of showing the cumulative impacts across a range of scenarios.

### Response

As the Infrastructure Planner under the EII Act for the Central West Orana REZ, EnergyCo is responsible for coordinating the delivery of REZ, working with Candidate Foundation Generators (CGFs) on initiatives to minimise cumulative impacts and delivering community and employment benefits in the REZ (EnergyCo, 2023b). The project supports the delivery of the Central-West Orana REZ and therefore the benefits are linked. The strategic context of the energy transition to renewable energy technologies and the benefits of REZs is outlined in Section 4.1.1 of this report. These initiatives are being coordinated by EnergyCo within an overall framework involving the following components:

- identify priority areas for funding measures to minimise cumulative impacts and deliver community and employment benefits through a program of engagement with community and other stakeholders
- establishment of a Central-West Orana REZ SteerCo to develop action plans and initiatives within priority areas
- establishment of a Community Employment and Benefit Program to administer the allocation of funding to initiatives.



EnergyCo has been investigating how potential cumulative impacts will be mitigated within the REZ while also providing long-term community and employment benefits. These investigations include engagement with communities, local councils, government agencies and other key stakeholders to understand key local issues and priorities in the REZ in addition to data gathering and research to inform decision making.

Based on community and stakeholder feedback, the following areas have been identified as priorities for further investigation:

- transport and logistics including road upgrades
- economic participation and development including skills and training
- housing and accommodation
- environmental delivery including waste management, wastewater management and water supply
- social services such as health and education.

A cumulative impact assessment for the project was completed in accordance, the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). The assessment considered relevant state significant projects, including the 11 Candidate Foundation Generators. An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is summarised in section 5.15 of the Amendment Report.

The Central-West Orana REZ Steering Committee (the committee) was established in July 2023 to ensure whole of government REZ coordination and accountability for delivery of actions to mitigate cumulative impacts and provide community benefits in the Central-West Orana REZ. Membership of the committee includes representatives from:

- Dubbo Regional Council
- Mid-Western Regional Council
- Warrumbungle Shire Council
- EnergyCo
- DPHI
- NSW Department of Regional Development.

EnergyCo is working with councils and other government agencies to review the action plans, prioritise initiatives and undertake background work to develop initiatives to a stage where they can be funded through the CEBP (see Section 4.26.2 of this report).

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## 6.2.4 Waste management

### Summary of issues

Dubbo Regional Council acknowledge that the Whylandra Waste Facility is the largest waste facility in the Central-West Orana REZ. However, this does not mean that all project waste from developments in the REZ can be accommodated at the facility.

Based on the agreed scenarios to address cumulative impacts of the REZ, a waste management plan needs to be developed to ensure Dubbo Regional Council can also understand the waste task, the capacity of existing facilities and the need for significant investment in circular economy strategies and actions for the REZ.

## Response

Waste generated during construction of the project would be managed in accordance with the Construction Waste Management Plan, which would form part of the CEMP. The plan would define the processes, responsibilities and management measures that would be implemented during construction to manage waste. The Construction Waste Management Plan would include (but not be limited to):

- how construction waste would be managed in accordance with the waste management hierarchy of the WARR Act
- targets for the recovery, recycling and reuse of construction waste
- procedures for the handling, storage, classification, management and disposal of waste
- waste tracking and compliance management
- waste management facilities to be used by the project.

Additionally, mitigation measure WM2 requires that prior to construction, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

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## 6.3 Warrumbungle Shire Council

The Warrumbungle Shire Council submission (8 November 2023) raised a number of issues, addressed in the following sections.

Warrumbungle Shire Council objects to the project and had various concerns about the project as outlined in their submission. It is noted that Warrumbungle Shire Council may alter its position subject to engagement and the satisfactory resolution of its concerns.

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### 6.3.1 Central-West Orana REZ

#### Summary of issues

While Warrumbungle Shire Council acknowledged the concept of the Central-West Orana REZ, the development of related projects must be transparent in identifying the environmental, social, and economic costs and benefits. Warrumbungle Shire Council requested further detail on who is reaping the benefits and who is burdened with the costs.

Warrumbungle Shire Council is striving to seek informed, merit-based decisions on all renewable energy generation and transmission project proposals.

#### Response

Under the EII Act, the Australian Energy Regulator (AER) is required to determine the costs of implementing the NSW Electricity Infrastructure Roadmap including construction of transmission infrastructure for REZs. The EII Act sets out how NSW Electricity Infrastructure Roadmap costs are to be managed through the Electricity Infrastructure Fund. Distributors pay their contributions into this fund, based on the AER's contribution determination. Distributors then recover the costs from consumers as part of the network charges on electricity bills. As such the cost of the project would be borne by energy consumers rather than the taxpayer more generally.

Management and mitigation measures are in place to minimise the unequal distribution of impacts from the project. Landowners with infrastructure proposed on their property would be subject to direct impacts such as loss of land and land use restrictions. These landowners would be eligible for compensation through the Just Terms Act, as well as the SBP.

A Community and Employment Benefits Program is being developed by Energy Co to deliver tangible benefits to regional communities hosting new energy infrastructure. It sets out the framework through which funding is allocated to initiatives to minimise REZ cumulative impacts and to achieve a community or employment outcome in the REZ. The Program represents the NSW Government's commitment to share the benefits of the renewable energy transition with regional communities.

The Program will be funded by a mix of access fees payable by renewable energy generators connecting to a REZ and/or fees payable by network operators that develop transmission infrastructure as part of a REZ. The NSW Government is forward funding the investment upfront and will recoup these costs once access fees are paid in the future.

In October 2023, the NSW Government announced communities in the Central-West Orana REZ will receive \$128 million over the next four years to deliver community projects and employment opportunities with additional funding to be provided over the life of the REZ.

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## 6.3.2 EIS adequacy

### Summary of issues

Warrumbungle Shire Council raised concerns regarding the lack of detail and substance in the EIS on mitigation works, management measures and forward funding commitments. The likely impacts of the project on community assets and services requires a detailed assessment and commitments which are currently not adequately provided in the EIS.

A priority consideration is that the Warrumbungle Shire Council needs to be able to feel confident that environmental, social, and economic costs will not be outsourced by the Network Operator onto the residents and ratepayers of the Warrumbungle LGA.

### Response

The EIS was prepared to address the SEARs issued by DPHI. Amendments, refinements and clarifications to the project as well since exhibition of the EIS are detailed in the Amendment Report. An updated list of the mitigation measures, EnergyCo committed to implementing are provided in Appendix B of this report. Consistent with industry best practice, impacts from the project will be accounted for and mitigated through the implementation of management measures. Management plans for the project will be developed in consultation with relevant stakeholders following planning approval.

EnergyCo has identified the first ranked Network Operator proponent for the project (ACEREZ), who is working with EnergyCo in the next phase of project. EnergyCo will continue to be involved in the delivery of the project. The Network Operator has committed to community assets and services such as medical service provision to reduce demand on existing medical services in the region. This includes plans to engage medical practitioners (likely to comprise two full time paramedics and one full time nurse), who would provide medical support to the construction workforce.

The availability of accommodation has been identified as a constraint to mobilising additional medical resources to regional areas. EnergyCo has recently signed a Memorandum of Understanding (MoU) with Health NSW to co-fund the delivery of key health worker accommodation in Coolah, Mudgee, Dubbo and Wellington.

A pre-construction and construction Communication and Engagement Plan will be prepared to ensure consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce (updated mitigation measure SI5).

Similarly, regarding other services such as waste, management facilities that accept waste and recyclable materials within the Warrumbungle LGA are outlined in section 18.3 of the EIS. The recycling and disposal facilities for each waste type would be determined based on availability/capacity, waste licenced to be accepted, and confirmed waste classifications. Arrangements would be made with waste management facilities, prior to the delivery of waste and recyclables to any facility, to ensure that the waste types and quantities can be accepted as detailed in mitigation measure WM2.

Wastewater produced during the initial establishment of the workforce accommodation camps are currently proposed to be collected and transported to a council wastewater treatment plant. This process would be in place during the site establishment works for the project and would cease once the main wastewater treatment facilities are operational.

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### 6.3.3 Economic

#### Construction

##### Summary of issues

Warrumbungle Shire Council noted that the EIS does not provide a target for local employment but assumed 10 per cent of the workforce would comprise existing residents (totalling 180 positions). Warrumbungle Shire Council is of the view that the skill shortage must be addressed and that EnergyCo must provide further detail on how local employment would be achieved prior to any determination.

In doing so, Warrumbungle Shire Council made the following additional comments or observations with respect to local employment:

- There should be greater investigation and clarity on the mitigation measures that would be implemented as the EIS is too brief in how it discusses potential training and upskilling of local people.
- The EIS should quantify and commit to the number of construction and operational jobs that would be secured by local people and the training/upskilling provided.
- The statement to reskill mine workers to work on the project and for future renewable projects is supported and requested that this is extended to workers in other local industries and the unemployed, with targets put in place to improve the low Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) score in the Warrumbungle LGA.

Warrumbungle Shire Council commented that Technical paper 8 – Economic states that there may be rising inflation associated with businesses passing increased wage costs onto consumers and increased demands also resulting in rising costs for goods and services. Warrumbungle Shire Council is of the view that the technical paper does not look closely at the extrapolation of positive and negative benefit by LGA. Warrumbungle Shire Council is concerned that Warrumbungle LGA would be burdened by rising costs and would not greatly benefit from increased employment or demand for local goods and services given the higher mean age group in the LGA and that agriculture is the main industry.

##### Response

Approximately 10 per cent of the construction workforce was estimated to be from the region and the remaining workforce is expected to come from within NSW. The employment of local workers would depend on the availability of workers in the local area which may be less than 10 per cent of the workforce.

As outlined in the updated mitigation measure SI3, a Local Workforce Participation Strategy with targets in accordance with the *Renewable Energy Sector Board Plan* (Office of Energy and Climate Change, 2022) and implemented. It will include the following initiatives:

- identification of local skills gaps and potential workforce skills and training requirements
- investigate opportunities for the delivery of training and upskilling programs for local labour force
- strategies for maximising local training and employment opportunities for residents, especially for First Nations People
- initiatives to promote local employment, such as early engagement with local employment agencies and council, communication of employment opportunity via relevant local mediums of information, contract workers through existing local businesses, etc.

As per mitigation measure SI4, an Industry Participation Plan will be prepared and implemented, which includes identifying the capacity of local suppliers to be ready for potential additional demands as well as monitoring the availability of key goods and services to the local community when procured locally.

The economic impacts have not been broken down by LGA as impacts would be subject to local employment, suppliers and businesses which may be involved in the project and a range of other market factors. The project would contribute to a temporary increased demand for construction workers in the region, which may lead to increased construction sector (and other sectors) wages and attraction of workers from other relevant sectors of the economy over the short term. This may result in temporary labour shortages and associated shortages of goods and services and rising inflation. A temporary increased demand for construction materials, such as quarry materials and concrete, may also result in increased prices for these materials and potential shortages for other uses. Furthermore, cost of wages and materials are influenced by a wide range of factors such as market demands and inflation. Increases in labour demand from a project can potentially lead to short term increases in construction wages and associated labour shortages in other areas of the economy and contribute to inflation as firms pass wage costs onto consumers. The extent of these impacts in a regional economy would depend on the balance of labour supply from inside and outside the region as well as adjustment of the overall labour market to respond to increased demand. However, these impacts need to be considered in the context of the positive economic effect that they create, namely that the project creates employment opportunities and a market for local goods and services.

## Agriculture

### Summary of issues

Warrumbungle Shire Council stated that Technical paper 8 – Economic identified that impact to the agricultural industry regionally during construction would be less than 0.3 per cent. Warrumbungle Shire Council noted that much of this impact would be experienced by the Warrumbungle LGA population and requested that there is further assessment of the economic implications by LGA to determine the true extent of impact.

### Response

Regarding impacts to agricultural land during construction and operation of the project, additional calculations associated with the direct impact of loss of agricultural land have been provided in Section 6.1.5, detailing impact by LGA.

Consistent with the EIS assessment, for the purpose of estimating total impacts, it has been conservatively assumed the entire construction area (including the transmission line easement) (3,755 hectares used for agriculture) would be unavailable for agricultural activities during the three year main construction period. As such for most of the construction area, land would generally be removed from production for a relatively short period. The scale and intensity of construction activities would be intermittent within the construction area. For example, at transmission line

towers the intensity of construction activities would be greater than in areas between each tower, this would allow for some agricultural land uses such as grazing to continue.

The amendment and project refinements would result in a small decrease in the assessed loss of agricultural productivity (around 2.3 per cent) in the assessed loss of agricultural productivity, with a total productivity loss of around \$3.95 million or \$1.32 million per annum.

Construction of the project would result in a reduction in the land available for agricultural activity. The agricultural impacts of the project during construction are less than 0.2 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project. The permanent change in land use from agricultural to electrical infrastructure consists of around 0.04 per cent of the total agricultural land use within the LGAs impacted by the project. The assessed reduction in impacts to agricultural productivity, is due to a more detailed assessment of impacts to agricultural land use, using land use mapping.

Loss of agricultural productivity was calculated in reference to the total area of agriculture land that falls within the construction and operation area. Table 6-1 provides a breakdown of construction impacts to agricultural productivity by LGA.

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## 6.3.4 Social

### Impact assessment

#### Summary of issues

Warrumbungle Shire Council noted that there are no management measures specific to addressing stress within the community and the EIS fails adequately address widespread community impacts due to community or individual stress caused by the project or the resulting increased strain on medical services.

Warrumbungle Shire Council requested clarification on what 2021 ABS Census data has been relied upon in Technical paper 7 – Social, given the technical paper acknowledges the impact that the Covid-19 pandemic may have had on the data.

Warrumbungle Shire Council also noted that Technical paper 7 – Social:

- incorrectly lists the New England Highway as a key transport network for Warrumbungle LGA
- identifies the Neeleys Lane workforce accommodation camp as being in Cassilis and Turill, and expressed concern this has impacted the social assessment.

The residual impact assessment of social impacts during construction moves impacts from high to medium and medium to low by listing a number of management plans as mitigation measures. Warrumbungle Shire Council is concerned that the detail of these plans are in most cases vague and pushes the requirement for further investigation into the future. Warrumbungle Shire Council requires a clear definition of the specific mitigation and safeguard measures proposed, prior to the contemplation of any approval.

#### Response

##### Mental health

A range of management measures have been identified to address diminishing mental health of impacted landowners. Updated mitigation measure SI10 consists of the preparation of a Mental Health Strategy which includes a mental health support telephone service to be established and maintained to assist landowners whose properties are subject to acquisition for the transmission line. A broader mental health strategy will be developed by EnergyCo to identify other initiatives that could be implemented to provide additional mental health support.

Diminished mental health amongst landowners will also be managed via the Landowner Engagement Strategy and Pre-construction and Construction Engagement Plan, which will include the appointment of a dedicated Land Acquisition Manager to oversee the implementation of the strategy and ensure personnel appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues. The Pre-construction and Construction Engagement Plan will also include consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforces.

### Census data

Technical paper 7 – Social notes that data from the 2021 ABS Census of Population and Housing has been used to inform the assessment and findings in the paper.

While data from the 2021 Census is the most up to date and comprehensive source of demographic data for the local and regional social localities, it was noted that these results may have been impacted by the COVID-19 pandemic and may not be illustrative of typical statistics shown in previous census data. This limitation has been addressed by implementing a comprehensive engagement with Councils, landowners, and community representatives during preparation of the SIA.

### Error in location

The Technical paper 7 – Social incorrectly refers to the Neeleys Lane workforce accommodation camp being located in Cassilis when it is in the neighbouring suburb of Turill. However as described in section 3.2.2 and shown in Figure 3-2 of Technical paper 7 – Social, the social impacts on both the Turill and Cassilis social localities have been appropriately considered and the location of the workforce accommodation camp with respect to these localities is correct. It is also acknowledged that the New England Highway is incorrectly listed as being in the Warrumbungle LGA.

### Residual impacts

The residual impacts identified in the SIA considered, not only the implementation of a range of management plans, but also the mitigation measures identified to address other issues such as amenity impacts, traffic and transport impacts and land use impacts and biodiversity impacts. Furthermore, the plans identified outline approaches to engagement with the community and complaints management during construction of the project. As per mitigation measure SI1, personnel will be appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues.

## Workforce accommodation

### Summary of issues

Warrumbungle Shire Council commented that Technical paper 7 – Social noted that the increased demand for service hubs due to construction personnel residing outside the workforce accommodation camps, which is inconsistent with other statements noting the small number of people who will reside in town. Warrumbungle Shire Council requested greater transparency and robustness of information on the safeguards to be adopted to prevent social impacts caused by the operation of workforce accommodation camps and the influx of construction workers across the Central-West Orana REZ. Warrumbungle Shire Council requested definitive actions to enhance positive social cohesion between the project and the local community.

Warrumbungle Shire Council is of the view that the EIS does not provide sufficient details on the aspects of the workforce accommodation camp with respect to security, wet-mess, rules, and restrictions on access to town, traffic generation by workers travelling to/from the camps for roster start/finish, social activities, or distance from town.

Warrumbungle Shire Council expressed that worker accommodation camps have the potential for significant social impacts and EnergyCo must provide further information on the management of these impacts as well as details on liquor licences, security arrangements, basic facilities and shops, medical facilities, worker transportation modes and vehicle numbers, site decommissioning and/or repurposing of camp infrastructure.

The assessment of short and long stay accommodation availability does not include caravan parks or free camping sites. Warrumbungle Shire Council is of the view that this is a shortcoming of the assessment, since high levels of pressure on the existing accommodation options would result in short-term workers looking for alternative options.

## Response

The workforce accommodation camps have been developed so that they are able to provide sufficient accommodation for all construction workers during the peak construction period. It is anticipated that at the commencement of construction, prior to the operation of the workforce accommodation camps, a small number of construction workers would utilise existing local hotel, motel and rental accommodation. The workforce required to utilise existing accommodation facilities would be limited primarily to those required for the establishment of workforce accommodation camps, as well as a small number of project management personnel.

The workforce accommodation camps would include a range of features and services, including:

- demountable accommodation and office buildings
- workforce amenities, including food and catering, laundry, bathroom and first aid facilities
- sporting facilities, such as outdoor training sports fields, running tracks, gymnasium
- entertainments facilities, such as indoor recreation rooms, media rooms and cinema facilities
- utilities, including telecommunication services, waste electricity and water
- parking area and bus stop (where practicable, workers would be transported between the construction areas and the workforce accommodation camps via small buses)
- first aid facilities and a full time medical practitioner or paramedic
- firefighting equipment
- security and surveillance measures such as boundary fencing, CCTV, locked gates, movement/sensor lights, and alarms
- wastewater treatment plant.

The Network Operator will conduct screening background checks as part of the onboarding process. In addition, as part of the commencement of employment (or subcontractor engagement) all workers will complete a project induction on commencement of work on the project. The induction would outline expectations with respect to worker behaviours, project rules and consequences. This includes behaviour expectations of being a good neighbour.

Workers, consultants and visitors residing for any period at the workforce accommodation will be expected to comply with facilities specific rules to ensure a fair and respectful use of the facilities for both occupants and neighbouring community. Specifics of rules will be further developed with the selected workforce accommodation operator and may include rules such as noise curfews for external or loud activities.

Should alcohol be available at the workforce accommodation camps, that service will not be open to the public and would be subject to NSW legislated liquor service requirements. The availability of alcohol would be confirmed as part of detailed construction planning and communicated to local council(s).



Prior to construction, a Workforce Management Plan (mitigation measure SI2) will be prepared and will include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc.

The Workforce Management Plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others.

As per mitigation measures SI8, a Social Impact Management Plan will be prepared prior to construction that will:

- describe the social impact mitigation measures to be implemented and the impacts that they are intended to address
- set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation.

Monitoring findings will be presented to the project's Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision. EnergyCo will track implementation of the Social Impact Management Plan and review performance measures quarterly, to facilitate continual improvement. The Social Impact Management Plan will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.

In addition to the monitoring review, proposed mitigation measures will also be reviewed to assess whether they are still applicable and on track to meet the residual risk rating applied in the EIS. Any new issues or initiatives that have emerged and that should be included in ongoing mitigations and/or monitoring will be addressed.

Caravan parks and free camping sites were not specifically considered in the housing availability review in the SIA. Accommodation suitable to house the workforce for the relevant duration of construction was considered such as rentals, hotels and motels. Broader accommodation and housing supply constraints were acknowledged in the region and this would have flow on effects to caravan parks and free camping sites. As stated earlier in this response, workforce accommodation camps would provide sufficient accommodation for the peak workforce, catering to around 1800 personnel, thereby minimising the impact on accommodation in the region. Short-term demand would occur prior to the establishment of the workforce accommodation camp to cater for approximately 100 personnel that would support the initial stages of construction.

## Property prices

### Summary of issues

Warrumbungle Shire Council commented that a major community concern is the effect of the transmission line on property prices and requested a more in-depth investigation from EnergyCo into the likelihood of property price fluctuations.

### Response

While submissions have raised concerns about perceived impacts on property values from transmission lines, it may have little impact on dynamic changes in house prices over time (Han & Elliott, 2013). Furthermore, anecdotal evidence in the region suggests that land that is proximate to the proposed transmission infrastructure with strong renewable energy resources has the potential to generate value significantly greater than their current value as agricultural land. In terms of

landowners hosting the project, agricultural operations can largely continue subject to the easement conditions. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land due to the project in accordance with relevant legislation. This means compensation is established, having regards to:

- the market value of the land on the date of its acquisition
- any special value of the land to the person on the date of its acquisition
- any loss attributable to severance
- any loss attributable to disturbance
- the disadvantage resulting from relocation
- any increase or decrease in the value of any other land of the person at the date of acquisition, which adjoins or is severed from the acquired land by reason of the carrying out of, or the proposal to carry out, the public purpose for which the land was acquired.

Acquisitions of all interests in land would be carried out in consultation with the relevant landowner in accordance with the requirements of the Just Terms Act and preferably resolved by negotiated agreement. Impacts to property values are addressed as part of the valuation process, a process for which the landholder can obtain its own independent valuation with valuation costs reimbursed by the government as part of this process.

Compensation has been assessed by EnergyCo in accordance with the Just Terms Act, with the assistance of an independent valuer. Landowners directly hosting transmission lines are entitled to receive SBPs, which are in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land and are in recognition for hosting this infrastructure. EnergyCo is required to pay the market value for any land, including any interests in land, it acquires for the project. EnergyCo is also required to compensate an impacted party for any loss in the value of residual land.

Additionally, landowners directly hosting transmission lines are entitled to receive SBPs, which are in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land and are in recognition for hosting this infrastructure.

## **Electromagnetic fields**

### **Summary of issues**

Warrumbungle Shire Council commented that in Technical paper 7 – Social, the community concerns and perceptions of health risks from the project are mentioned, but there is no updated evidence regarding how the concerns over EMF have been addressed or if the perception within the community has changed since the completion of a survey in 2022.

Warrumbungle Shire Council commented that Technical paper 7 – Social states that while research has concluded there are no risks to human health associated with EMF, an earlier statement notes that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields but does not go as far as saying there are no health risks.

### **Response**

EIS Technical paper 12 – Electro Magnetic Field Assessment provided an assessment of EMF and has responded to the concerns raised by the community, including long term impacts on humans, livestock and plants. During the exhibition of the EIS, 36 submissions from the general public raised concerns regarding EMFs and have been responded to in Section 4.15.9 of this report.

Leading global health bodies including the World Health Organisation (WHO) continue to evaluate research into health effects associated with exposure to EMFs. The scientific evidence does not establish that exposure to EMFs near powerlines and other electrical sources is a hazard to human health. Notwithstanding this, EnergyCo has adopted the practice of prudent avoidance in relation to EMF management. Prudent avoidance is a precautionary approach.

The EMF levels at the boundary of the transmission line easement is compliant with current standards and guidelines administered by the Australian Radiation and Protection and Nuclear Safety Agency (ARPANSA). Restriction on development and operation are applied to the transmission line easement to ensure transmission lines are safely operated. EMFs from electrical transmission lines are not considered a risk to human health.

## Telecommunications

### Summary of issues

Technical paper 7 – Social identifies that the locality has limited mobile reception and connectivity which would be impacted by the influx of construction personnel, as well as the impact to radio transmission by the transmission lines. Warrumbungle Shire Council commented that there are no specific mitigation measures proposed to ensure the local population does not suffer with further degrading of this service due to overloading. Warrumbungle Shire Council would like to understand if this interruption would extend to emergency service radio frequencies for ultra-high frequency (UHF).

### Response

With respect to potential disruptions to radio communication services, it is expected that satisfactory level of radio reception would be maintained even outside of set limits for electric and magnetic interferences for all services as the devices and the transmission line would generally operate on different frequencies. A survey of existing coverage in the vicinity of the project was completed, a number of telecommunications solutions are being investigated that will both provide the coverage required by the amended project as well as reduce the risk of decreasing coverage for the local communities as a result of the increase in the number of people in the area associated with amended project. These investigations and any initiatives that follow would be undertaken by EnergyCo in its role as the Infrastructure Planner, and does not form part of the environmental assessment of the project.

The design and placement of transmission line towers has the potential to obstruct point to point microwave links which transmit microwave signals. This can impact the connectivity to mobile radio sites. It is recognised that emergency services use this radio network as part of their operations and during emergencies. Accordingly, impacts to the microwave links has the potential to impact upon the connectivity of the radio network.

EnergyCo has and continues to engage with the NSW Telco Authority with regards to the project. As part of this engagement, EnergyCo met with the NSW Telco Authority in November 2022 to discuss the project and potential impacts to point to point microwave links. Through this engagement, EnergyCo were provided spatial data of the current and proposed microwave links relevant to the project. The interface with microwave links was considered by EnergyCo as part of the development of the project design, including locating of transmission line towers. Where practicable, the transmission line towers have been placed 100 metres outside of the direct line between two microwave link points (referred to as the link path) to avoid potential impacts. However, in some locations due to local constraints some towers have been placed within 100 metres of the link path. These will be reviewed during detailed design process to determine the effect (if any) on the microwave link.

## Community benefits

### Summary of issues

Warrumbungle Shire Council commented that there is a brief discussion in Technical paper 7 – Social about the possibility of sections of the community benefiting from lower electricity costs. Warrumbungle Shire Council requested greater transparency and robustness of information on what this would entail and why this is not a community-wide program.

## Response

A Community and Employment Benefits Program is being developed by EnergyCo to deliver tangible benefits to regional communities hosting new energy infrastructure. It sets out the framework through which funding is allocated to initiatives to minimise REZ cumulative impacts and to achieve a community or employment outcome in the REZ. The Program represents the NSW Government's commitment to share the benefits of the renewable energy transition with regional communities. Further details on the program are detailed in Section 4.1.9 of this report.

## Community and stakeholder engagement

### Summary of issues

Warrumbungle Shire Council is of the opinion that inadequate consultation has occurred and queries the number of meetings with councils that has been specified in the EIS and Technical paper 7 – Social (74 meetings). Warrumbungle Shire Council also notes 49 per cent of the community who responded to a 2022 survey reported a perception that they had less engagement with land agents and overall engagement with EnergyCo. Warrumbungle Shire Council expressed its support of this finding and agrees that additional productive engagement with local councils and residents by EnergyCo is required.

### Response

EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. Between January 2022 and the close of the EIS exhibition EnergyCo completed more than 5,000 community and stakeholder interactions, and held about 650 meetings with landowners, communities, local organisations and stakeholder groups across the Central-West Orana REZ. There have also been more than 60 sessions and pop-up events in local towns and around 120 meetings with local councils.

Each landowner directly impacted by the project has a dedicated Land Acquisition Manager who acts as their point of contact throughout the acquisition. The potential impacts of the project on properties during construction and operation have been discussed with landowners. The restrictions on land within the transmission line easement for safety and operational reasons is outlined the easement agreements established with landowners and summarised in EnergyCo's Living and Working near transmission line easements fact sheet (EnergyCo, 2022), which is published online.

Consultation activities over the course of the EIS exhibition included community engagement via eight in-person community information sessions, 12 in-person pop up displays, stakeholder briefings and neighbouring landowner meetings. More than 200 people were engaged with across the community information sessions and pop up displays.

Four of the eight community information sessions hosted during the EIS display took place in the Warrumbungle Shire Council area at Coolah and Dunedoo, taking place at varying times both within and outside standard work hours and occurring on three different dates. EnergyCo also hosted four in-person pop-up displays in the Warrumbungle Shire Council area.

NSW government agencies and other key stakeholders were briefed on the EIS via emails, phone calls, meetings and presentations to ensure they received the relevant information to make a submission.

Ahead of the EIS exhibition, EnergyCo contacted councils to discuss resourcing and tools needed to support the exhibition.

During the exhibition period, Warrumbungle Shire Council leadership and councillors were briefed on the EIS, and attended information sessions.

Place Managers attended each of the in-person community information sessions and pop-up displays during the EIS exhibition and provided a critical local point of contact for the community.

Place managers maintained regular contact with the community throughout the exhibition to answer questions and to encourage them to make a submission. They responded to questions, provided assistance in locating relevant information in the EIS and provided sections of the EIS on request.

Place managers will continue to play an important role in maintaining close and ongoing contact with local communities and stakeholders during the design and delivery of the project.

EnergyCo's team of Place Managers and Land Acquisition Managers are based at EnergyCo's office at 155 Macquarie Street, Dubbo. People are encouraged to make an appointment before visiting the office as the team is often out visiting landowners in the REZ.

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## 6.3.5 Biodiversity

### Summary of issues

Warrumbungle Shire Council requested clarification on whether any of the biodiversity offsets would impact Warrumbungle LGA.

### Response

Offsets for full and partial clearing of native vegetation would be required, including for clearing occurring in the Warrumbungle LGA. With regard to biodiversity offset strategy, EnergyCo's preferred option is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund. EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

Subject to ongoing interest and detailed biodiversity surveys, the biodiversity stewardship agreements would address around half of the project's biodiversity offset liability, or most of the project ecosystem credits. It is noted that around 45 per cent of the project's offset liability relates to species credits, which aren't always present at biodiversity stewardship sites, or historically available on the market. If species credits cannot be retired through stewardship agreements, purchased on the open market or through the Taskforce, EnergyCo would need to pay into the Biodiversity Conservation Fund.

Determining the appropriate compensation for the impacts to existing mining offset sites is outside the scope of the BAM. As such, EnergyCo is investigating a land-based ratio offset package that takes into consideration the condition of the existing biodiversity values and the required mining offset objectives.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. The following properties have been acquired:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property Capertee National Park that has surplus Regent Honeyeater credit requirements.

EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability.

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## 6.3.6 Landscape character and visual impacts

### Summary of issues

Warrumbungle Shire Council expressed interest in the Talbragar River rural valley landscape character zone (RV-3) and the Munmurra River rural valley landscape character zone (RV-4) as they are within the Warrumbungle LGA. Warrumbungle Shire Council considers it an oversight that many projects within the Appendix E – Cumulative Impact Assessment (Table E-3) do not include visual amenity as a potential cumulative impact.

Warrumbungle Shire Council commented that there is potential for increased lighting of the night sky with associated impacts to landscape character and visual amenity. Warrumbungle Shire Council is of the view that the EIS has not considered the cumulative of these impacts on tourists and the overall visual appeal of the region. Warrumbungle Shire Council also requested the Dark Sky Planning Guidelines to be considered and adhered to.

The cumulative impact assessment and management of impacts does not include visual impacts as a priority issue. Therefore, Warrumbungle Shire Council requested further detailed information and consultation to address this matter.

### Response

A cumulative impacts assessment of visual impacts was completed and detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). The cumulative assessment of the project including visual impacts was prepared in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d). The cumulative visual impact assessment included in the EIS consisted of a project-level assessment based on the approach described in the guidelines.

An updated cumulative impact assessment has been completed to address the proposed amendments and refinements to the project since exhibition of the EIS. The updated assessment is detailed in Appendix L of the Amendment Report. This assessment includes projects which have progressed through the planning system since the preparation of the EIS including Narragamba Solar, Bellambi Heights BESS and Burrendong Wind Farm. Some projects, as listed in Table L-3 in Appendix L of the Amendment Report, were not considered for cumulative landscape character and visual amenity impacts where there is no potential for cumulative impacts to occur due to distance, or where the scope of the projects being considered would not result in a cumulative change to landscape character and/or visual amenity.

Where there was the potential for significant cumulative landscape character and visual amenity impacts to occur, a detailed assessment was undertaken for impacts during the day and night. The cumulative visual impact is summarised in section 5.15.2 of the Amendment Report.

There is potential for cumulative nighttime lighting impacts on select dwellings in the vicinity of the energy hubs and switching stations and another proposed project. Transmission lines would not have lighting at night. As per mitigation measure LV4 lighting at the energy hubs and switching stations will be designed and operated in accordance with AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting the design guidelines contained in the *Siding Springs Dark Sky Planning Guideline* (DPE, 2023d).

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## 6.3.7 Heritage

### Summary of issues

Warrumbungle Shire Council requested confirmation on whether it's Heritage Strategy was referred to during heritage investigations and assessment.

### Response

Technical paper 12 – Non-Aboriginal heritage, details the non-Aboriginal heritage assessment for the project. The *Community Heritage Strategy 2021-2024* (Warrumbungle Shire Council, 2021) was not referred to in the heritage assessment as the project does not impact any locally listed heritage items in the Warrumbungle LGA and the strategy does not provide guidance on management and assessment of heritage with regard to developments.

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## 6.3.8 Climate change risks

### Summary of issues

Warrumbungle Shire Council requested additional detail on the climate change adaptation or risk factors to be applied to the detailed design phase.

### Response

Mitigation measure CC1 commits to a detailed climate change risk assessment being carried out during detailed design in accordance with *AS5334-2013: Climate change adaptation for settlements and infrastructure*. Following the detailed climate change risk assessment under mitigation measure CC1, adaptation measures will be developed for the project to address climate change risks associated with bushfire, extreme heat, drought and increased rainfall intensity.

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## 6.3.9 Bushfire impacts

### Summary of issues

Warrumbungle Shire Council is concerned that climate change factors have not been applied in Technical paper 10 – Bushfire especially considering that electrical distribution lines and associated infrastructure have been associated with the cause of many bushfires. Council noted that Australia has a long history of numerous large-scale bushfire events attributed to the electricity distribution network with the majority occurring on days with extreme fire weather conditions. Over the past decade, the Warrumbungle LGA has experienced catastrophic bushfires. Warrumbungle Shire Council requested that there needs to be adequate assessment and appropriate mitigation measures developed to address major fire events.

One of the key mitigation measures identified for both construction and operational phase of the project are Asset Protection Zones (APZs) around key project assets. Warrumbungle Shire Council noted that these have been determined based on tolerable radiant heat thresholds (RHT) which were determined by EnergyCo. Warrumbungle Shire Council requested more transparency on the development of these thresholds considering that the landscape potential of fires.

Warrumbungle Shire Council requested that mitigation measure BF5 should also require fire-fighting tanks to be constructed from material that would not melt during a bushfire and that a trailer fire-fighting unit is provided at all workforce accommodation camps and energy hubs.

Warrumbungle Shire Council noted that the use of water carts and fire water tanks based within the construction area often places the onus on construction personnel and companies to assist in the firefighting efforts. Warrumbungle Shire Council requested that a mitigation measure is included to ensure that all parties, including RFS and project personnel, understand their role in bushfire related emergency management.

It is noted that the restriction and/or prevention of certain activities that prevent bushfire risks on days with a fire danger rating of equal to or greater than 'high' must be risk assessed and endorsed by an appropriately qualified person and that the residual risk of all assessed actions during construction and operation is High or Extreme. Warrumbungle Shire Council requested a mitigation measure is included to require the prevention of fires on-site. This mitigation measure should be included in the CEMP due to the bushfire risk posed by fires on-site including grass fires used to burn grassland for site preparation.

## Response

In EIS Technical paper 10 – Bushfire and EIS Chapter 16 (Hazard and risk) it was acknowledged that bushfires are a common occurrence in the central west region and the broader landscape has a history of large bushfires. It was noted that climate change modelling predicts increases in the frequency and severity of fire events correlating with altered rainfall and drought patterns and increases in the number of severe and intense heat events. A per mitigation measures CC1 and CC2, a detailed climate change risk assessment will be carried out during detailed design in accordance with AS5334-2013 and adaptation measures will be developed to address climate change risks associated with bushfire, extreme heat, drought and increased rainfall intensity.

During operation, ignition of bushfires has the potential to occur during maintenance of the project infrastructure and from operation the infrastructure itself such as from lightning strike or electrical fault. It was noted in a recent Standing Committee on State Development held by the Parliament of NSW on the feasibility of undergrounding the transmission infrastructure for renewable energy projects (Parliament NSW, 2023) that the risk of a bushfire being ignited by high voltage transmission lines is low. Transgrid, as part of its submission to the inquiry reported that bushfires in Australia caused by electricity infrastructure were usually ignited by distribution powerlines or equipment below 66 kV, rather than transmission equipment in voltage ranges of 110 kV and above.

The switching station and energy hubs would be designed and constructed in accordance with AS3959–2018 Construction of Buildings in Bushfire Prone Areas including installation of fire systems. APZs around key project assets have been determined based on tolerable radiant heat thresholds of  $\leq 29$  kW/m<sup>2</sup> (i.e. Bushfire Attack Level (BAL) – 29). Radiant heat thresholds were determined based upon heat sensitivities of energy hub and switching station equipment.

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared to outline emergency response plan for the project and the fire management plan during both construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and NPWS and be provided to the relevant Local Emergency Management Committees prior to construction and when updated. The Bushfire Emergency Management and Evacuation Plans would be prepared in accordance with NSW RFS's Guide to Developing a Bushfire Emergency Management Plan and meet the requirements of Australian Standard AS3745-2010 Planning for emergencies in facilities.

The following strategies to manage the risk of fire and prevent the ignition of vegetation:

- planning of works based on weather forecast and monitoring the fire danger ratings from RFS
- management of works with consideration of a total fire ban
- hot work permit
- risk assessments
- inspections
- fire-fighting equipment.



Firefighting equipment to be provided as part of the project will be designed, maintained and made available for use during construction in accordance with requirements of *Planning for Bushfire Protection 2019* (RFS, 2019). Firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use. Each work front is currently required to have firefighting equipment including as a minimum 10,000 litres of water for fighting purposes and fire extinguishers. Static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes.

Total Fire Ban (TOBAN) Days will be followed through the construction stage, where a TOBAN is declared for days when fires are likely to escape and be difficult to contain. A decision to declare a TOBAN is generally made at around 5pm each afternoon during the bushfire danger period (October to March) and applies for the following day, starting from midnight and lasting 24 hours. Applications to the RFS are to be submitted for an exemption to allow for critical hot works to be undertaken on TOBAN days.

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## 6.3.10 Aviation impacts

### Summary of issues

Warrumbungle Shire Council does not own or operate any commercial airports that would be impacted by the project, however there are three ALAs within three nautical miles of the project, with at least two presumed to be within the Warrumbungle LGA. Warrumbungle Shire Council requested confirmation of whether the ALA owners have been consulted. While the detailed design would inform these discussions, Warrumbungle Shire Council requested further detailed information and consultation to satisfactorily address this matter prior to any determination.

### Response

The aviation impact assessment completed for the project is detailed in Technical paper 1 – Aviation. In section 5.8 of this technical paper, the three active ALAs used for private aircraft operations identified within three nautical miles of the project are described. Of these ALAs, the Merotherie and Tongy ALAs are located in the Warrumbungle LGA.

Additional transmission lines established in the region are unlikely to impact aviation safety as they would be published on aeronautical charts and advised to aviation stakeholders prior to construction. Mitigation measures AS1 and AS3 commit to consulting with stakeholders for the safety of aviation movements. The final design of the project with transmission line and tower coordinates and elevations will be provided to the owners of Dalkeith, Tongy and Merotherie ALAs. Additional notification(s) will be undertaken if the final detailed design of the project alters the details previously supplied to these stakeholders, prior to the construction of the modified design elements. The Dalkeith, Tongy and Merotherie ALAs will also be notified of the scheduling of the use of cranes, drones and helicopters for the construction of the project, prior to the commencement of relevant works.

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## 6.3.11 Hydrology, water quality and flooding

### Summary of issues

Warrumbungle Shire Council commented that while impacts associated with temporary watercourse crossings are mostly minor and localised, they would result in changes to erosion and channel shape due to the poor to moderate geomorphic conditions in the Talbragar River and Upper Goulburn River Catchment.

Warrumbungle Shire Council is concerned that the impacts of river channel migration due to these changes have not adequately been considered, especially regarding undercutting local roads, causeways, culverts, and bridges within the farther reaches of all rivers and streams. Warrumbungle Shire Council would like to see a more robust assessment of the fluvial geomorphology implications during construction including a quantitative assessment and details of concept design. These assessments also need to provide specific information regarding the climate change projections and intensity, duration, frequency (IFD) climate change factors that will be applied to detailed design.

Of particular concern to Warrumbungle Shire Council is Merotherie Road between Golden Highway and the Leo Nott Bridge. This extent of road experiences regular flooding along a 1.7 kilometre stretch as part of mainstream flooding (flood plain), anecdotally and as shown in the EIS pre-construction flooding depths up to 10 metres occur during Probable Maximum Flood (PMF) events. Merotherie Road is the main access road to the proposed Merotherie Energy Hub. Therefore, it is expected that detailed design would include upgrades such as culverts and other engineering solutions to Merotherie Road and other roads for nearby solar and wind farm developments.

The flood impact maps at Technical paper 15 – Flooding (e.g. Figure D.9b) suggest local flooding/ponding as a result of construction of the Elong Elong Energy Hub may impact the Dapper Road formation. Warrumbungle Shire Council request confirmation of whether the formation needs to be locally reconstructed (raised) to achieve a specific flood-free standard.

Warrumbungle Shire Council commented that erosion and sediment controls will be designed and installed in accordance with the 'NSW Blue Book'. Due to the steep gradients, highly erodible soils, and potentially dispersive soils, Warrumbungle Shire Council recommend that all plans be prepared and approved by a suitably qualified professional in erosion and sediment control.

## Response

The hydrology and geomorphology assessment is detailed in EIS Technical paper 14 – Hydrology and water quality and is summarised in EIS Chapter 19 (Other impacts). The proposed transmission lines would require spanning of a series of watercourses, including the Talbragar River.

Transmission line towers would be constructed at least 50 metres from the edge of watercourses with a Strahler stream order of three and above but could be located within the flood prone areas of some first and/or second order streams. In addition, temporary watercourse crossings in the form of culverts, causeway or fords may be required for access tracks where alternative vehicle access routes are impractical.

Potential impacts to the geomorphic conditions of watercourses as a result of these works would be minor and localised but could result in changes to erosion and channel shape due to the poor to moderate geomorphic conditions in the Talbragar River between Uarbry and Elong Elong and the Upper Goulburn River catchment. No transmission line towers would be located within the flood prone area of watercourses with a stream order of three and above and therefore no geomorphological changes within the watercourses are expected that would affect their long term health, including the movement of sediment (including nutrients) and the presence of ponds or ripples that support aquatic fauna and flora.

A flood assessment of the portions of Merotherie Road and Dapper Road subject to road upgrades as part of this amended project has been undertaken and is summarised in Section 5.12 of the Amendment Report. The road upgrades along Merotherie Road include drainage infrastructure to manage water flows, such as culverts and a new bridge at the crossing of the Talbragar River.

As per mitigation measure FL12, the upgrades to the local roads that service the Merotherie and Elong Elong energy hubs, including Merotherie Road and Dapper Road, would be designed such that:

- the existing level of flood immunity of the road is maintained or improved, and
- during storm events that result in overtopping of the road, there is no significant increase in the depth and hazardous nature of flooding.

With regard to the flooding assessment at the Elong Elong Energy Hub, as stated in Section 6.1.3 of EIS Technical paper 15 – Flooding, a series of diversion channels and culverts would be installed to convey runoff through and around the site in order to manage the impact of flooding on surrounding land. The map referred to D.9b indicates a small additional area of flooding would occur along Dapper Road during a 10 per cent AEP flood event. However, detailed design of Elong Elong Energy Hub and Dapper Road would be managed to avoid impact to the Dapper Road formation during flood events, as noted in mitigation measure FL12.

The design of drainage would be refined further during detailed design with the aim of minimising changes in distribution flows and increased runoff from the Elong Elong Energy Hub that would otherwise lead to adverse impacts on the duration and extent of inundation in the affected drainage line. The intersection between Spring Ridge Road and Dapper Road is proposed to be upgraded. However, the Dapper Road formation is not proposed to be amended.

Areas disturbed as a result of construction activities will be managed in accordance with the requirements of *Managing Urban Stormwater Soils and Construction (4th Edition)* (Landcom, 2004). Erosion and sediment control measures will be nominated by a suitable qualified professional.

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## 6.3.12 Traffic and transport

### Construction traffic volumes

#### Summary of issues

Warrumbungle Shire Council commented that Technical paper 13 – Traffic and transport appears to refer to peak-hourly light vehicle movements which imply vehicle occupancy rates of two persons per vehicle or more. Warrumbungle Shire Council's experience with similar developments suggests the rate is far more likely to approach only one person per vehicle if private vehicle use is relied on. Further to this, the EIS makes no mention of workers from Merotherie workforce accommodation camp travelling to Elong Elong to construct the project.

Warrumbungle Shire Council identified that a significant volume of water would need to be transported along the main construction routes including between the Golden Highway, Talbragar River and the respective energy hubs. Given bore yields are uncertain, Warrumbungle Shire Council requested confirmation prior to any approval if:

- the material quantities accounted for likely water cartage, and
- the water analysis completed for the project properly accounted for the likely number of trips noting the relative inefficiency of bulk transport of water by road and the resulting high number of vehicle movements.

#### Response

The peak hour combined traffic movements anticipated for the project are detailed in Table 5-5 of Technical paper 13 – Traffic and transport. The table shows the peak number of light and heavy vehicle movements expected to occur during peak hours.

Workforce personnel would be transported between the workforce accommodation camps and the work fronts using both light and heavy (small bus) vehicles. The traffic volumes estimated for the project account for all project related traffic, including those for transportation of personnel, materials, visitors to and from the construction sites including the movement of personnel between Elong Elong Energy Hub and the workforce accommodation camps. The estimate makes provision for the full quantum of vehicle trips anticipated to be generated for transportation of water, materials and waste.

Further analysis of the construction traffic volumes from Neeleys Lane workforce accommodation camp has been undertaken due to the proposed inclusion of a construction compounds and laydown at the site. Up to 34 heavy vehicle movements would be generated at the site during the peak hour (an increase of 10 vehicle movements from the exhibited project), which would result in 66 traffic movements during the peak hour. No other changes in indicative peak hour construction vehicle movements are anticipated for the amended project. This analysis is provided in Appendix J and summarised in section 5.11 of the Amendment Report.

## Construction routes

### Summary of issues

Warrumbungle Shire Council requested individual assessments of relevant turning treatment upgrades at each local road intersection along construction routes within the Warrumbungle LGA. The assessments should be conducted in accordance with Austroads Guide to Traffic Management Part 6 (AGTM06) Figure 3.25 and having regard to any site-specific safety constraints, such as limited sight distances. Warrumbungle Shire Council believe these intersections require attention due to their rural laneway configuration, given the large increase due to project traffic.

### Response

Additional intersection assessments along the construction routes have been undertaken since the EIS including turn warrant assessments and Safe Intersection Sight Distance (SISD) checks. The additional assessment is summarised in section 5.11 of the Amendment Report and includes intersections in Warrumbungle Shire Council. The assessment was conducted in accordance with Austroads Guide to Traffic Management Part 6 (AGTM06), Figure 3.25.

## Construction traffic impacts

### Summary of issues

Warrumbungle Shire Council commented that the project relies on high-intensity use of local roads by heavy and light vehicles for a prolonged period of time during construction and it expects the following key routes to be impacted:

- Spring Ridge Road considering cumulative traffic impacts arising from the development of Spicers Creek Wind Farm, Dapper Solar Farm, Sandy Creek Solar Farm, Cobbora Solar Farm and Orana Wind Farm
- Merotherie Road considering cumulative traffic impacts arising from Narragamba Solar Farm, Barneys Reef Wind Farm, and possibly others
- other local roads which would or could likely be used for access to the transmission line by either light or heavy vehicles, for which no specific measures have been identified in the EIS, including Bald Hill Road, Sandy Creek Road, Dapper Road, Tucklan Road and Barneys Reef Road.

Warrumbungle Shire Council commented that these roads are not designed and built for the proposed traffic volumes or vehicle types and they have serious concerns regarding unacceptable and currently unmitigated impacts by the project, and the aggregated cumulative impacts arising for both energy generation projects on road safety for all users and maintenance of service levels.

## Response

The cumulative traffic and transport impacts were assessed in accordance with the in accordance with the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d) and is detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is detailed in Section 5.15 and Appendix L of the Amendment Report.

Of the relevant future projects identified in cumulative impact assessment, 18 projects would potentially utilise construction routes that are also proposed by this project and were therefore considered in the assessment.

Other projects assessed for cumulative impacts are considered to have negligible cumulative traffic and transport impacts in combination with this project as they would utilise different construction routes that are not utilised by this project or are already operational.

The assessment indicated that the additional traffic volumes generated by the 10 related development projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the impacted roads, with the existing level of service (LoS) (LoS A for all routes) maintained on most roads. A moderate impact on capacity (a reduction of LoS from A to B) is expected on Cope Road and Ulan Road due to the high traffic volumes that would be generated by the Stubbo solar farm. At LoS B however, traffic would still be considered as free-flowing. The predicted low level of impacts are mainly due to the current low traffic demand on these roads.

EnergyCo is proposing to upgrade certain roads between the Port of Newcastle and the Central-West Orana REZ that would be used to access the construction area as part of a separate works package to ensure they can support OSOM movements. These upgrades would potentially assist in mitigating some of the potential cumulative impacts.

Pre-condition surveys would be completed before construction, and any required rectifications works would be completed in consultation with the relevant council.

## Construction traffic management

### Summary of issues

Warrumbungle Shire Council requested details on the measures proposed to minimise the number of vehicles on the road and distances travelled, to improve road safety, as well as minimising wear and tear on unsealed roads. For example, commitments to implement quotas for shuttle bus use, and/or mandatory car-pooling quotas.

Warrumbungle Shire Council requested firm commitments by the proponent towards implementing and managing/limiting light vehicle movements to and from site, with consideration being given to the effectiveness of a shuttle bus when most construction workers are required to cart tools in utes or trucks.

### Response

As outlined in EIS Chapter 3 (Project description), workforce personnel would be transported between the workforce accommodation camps and the work fronts using both light and heavy (small bus) vehicles to minimise potential traffic impacts of the project on local roads. This would mainly occur at the start and end of the working day.

## Road conditions and maintenance

### Summary of issues

Warrumbungle Shire Council is of the opinion that traffic from the project would exceed the pavement thresholds directly causing premature widespread failures on local roads. Warrumbungle Shire Council noted that while the EIS stated that road repairs would occur during construction, this is considered to be a temporary cosmetic fix to enable haulage to continue and is not supported.

Repairs of the full depth of underlying damage would be required or the project would cause widespread failures long after construction concludes. Warrumbungle Shire Council suggests the design pavement in terms of Equivalent Standard Axles (ESA) specifications for pre-project (low rural traffic) volumes may be:

- unsealed local roads (no through traffic)  $2 \times 10^5$  ESAs
- sealed local roads (not classified roads)  $1 \times 10^6$  ESAs.

Warrumbungle Shire Council indicated its preference for EnergyCo to upgrade the pavements, and then either EnergyCo or Council recover cash contributions from the other project developers for their proportionate use of the pavement (e.g. through the REZ access charges or individual Voluntary Planning Agreements), and these funds could be applied by Warrumbungle Shire Council as required for future maintenance and renewals.

Warrumbungle Shire Council requires predicted impacts to be mitigated and managed as part of this investment phase of the Central-West Orana REZ, rather than being outsourced and funded by the local ratepayers. Warrumbungle Shire Council requested the provision of annual, ongoing financial contributions for road repairs and maintenance over the life of the project, including any decommissioning phase. Warrumbungle Shire Council noted that Relevant standards are set by the nationally consistent Austroads Guides (Austroads, 2021), Australian Road Research Board (ARRB) Best Practice Guides for road network owners (ARRB, 2020), and local council standards and policies.

## Response

Multiple road upgrades are proposed for the amended project which are detailed in section 3.3.4 of the Amendment Report. Warrumbungle Shire Council's suggestion concerning the design parameters to be adopted for these upgrades is noted. Upgrades to roads as identified in the Amendment Report will be designed and constructed in accordance with relevant standards, including council and Austroad standards.

As outlined in mitigation measure T7, prior to construction commencing, pre-construction road dilapidation surveys and routine inspections will be completed along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.

## Road upgrades

### Summary of issues

Warrumbungle Shire Council requested confirmation if the upgrade of Spring Ridge Road and Merotherie Road, between the Golden Highway and the respective energy hubs, would be completed with a full depth pavement to a higher design ESA specification to account for the long-term traffic intensification due to the REZ.

Warrumbungle Shire Council requested confirmation of when are the major haul route full-depth pavement (design life) upgrades proposed to be undertaken, and if they are planned occur at the end of the construction phase, confirmation of what the maintenance regime by the proponent on these roads would be during the construction phase.

## Response

To improve road safety, the upgrade of the following roads and intersections along the construction route connecting the workforce accommodation camp has been included in the project. As detailed in the Amendment Report, the road upgrades within the Warrumbungle Shire Council area include:

- road widening and sealing of Merotherie Road
- installing a new bridge on Merotherie Road at its crossing of the Talbragar River to replace the existing crossing

- road widening Spring Ridge Road, near the intersection with Dapper Road
- installing a new bridge on Spring Ridge Road at its crossing of Laheys Creek to replace the existing causeway
- upgrading Dapper Road to tie into the upgraded Spring Ridge Road
- upgrading the Spring Ridge Road/Dapper Road intersection to tie into the upgraded Dapper Road and Spring Ridge Road.

The upgrades would be designed and constructed in accordance with relevant standards, including Council and Austroads standards.

## Crown roads

### Summary of issues

Warrumbungle Shire Council requested clarification if any roads or tracks would be constructed within Crown Road reserves. It is understood if roads are to be constructed in these areas, Crown Lands policy is to require transfer of such road reserves to council ownership. If this is to occur, the tracks shall be constructed to Warrumbungle Shire Council's specifications with approval under Section 138 of the Roads Act.

### Response

The construction area of the project would include one parcel of Crown land, which is associated with travelling stock routes along Barneys Creek Road, as well as Crown roads (including paper roads), and waterways (including Laheys Creek and Wilpinjong Creek). Where these parcels of Crown lands are enclosed (i.e. fenced within a landowners property), they remain Crown land.

The transmission line alignment and associated easement traverses one travelling stock route and several parcels of Crown Land that are associated with waterways, Crown roads, roadside areas . Easements would be created on sections of three Crown land parcels. Crown land (paper roads) located within the Elong Elong Energy Hub would be permanently acquired prior to the commencement of construction, and land use would change from its current agricultural land use to electrical infrastructure.

As identified in mitigation measure LP11, easements will be established for transmission lines by EnergyCo in consultation with landowners and in accordance with the Just Terms Act and *Crown Lands Management Act 2016 (NSW)* (as relevant) at the completion of construction.

## Road safety

### Summary of issues

Warrumbungle Shire Council noted that the provision of workforce accommodation camps are expected to be closely tied to outcomes such as road safety, community perceptions of traffic increase, and rate of gravel loss (higher maintenance) on unsealed roads. Prior to approval, high-level commitments should be made considering:

- location of such facilities to balance the need to minimise travel distances for road safety and economic development reasons, between accommodation and both the project and residential amenities (largely in towns), as the incidence rate of road injuries or fatalities can closely correspond to the distance travelled
- what road infrastructure upgrades and management measures may be required to safely accommodate traffic to and from the proposed facility.

## Responses

Workforce accommodation camps would be located at Merotherie Energy Hub and at Neeleys Lane in Turill. Key considerations when selecting the sites for workforce accommodation camps included:

- minimising the number of camps required to minimise community impacts
- minimising travel time to the construction area
- avoiding the need for any compulsory land acquisition where possible.
- ensuring suitable access to the road network
- minimising clearing by using land that has already been disturbed.

Food, sporting and recreation facilities would be provided at the workforce accommodation camps, which would minimise the number of vehicle movements between the workforce accommodation camps and nearby towns. Workforce personnel would be transported between the workforce accommodation camps and the work fronts using both light and heavy (small bus) vehicles to minimise potential traffic impacts of the project on local roads. This would mainly occur at the start and end of the working day. The following road safety measures will be implemented with regard to driver management during construction:

- a Driver Code of Conduct will be developed and implemented. The code will define acceptable driver behaviour for proposal personnel to promote road safety and ensure that the impacts of construction-related vehicle movements on local roads and the local community are minimised
- a Driver Fatigue Management Plan will be developed and implemented as part of the CEMP and will incorporate appropriate measures to manage driver fatigue risks, including, but not limited to:
  - planning of regular breaks
  - mapping locations of driver rest areas along the proposed construction routes.

## Engagement with Council

### Summary of issues

Warrumbungle Shire Council requested EnergyCo representatives meet regularly with their staff to discuss and resolve the issue of project generated traffic impacts, with a view to providing written confirmation as to the legal consequences for Warrumbungle Shire Council. Specific commitments are therefore required to be agreed by EnergyCo and Warrumbungle Shire Council in relation to council's statutory role as roads authority and its assets prior to any contemplation of the issuing of approval to the project.

Warrumbungle Shire Council also requested a meeting with EnergyCo's road specialist representatives as soon as practicable to work through the details, including whether the work would be consented under the current EIS process or via the separate assessment under Part 5 of the EP&A Act.

### Response

EnergyCo would require consent from the relevant roads authority under Section 138 of the Roads Act to undertake work on or over classified roads. However, by reason of clause 5(1) of Schedule 2 of the Roads Act, EnergyCo, as a public authority, is not required to obtain approval to carry out work on unclassified roads other than a Crown road (subject to that clause ceasing to have effect by proclamation).

As agreed in discussions with Warrumbungle Shire Council in December 2023, EnergyCo will consult further on the technical designs for the local road upgrades within its LGA. This would include involvement of Warrumbungle Shire Council in technical design reviews of these civil works. Monthly meetings with relevant councils are also proposed going forward, which will provide a further forum of Warrumbungle Shire Council to discuss these elements of the amended project.



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## 6.3.13 Water supply

### Summary of issues

Warrumbungle Shire Council requested that EnergyCo consults with Council regarding the planned supply of potable and non-potable water to determine the quantities required from different sources and drought planning.

Warrumbungle Shire Council noted that the expected demand on its supply of potable water (being 1,140 megalitres over the four-year period) would exceed the current Coolah township annual water requirements and is roughly 78 per cent of the Dunedoo requirement. Warrumbungle Shire Council is not in a position to be supplying potable water for the project.

Warrumbungle Shire Council considers the level of detail and numerical analysis provided in the water balance assessment too be unacceptable for a project of this scale in a region with high water security uncertainty, given the forward climatic outlook and the likely cumulative impacts with other renewable projects. It is also noted that the assessment graph presented in Figure 19-3 in the EIS does not include potable drinking water or an assessment of the local population and industry requirements for the available regulated and unregulated water sources.

While deferral of a detailed water sourcing strategy to the post-approval phase may be appropriate, it must be demonstrated prior to approval, that existing surface and subsurface water sources would be adequate without being adversely affected, or new supply options are reasonably achievable without reliance on a third-party consent that has not yet been secured.

Warrumbungle Shire Council considers it insufficient to leave resolution of these concerns up to market forces post-approval, especially in the context of the multiple renewable projects in the area. If unmanaged, any shortfall in water available in the environment is likely to put significant cumulative strain on limited water resource capacities.

Warrumbungle Shire Council commented that the project water demand analysis is not comprehensive. Notably, the EIS does not mention water required for gravel conditioning.

Warrumbungle Shire Council is concerned about water usage and sourcing during drought. Warrumbungle Shire Council requested commentary on the safeguards to be adopted to ensure water security for local residents and agricultural practices during drought.

As details of specific water bore hole yield rates have not been made public, Warrumbungle Shire Council is of the view that it is uncertain that the project would manage to source the required 686 megalitres of non-potable water (Technical paper 14 – Hydrology and water quality) from bores alone. Warrumbungle Shire Council requested confirmation of whether only council owned groundwater bores would be used and if so, which ones would be used. Warrumbungle Shire Council's bore water allocations do not extend to the water requirements of the construction phase.

### Response

As discussed in Section 6.1.18 of this report, the actual water usage during construction is expected to vary depending on the nature and extent of construction activities taking place at any point in time throughout the duration of construction. Opportunities to minimise water demand would be identified during detailed construction planning and implemented where feasible.

The analysis undertaken for the EIS estimated the peak construction phase water need for the project is 700 megalitres of water per year during construction. Of this total quantity, approximately 450 megalitres would be potable water, with the remaining 250 megalitres being non-potable.

It is noted these are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

The use of non-potable water is preferred potable water, however this is dependent on the location and nature of the water use activity as well as the quantity and quality of available water at the time. Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- reuse of treated mine water (non-potable water), if practicable.
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under WALs for the project. The available water in each water source is dependent on conditions in each water source, which are dependent on the climate
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression.

In the event surface water availability does not meet the project's non-potable water requirements during construction, a groundwater supply would be established at the Merotherie and Elong Elong energy hubs. The potential take of up to 76 megalitres per year has been assessed at each bore as detailed in Technical paper 14 – Groundwater. No council owned groundwater bores are proposed to be used for the project.

EnergyCo has been in consultation with a water broker to identify surface and groundwater sources that can meet the projects water supply requirements. Based on a review of the market, there is sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard the preferred approach would be to source water from exiting entitlements. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with Councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.

Where these projects can meet the eligibility requirements for the forthcoming CEBP in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ through safe, secure and accessible water supply. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo's website later in 2024.

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## 6.3.14 Project description

### Summary of issues

Warrumbungle Shire Council requested confirmation of the scope and extent of construction activity and all relevant safeguards, including confirmation of the locations of facilities that are not confirmed in the EIS.

### Response

The Amendment Report describes the amendments to the project identified since exhibition of the EIS and provides further detail on the microwave repeater site and maintenance facility at the Merotherie Energy Hub as identified in the EIS. Appendices A and B of the Amendment Report provides an updated project description and mapping incorporating the amendments.

A full list of updated mitigation measures is provided in Appendix B of this report.

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## 6.3.15 Waste management

### Summary of issues

Warrumbungle Shire Council noted that local waste management facilities closest to the project may have limited or no capacity to accept construction waste from the project. If closer, but generally smaller, local facilities are unable to accept the waste quantities from the project, there may be a requirement to transport the waste generated by construction of the project to larger regional facilities located further away from the construction area. Warrumbungle Shire Council noted that EnergyCo will explore further opportunities with local councils to reduce the demand placed on local waste management facilities because of the project.

Warrumbungle Shire Council noted that there is no mention of their capacity to accept waste within the assessment. Warrumbungle Shire Council is not able to accept waste from any Central-West Orana REZ projects at any waste facility with the Warrumbungle LGA, and this should be noted in the EIS.

### Response

Waste generated during construction of the project would be managed in accordance with the Construction Waste Management Plan, which would form part of the CEMP. The plan would define the processes, responsibilities and management measures that would be implemented during construction to manage waste.

Prior to construction, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

Council's comment that waste facilities closest to the project may not be appropriate or capable of handling and disposal of landfill waste generated by the project is acknowledged. EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

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## 6.3.16 Resource use

### Summary of issues

Warrumbungle Shire Council requested further detail on the assumptions underpinning the materials quantities in the EIS including:

- confirmation the estimated road gravel quantity of 356,000 tonnes (some 11,000 loaded truck and dog movements) does not underrepresent the likely quantity. For example, this could be seen to equate to 0.67 cubic metres per metre of transmission line, or a pavement thickness of only 100 millimetres for an average six metre wide access track along the entire alignment
- confirmation the concrete volume given as 600 cubic metres, accounts for the pile diameter and number of transmission towers
- confirmation the average spacings of the proposed transmission towers has been accounted for in the concrete quantities as it would significantly influence material quantities
- confirmation the earthworks quantities (cut/fill balance transport by road) of some 85,000 cubic metres (approx. 200,000 tonnes) shown at EIS Table 3-7 would be included in the local road's pavement impact assessment
- confirmation the earthworks quantities quantity represent the actual project contingency required as only some 0.35 cubic metres of site won material would be disposed offsite per lineal metre of transmission line.

Warrumbungle Shire Council also requested details of the source of sand and gravel required for the construction phase.

### Response

A range of other materials and resources would also be required during the construction of the project. All quantities have been estimated based on the current project design and would be subject to further refinement during further design development.

With regard to Warrumbungle Shire Council's query relating to road gravel quantities, access to the proposed transmission line easements for operational maintenance would be via access tracks, running to and along the easements, and existing public and private roads. Improvements to existing access tracks and new access tracks would be required to provide appropriate access to construction areas, and would be retained for operational purposes. Existing access tracks would be used, where practicable, in order to minimise vegetation clearing and construction works (i.e. widening or grading). Access tracks along the transmission line easement are not proposed be formalised and therefore would generally not require importation of gravel. Localised areas along the easements where poor ground conditions are encountered would require the formalisation of access tracks comprising compacted road base. These areas are anticipated to be minimal. This approach is consistent with the approach adopted in other transmission line easements in NSW, including that for TransGrid's Line 79 between Wollar and Wellington.

Supply of concrete for the project has been planned as per Table 3-8 of the EIS. This table shows that 600 cubic metres of concrete will be sourced from existing concrete batch plants within the region. The remaining estimated 97,000 cubic metres will be sourced from on-site concrete batch plants established for the project.

The spacing of transmission towers varies, depending on constraints within the transmission line easement. The total estimated concrete quantity of 98,300 cubic metres however, (600 cubic metres plus 97,700 cubic metres) includes provision for the concrete within each of the tower foundations.

With regard to impacts to road infrastructure from transportation of earthworks materials, mitigation measure T7 requires that pre-construction road dilapidation surveys and routine inspections will be completed along all nominated construction routes and local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the required work.

The earthworks quantities would be further refined following completion of further geotechnical investigations during the detailed design stage, with the aim of achieving a cut/fill balance for the earthworks, minimising material to be taken off the project.

Construction materials, such as sand and gravel, would be sourced locally, where practicable, to benefit the local economy. Materials that are not available locally would be sourced from other locations within NSW, or within Australia if not available in NSW.

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## 6.3.17 Cumulative impacts

### Summary of issues

Approximately 35 renewable energy projects are currently planned for location within the Central-West Orana REZ. Warrumbungle Shire Council is concerned about the cumulative impacts this would generate on its residents and requested that EnergyCo and the NSW Government provides substantive information on:

- the likely cumulative impacts in the Warrumbungle LGA, and
- what benefits will be forthcoming to both Warrumbungle Shire Council and the region generally to compensate for these impacts.

Warrumbungle Shire Council noted that the economic cumulative impact assessment for the construction period is predominantly positive, however the assessment in the EIS is qualitative and Warrumbungle Shire Council noted it does not provide enough information in the form of a risk analysis to fully assess the impacts. The operational assessment summary in the EIS is lacking, stating no cumulative economic impacts expected. Warrumbungle Shire Council queries this finding considering the number of new developments proposed in the REZ.

Warrumbungle Shire Council commented that that the SIA ranked the cumulative impact of all potential impacts between minor and moderate. Yet, Technical paper 7 – Social has one residual impact, unequal distribution of impacts and benefits, ranked as high. Warrumbungle Shire Council requested specific details on how this impact would be addressed and consistency between the technical paper and cumulative impact assessments. Warrumbungle Shire Council recommended a consistency assessment be carried out on the cumulative impact assessment to ensure it has adequately captured and addressed all aspects.

Warrumbungle Shire Council requested specific details regarding the scheduling of the construction phase of this project in relation to all other renewable energy projects within the REZ including the start date and planned duration.

Warrumbungle Shire Council noted that the approach taken to the assessment of cumulative impacts acknowledges that each project would be required to mitigate its own impacts to acceptable levels, minimising the overall contribution to cumulative impacts. However, it is also recognised that not all cumulative impacts can be addressed through a project level approach alone. Warrumbungle Shire Council seeks for cumulative impacts to be addressed by EnergyCo and DPHI instead of being left to individual energy generation developers.

Warrumbungle Shire Council noted that the EIS states the next stage involves the establishment of working groups involving representatives from councils, agencies and EnergyCo to assess and prioritise recommendations, including the identification of funding sources and lead agency responsibilities and implementation timeframes. The outcomes of this next stage will be documented in an Implementation Plan by the end of 2023.

## Response

A cumulative impact assessment for the project was completed in accordance, the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d), as detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is detailed in Section 5.15 of the Amendment Report. A table of the planned construction duration of each identified project against the project construction program is provided in Table L-4 in Appendix L of the Amendment Report.

Technical paper 7 – Social assessed the project and the cumulative social impact assessment assessed the project in combination with other relevant projects. The different scope of these assessments resulted in outcomes that do not exactly mirror each other. It is possible that some landowners experience cumulative unequal distribution of impacts and benefits. This project's contribution to this cumulative impact is moderate considering the geographical extent of this project.

Direct cumulative economic impacts to the region would be greatest during construction. This project, in combination with the relevant future projects, would generate a large demand for a suitably qualified construction workforce in regional areas. It is estimated that over 4,000 workers would be required for Central-West Orana REZ renewable energy generation and the project between mid-2025 and mid-2026 (EnergyCo, 2023b).

Further assessment of cumulative economic impacts during operation has been completed as part of the Amendment Report. This project in combination with the relevant future projects would have a minor cumulative economic impact as a result of the operational workforce requirements for each project. A peak operational workforce of up to 60 personnel would be required for this project. The cumulative operational workforce requirements for this project and the relevant future projects would therefore be around 360 personnel. The updated cumulative assessment of economic impacts is detailed in Appendix L of the Amendment Report.

The economic impacts have not been broken down by LGA as impacts would be subject to local employment, suppliers and businesses which may be involved in the project and a range of other market factors.

EnergyCo has consulted with the community, councils and other government agencies on studies to inform how cumulative impacts in the Central-West Orana REZ will be managed. These studies informed the establishment of a Central-West Orana REZ Steering Committee involving EnergyCo, Councils and government agencies/departments.

Ongoing engagement with the renewable energy projects connecting the project would be conducted to gather information to support cumulative impact initiatives and opportunities for co-funding positive initiatives in the region. Additionally, each project would implement mitigation measures to minimise their potential impacts.

A Community and Employment Benefit Fund for the Central-West Orana REZ will be administered by EnergyCo to deliver community projects and employment opportunities in recognition of the broader changes to the region. Upfront funding will come from the Transmission Acceleration Facility (existing funds to fast-track critical energy infrastructure), and after 2028 will be funded through access fees paid by renewable energy generators connecting to new transmission lines in the Central-West Orana REZ. The types of projects that could be funded include:

- public infrastructure upgrades
- housing and accommodation
- training and employment programs
- health and education programs
- support for energy efficiency and local rooftop solar, and
- initiatives for First Nations people.

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## 6.4 Upper Hunter Shire Council

The Upper Hunter Shire Council submission (6 November 2023) raised a number of issues, addressed in the following sections.

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### 6.4.1 Impacts on agriculture

#### Summary of issues

Upper Hunter Shire Council noted that the construction area for the project is about 3,660 hectares, which would be unavailable for agricultural use during construction, and that around 825 hectares of agricultural land would be permanently removed from service due to the establishment of permanent infrastructure. The SIA appears to have given little weight or consideration to the social effects of the interruption of traditional agricultural activities. Mitigation measures need to be in place, and Upper Hunter Shire Council request that DPHI ensure that the landowners and the public in general have access to information and assistance through transparent and easily accessible channels.

#### Response

Consistent with the EIS assessment, for the purpose of estimating total impacts, it has been conservatively assumed the entire construction area (including the transmission line easement) (3,755 hectares used for agriculture) would be unavailable for agricultural activities during the three year main construction period.

As assessed in the EIS, it is noted however, this is an overestimation as construction activities associated with the transmission line, including transmission tower erection, transmission line stringing and vehicle and machinery movements along access tracks, would be intermittent and would not occur for the full duration at any one location. The length of disruption at other structures such as energy hubs and switching stations is expected to be longer (and in some cases permanent).

The proposed project amendments and refinements would not change the amount of agricultural land located within the operation area (2,440 hectares), however would result in a small reduction in the area of direct impacts, which has been reduced by 30 hectares (or 3.6 per cent) to around 795 hectares. For areas within the easements, agricultural operations and activities would continue, only with some activities restricted. EnergyCo is required to pay the market value for any land, including any interests in land it acquires for the project in accordance with the Just Terms Act. Furthermore, the Landowners directly hosting transmission lines are entitled to receive SBPs, which are in addition to compensation that has been assessed under the Just Terms Act. These payments are tied to the land are in recognition for hosting this infrastructure.

The SIA for the project, as detailed in EIS Technical paper 7 – Social and summarised in EIS Chapter 13 (Social), considered impacts on landowners and the community with respect to disruption of agricultural activities. Social impacts from construction and operation of the project were assessed in accordance with the relevant legislation and guidelines including the *Social Impact Assessment Guideline* (DPE, 2023b)

A detailed assessment of agricultural impacts from the project was also completed for the EIS as provided in EIS Technical paper 2 – Agriculture and summarised in EIS Chapter 8 (Agriculture). A range of mitigation measures have been identified to minimise impact to agricultural operations (refer to Appendix B of this report). The mitigation measures include consultation with impacted landowners and measures to minimise disruption to agricultural activities during construction and operation. A per mitigation measures AG3, individual Property Management Plans will be developed in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities.

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## 6.4.2 Accommodation strategy

### Summary of issues

The technical paper on social impacts provides a chapter on construction assessment which noted that the entire construction workforce (peaking at 1,800) would be housed in workforce accommodation camps in Merotherie and Cassilis. Upper Hunter Shire Council requested that further consultation is undertaken to develop a detailed accommodation strategy which addresses community concerns and outlines the methodology for construction and operation of the camps.

### Response

The workforce accommodation camps would be located at the main construction compound at Merotherie Road, Merotherie on land adjacent to the Merotherie Energy Hub, and at Neeleys Lane in Turill about 11 kilometres southwest of Cassilis. The workforce accommodation camps would be established as enabling work and demobilised at the completion of construction. Construction would involve site clearing, establishment of temporary facilities and connections to utilities as required.

It is anticipated that during enabling works, prior to the establishment of the workforce accommodation camps, around 100 construction workers would be employed, primarily comprising the workforce to construct the camps, along with a number of project management personnel. The construction of workforce accommodation camps would take around four to six months to construct, during which time the workforce would utilise existing local hotel, motel and rental accommodation.

During the main construction works (once the camps are established), the use of workforce accommodation camps would include a range of general activities which would be undertaken to support the functions of the facility and minimise its impacts, such as general grounds maintenance, deliveries and waste removal. The workforce accommodation camps would provide sufficient accommodation for all construction workers, including the anticipated peak construction workforce during the peak construction period. Food and recreation facilities, first aid facilities and a full time medical practitioner or paramedic would be provided at the camps, to minimise impacts of the construction workforce on local and regional health services. Construction workers would be transported between the construction areas and the workforce accommodation camps using light and heavy vehicles (small buses), to minimise potential traffic impacts of the project on local roads.

As per mitigation measure SI2, a Workforce Management Plan will be prepared for construction of the project which will include:

- a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour
- cultural awareness training for the workforce
- measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc. The plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others.

The Network Operator will conduct screening background checks as part of the onboarding process for the construction workforce. In addition, as part of the commencement of employment (or subcontractor engagement) all workers will complete project induction training on commencement of employment on the project. The induction outlines expectations with respect to worker behaviours, project rules and consequences. This includes behaviour expectations of being a good neighbour.



Workers, consultants and visitors residing for any period at the workforce accommodation will be expected to comply with facilities specific rules to ensure a fair and respectful use of the facilities for both occupants and neighbouring community. Specifics of rules will be further developed with the selected workforce accommodation operator and may include rules such as noise curfews for external or loud activities.

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## 6.4.3 Traffic and transport

### OSOM

#### Summary of issues

Upper Hunter Shire Council noted that Technical paper 13 – Traffic and transport does not consider the traffic impacts of the project on transport routes outside the study area. In this regard, section 5.1.5 states that construction of the project would require the transportation of large and/or heavy equipment via road that would constitute OSOM movements. The majority of OSOM vehicle would travel from the Port of Newcastle to the energy hubs via the Hunter Expressway and Golden Highway. As the Golden Highway passes through Merriwa, it is likely that construction traffic would adversely impact the efficiency and capacity of roads within Merriwa as well as impacting local amenity. At this stage, Upper Hunter Shire Council stated that the extent of these impacts is unclear.

In addition, given the number and scale of projects planned for the Central-West Orana REZ over the coming years, the material cumulative traffic and transport impacts on Merriwa could be significant. In Upper Hunter Shire Council's view, further investigation of the potential cumulative traffic and transport impacts is warranted including an assessment of the capacity of Merriwa's main street and potential impacts on local roads that are currently used as a OSOM heavy vehicle bypass.

#### Response

Construction of the project would require OSOM movements to construction compounds for the delivery of large specialist equipment. The majority of OSOM vehicles would travel from the Port of Newcastle to the energy hubs at Elong Elong and Merotherie, and the New Wollar Switching Station. For these journeys, the vast majority of the OSOM movements would travel via the Hunter Expressway and Golden Highway, which are pre-approved OSOM routes. EnergyCo has also recently finalised an agreement with Transport for NSW to facilitate the upgrade of the State's road network to support OSOM movements between the Port of Newcastle and the Central-West Orana REZ, noting that the proposed volume of construction traffic expected from the Port of Newcastle are well within the capacity of the State road network. However, for the last mile road sections between the pre-approved OSOM routes and the energy hubs and New Wollar Switching Station additional approvals would be required from the National Heavy Vehicle Regulator.

As per mitigation measure T11, a Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction. The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations. Ongoing consultation will be undertaken with Transport for NSW regarding the use of State roads OSOM movements.

An assessment of cumulative traffic impacts from the project was also completed for the EIS as provided in Appendix E and summarised in EIS Chapter 20 (Cumulative impacts). An updated cumulative impact assessment of the amendments made to the project since exhibition has been undertaken and is detailed in Section 5.15 and Appendix L of the Amendment Report. Where construction routes of this project would overlap with the relevant future projects, the number of construction vehicles may increase on the road network. Based on the available information on proposed project, 14 projects were identified as intending to use Golden Highway as a construction route potentially during the same period as the project. An assessment concluded that the

additional traffic volumes generated by the related development projects (in combination with this project) would have only a minor impact on the capacity and efficiency of the Golden Highway, with the existing LoS A maintained.

EnergyCo has also recently finalised an agreement with Transport for NSW to facilitate the upgrade of the State's road network to support OSOM movements between the Port of Newcastle and the Central-West Orana REZ via a separate approval. The Port to Central-West Orana REZ (P2R) OSOM road infrastructure intersection upgrades project is, however, separate to the project. This project is not reliant on the P2R road upgrades, which are a separate project. The upgrades delivered by these works would provide REZ-wide traffic and transport benefits.

## Road conditions

### Summary of issues

Upper Hunter Shire Council noted that there are several local roads that form part of the construction routes that have not been quantitatively assessed, given that they would primarily function to provide access to the transmission lines' access gates only (Appendix A of Technical paper 13 – Traffic and transport). Construction vehicles utilising the transmission line access gates would typically be limited to 32 vehicles per hour (12 light vehicles and 20 heavy vehicles) during the peak period. Technical paper 13 – Traffic and transport states that these low additional demands (an arrival of approximately one vehicle every two minutes) are not likely to adversely impact the performance and capacity of the road network. These roads would be subject to the routine road condition inspection discussed in Section 6.3.12 of this report.

Upper Hunter Shire Council expressed concern that the increase in vehicle movements, particularly heavy vehicles, on local roads is significant and would adversely impact the condition of the roads, increasing maintenance requirements and shortening the life of road pavements. As such, it is recommended that detailed pavement investigations of local roads that form part of the construction routes are completed to determine if upgrades are required to meet the proposed traffic loadings. In addition, Upper Hunter Shire Council requires assurance that the nominated local roads would be maintained by the project, at the cost of the project, during the construction.

Upper Hunter Shire Council requested any project approval requires EnergyCo to:

- upgrade local roads, bridges, grids, intersections and other related road infrastructure that would be impacted by the project and which require modification in the reasonable opinion of Council, in accordance with plans approved by Council, prior to any project construction work commencing
- if, during the life of the project, Council provides evidence of significant increases in traffic volumes or vehicle types on other roads in the locality that can be directly attributable to the project, that EnergyCo agrees to reach a negotiated settlement with Council to provide additional funds for road repair, maintenance or upgrade works.

### Response

The impact of project construction traffic on road pavement condition is expected to be minor. Heavy vehicles would likely have a larger impact on road pavement conditions; however the impact would depend on the existing road condition including remaining life of the pavement. The traffic assessment was based on maximum hourly movements generated to/from the respective sites which have been used to assess the worst-case impact of the project (i.e. peak hour during peak construction).

Prior to construction, the Network Operator would be required to undertake pre-condition surveys of local roads along the construction route to record their condition along the construction routes on local council roads to confirm the existing condition of the road (mitigation measure T7). Any rectification works that are required as a result of the project would be completed in consultation with the relevant road authority.

Additional mitigation measures have been identified to address potential impacts to road conditions:

- all accesses will be designed to accommodate the required construction vehicle(s) requiring access, and in accordance with relevant Austroads guidelines (where applicable). Road safety audits and routine inspections will be completed on a regular basis (mitigation measure T3)
- access tracks used for construction sites, construction compounds and workforce accommodation camps will be maintained to safe standard (mitigation measure T6).

Consultation and engagement with Upper Hunter Shire Council will be carried out during the design reviews of the roads however, approval from Upper Hunter Shire Council for works on unclassified roads would not be required.

## Local road use

### Summary of issues

Appendix A of EIS Technical paper 13 – Traffic and transport identifies Ancrum Street, Cassilis as a local road that will be utilised by construction vehicles. Upper Hunter Shire Council noted that Ancrum Street is a narrow residential street without footpaths that provides access to a local school. The street contains a 40 kilometres per hour school zone. Upper Hunter Shire Council is concerned that the increase in vehicle movements along Ancrum Street during construction of the project would pose a safety hazard for local school children. Accordingly, consideration should be given to the implementation of local traffic management measures in Cassilis such as the construction of a footpath along Ancrum Street and the installation of flashing lights at each end of the school zone to ensure the safety of pedestrians including school children.

### Response

A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction (mitigation measure T11). The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.

To further address and manage potential road safety risks due to the project, including along Ancrum Street in Cassilis, a road safety audit will be conducted to identify and implement appropriate controls. Regular road safety audits and routine inspections will be conducted to ensure ongoing safety compliance and address any emerging concerns promptly.

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## 6.4.4 Community engagement

### Summary of issues

Upper Hunter Shire Council stated that the community has expressed its disappointment that there were no drop-in sessions regarding the EIS in Cassilis, despite a number of social impacts on the Cassilis community being given a high to medium rating. Overall, Upper Hunter Shire Council expressed that there has been very little consultation with the Cassilis community despite the engagement requirements specified in the SEARS.

### Response

EnergyCo has been engaging with the local community since 2022 about the Central-West Orana REZ transmission project, most recently during the exhibition of the EIS. There have been more than 60 sessions and pop-up events in local towns (including Cassilis) and around 120 meetings with local councils. Over the course of the EIS exhibition 12 pop-up events and eight community drop-in sessions were held in the Central-West Orana REZ. In response to calls for more consultation with the community in Cassilis, EnergyCo held a pop-up outside the Community Hall on 17 October 2023.

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## 6.4.5 Waste generation

### Summary of issues

Upper Hunter Shire Council has very limited capacity to accept waste in the project area within Upper Hunter Shire. Upper Hunter Shire Council requested that a detailed Waste Management Plan be prepared in consultation with Upper Hunter Shire Council staff prior to the start of construction.

### Response

Waste generated during construction of the project would be managed in accordance with the Construction Waste Management Plan, which would form part of the CEMP. The Construction Waste Management Plan would include (but not be limited to):

- how construction waste would be managed in accordance with the waste management hierarchy of the *Waste Avoidance and Resource Recovery Act 2001* (NSW)
- targets for the recovery, recycling and reuse of construction waste
- procedures for the handling, storage, classification, management and disposal of waste
- waste tracking and compliance management
- waste management facilities to be used by the project.

As per mitigation measure WM2, prior to construction, EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.

# 7 Response to Government submissions

This section outlines the advice and issues raised by Government agencies in their submissions and provides responses.

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## 7.1 DCCEEW – Heritage NSW (Aboriginal cultural heritage)

DCCEEW – Heritage NSW (Aboriginal cultural heritage) (herein referred to as Heritage NSW) provided advice on Aboriginal cultural heritage matters, dated 8 November 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.1.1 Clarification of SEARs reference

#### Summary of issues

The project SEARs specify that the Aboriginal Cultural Heritage Assessment Report (ACHAR) should include consideration of associated transport route upgrades. Heritage NSW requested that EnergyCo confirm whether all transport route upgrades associated with the project area are included within the construction area as assessed in the ACHAR. Should any areas not have been included in the ACHAR, Heritage NSW requested confirmation that these areas will be subject to a separate assessment.

#### Response

The ACHAR considered the full construction area including proposed access tracks and roads. Road upgrades have been added to the scope of the project as detailed in the Amendment Report. Further assessment of these areas has been included in the addendum ACHAR in Appendix H of the Amendment Report.

EnergyCo is investigating a number of 'Port to REZ' road upgrades in collaboration with Transport for NSW, however these are not required for the project and do not form part of the project scope (i.e. they would be subject to separate approvals with the relevant roads authority as the proponent).

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## 7.1.2 Registered Aboriginal Party consultation

### Summary of issues

Heritage NSW understands that there are 39 Registered Aboriginal Parties (RAPs) for the project based on notification and registration processes conducted across three LGAs. In relation to this, Heritage NSW requested the following information:

- revised information from Chapter 4 of the ACHAR to correct any discrepancies and structure the description of consultation with reference to each of the identified consultation stages. There are some discrepancies between the information included in Chapter 4 and what is provided in Appendix A, including the number of RAPs, the dates on which correspondence was received and sent, and the dates of newspaper advertisements. Heritage NSW requested that the information on the first stage of consultation (that is up until the completion of registrations of interest) be separated by each LGA
- clarification of whether Heritage NSW and the relevant Local Aboriginal Land Councils (LALCs) were notified of the RAPs from the third consultation process (within the Upper Hunter LGA)
- further information regarding the change of status of some of the RAPs from the Upper Hunter LGA and the subsequent re-advertising approximately three months later. This included clarification that the RAPs that were delisted and those that were re-registered, ensuring that they are included in Table 4.2.

Heritage NSW stated that section 4.3.4 of the ACHAR identified extensive consultation between March 2022 and June 2023, but that there was limited consultation from the initial phase (September 2021) and June 2022, with a potential gap of greater than six months in consultation. Heritage NSW requested additional context on the consultation undertaken in this period such as impact from Covid 19, noting that breaks in consultation of over six months may not constitute continuous consultation under the NSW Heritage guidelines.

### Response

Section 3.2 of the Addendum ACHAR, in Appendix H of the Amendment Report, provides a detailed response to the above issues raised by Heritage NSW in respect to RAP consultation.

Appendix A of the ACHAR included only a list of Aboriginal individuals and/or organisations that were identified during information requests made to Commonwealth and State government bodies. This list contains 108 organisations and/or individuals, all of whom were contacted as part of various notification processes. However, only 39 of these responded as interested in the project. A review of other documentation within Appendix A does not show any individuals or organisations not presented in Chapter 4 of the ACHAR.

Consultation with Heritage NSW conformed with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) and included provision of information on RAPs, and notification of the various field survey and excavation activities associated with the project. Due to the changing nature of the project, multiple notification and information phases were implemented as part of the ACHAR between August 2021 and June 2023. Several informal discussions with Heritage NSW were also undertaken primarily in relation to the scope and extent of the field investigations.

Notifications of the Upper Hunter LGA were undertaken as part of the initial consultation process in August 2021. At this time, the project was proposed to extend westwards towards Merriwa and extensively within the Upper Hunter LGA. Subsequent re-design of the project in early 2022, resulted in construction area no longer encroaching on the Upper Hunter LGA. While initial requests to Commonwealth and State government included the Upper Hunter LGA, the eventual notification in June 2022 focussed only on the LGAs being affected. Those that were registered in other now unaffected LGAs, were not specifically notified, although numerous newspapers (including the nationally distributed Koori Mail) did run adverts that extended into the Upper Hunter LGA and surrounds. At the completion of the notification process in early July 2022, those previous RAPs that

had not registered for the project were advised that they had been removed from the list proposed for subsequent consultation.

Following revisions in late 2022, additional notification was undertaken focussing on the Upper Hunter LGA. A small number of previously uninvolved Aboriginal individuals and/or organisations identified their interest. These RAPs have been involved in the ACHAR process since October 2022 to present.

There is a six month and one day gap in correspondence with all RAPs between 16 December 2021 and 17 June 2022, while the project was on hold, although conversations with individuals continued through this period. This gap, along with the transition of the project from Transgrid to EnergyCo, prompted the need to undertake a second phase of consultation in mid-2022. This process effectively re-started the consultation process and related specifically to the project outlined in the ACHAR and EIS. The previous consultation was provided in the ACHAR to provide context for the project.

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## 7.1.3 Cultural values mapping

### Summary of issues

While the ACHAR references the outcomes of a cultural values assessment (Appendix C), Heritage NSW noted that it was redacted from the ACHAR. Heritage NSW requested a copy of Appendix C for review.

Heritage NSW also stated that section 6.3.2 of the ACHAR specifies that none of the identified places of cultural value will be directly impacted by the project, however Map 11 of Figure 9.1 shows that the construction area extends into the area mapped as SNI-CS6. Heritage NSW requested confirmation of whether direct impacts will occur to SNI-CS6 and, if so, provision of management and mitigation recommendations.

### Response

The cultural values assessment report has been provided separately to Heritage NSW.

Aboriginal site SNI-CS6 was described in the ACHAR as a general reference to the importance of Wollar Creek, being a focus of past activity and occupation, and extended some 500 metres either side of the waterway. It was primarily interpreted as reflecting the broader cultural landscape, and visual aspects of the region, although also captured tangible cultural materials.

To some extent it is therefore a duplicate recording of tangible cultural materials documented within the easternmost portion of the construction area, such as isolated objects and artefact scatters. The impact of these individual or combined recordings have been accurately assessed for impact within Chapter 11 of the ACHAR; and their management and mitigation are outlined in Chapter 12 of the ACHAR.

Mitigation measure AH3 proposes further consultation with Elders and key knowledge holders to understand the values of SNI-CS6 and determine the nature of any impacts should they extend beyond the management of tangible cultural materials. Suitable management and mitigation of these impacts would be incorporated into any final designs and any resulting management plans for the project in the event it is approved.

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## 7.1.4 Adequacy of survey

### Summary of issues

Heritage NSW noted that approximately 21 per cent of the construction area was not surveyed, with these areas (as mapped in the ACHAR) to be surveyed if access becomes available. Heritage NSW requested confirmation of the timeframe for the survey of the additional lands and if the survey will be managed accordance with overreaching management principles of the ACHAR.

### Response

Section 4.2 of the Addendum ACHAR, in Appendix H of the Amendment Report, provides a description of the additional survey undertaken since preparation of the ACHAR between 9 October 2023 and 15 December 2023.

Approximately 254 kilometres of additional field survey was undertaken as part of the addendum ACHAR, and which identified a further 73 Aboriginal sites and places. Of these, 22 are outside of the construction area. These were dominated by isolated and low density stone artefacts, but included additional rockshelters, grinding grooves, and cultural modified trees. In combination with the ACHAR investigations, 94 per cent of the 4,404 hectares of the construction area has been surveyed.

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## 7.1.5 Site identification and distribution

### Summary of issues

Heritage NSW commented that the ACHAR is based on the grouping/ratification of individual site recordings as variable density artefact scatters and/or 'areas of past foci and activity'. Additionally, the ACHAR identifies areas within 150 metres of key watercourses as being zones of sensitivity. Heritage NSW requested a table that clearly shows which individual sites (both previously and newly recorded) have been 'ratified' into new sites or focus areas and correlate this information to show the relationship between recorded sites and zones of archaeological sensitivity.

The ACHAR records a range of sites that are identified with a status of 'tentative' that will be subject to harm from the project. Heritage NSW requested the status of sites (as either Aboriginal cultural sites or not) be confirmed, as proposed in Section 12.3 of the ACHAR and requested clarification of the status of these sites at the submissions stage.

### Response

A list of individual sites (both previously and newly recorded) which were ratified into the background scatter (SNI-BS1) is provided in Chapter 6 of the Addendum ACHAR. No other cultural materials were combined or ratified in the ACHAR.

Additional test excavations have been undertaken for areas of archaeological sensitivity (or potential archaeological deposits) within 150 metre of several creek lines and their individual identification is presented in Chapter 5 of the Addendum ACHAR.

The ACHAR identified a number of Aboriginal sites as of tentative classification. These were primarily in the form of culturally modified trees, where a lack of definitive modifications or disagreement amongst the field team resulted in their unresolved status. The ACHAR made recommendations for the further specialist investigation of the sites to determine their origins, either cultural or natural. At the request of several of the Wiradjuri traditional owners, The Australian College of Aborigiculture Pty Limited was engaged to investigate 14 tentatively assigned culturally modified trees. These included both those listed in the ACHAR and six found as part of the Addendum ACHAR assessment.



Investigation of 14 previously identified cultural modified trees resulted in the de-classification of nine of them. These nine sites were declassified, as five failed to meet thresholds indicative of anthropogenic origin and four were found to have been previously destroyed by mining activity. Five sites could not be accessed and remain tentatively classified.

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## 7.1.6 Test excavation outcomes

### Summary of issues

It is understood by Heritage NSW that the test excavation program was focused on a limited number of locations due to the uncertainties around specific impact locations and variability in final project design. Given the limited extent of test excavation and the fact that test excavations targeted landforms associated with key watercourses or other features, Heritage NSW requested explanation of the basis for extrapolating the results of test excavation to assess the entirety of the construction area as comprising low density artefact scatter. Heritage NSW requested that the response should consider the variability in landforms across the construction area and the site distribution data presented in the ACHAR.

### Response

Test excavation activities were distributed across the construction area, but with specific focus on the Laheys Creek, Tallawang Creek, Browns and White Creeks, Copes Creek and Wilpinjong Creek areas. These were identified based on regional data, previous investigations and the findings of the archaeological field survey. The majority of cultural materials identified during the field surveys were encountered within, or in close proximity to, these creek corridors and further understanding of the nature of the underlying soil profile and any cultural materials within them was a focus of these investigations.

A number of other, more disparate tower locations encompassing the remainder of the construction area were also implemented to provide a representative coverage of the project and to verify cultural materials were not present in other landforms. Six locations were removed from the archaeological program following observations of localised impacts, either from active farming activities or due to submergence from extreme rain events in late 2022.

Additional test excavations were undertaken to characterise areas of archaeological sensitivity identified in the ACHAR, and further inform the understanding of the distribution of cultural heritage values across the project. The test excavations undertaken for the Addendum ACHAR provided a number of important refinements to the ACHAR's previous conclusions of the cultural deposits across the construction area. As a result of the excavations, broader archaeological zones of sensitivity and several of the previously identified focus areas (locales where substantive cultural materials were encountered) were revised. Specifically, they found that proposed archaeological zones of sensitivity at Laheys Creek, Sandy Creek and Tallawang Creek remain valid.

Chapter 5 of the Addendum ACHAR provides a details on the refinements to the assessment as a result of the additional test excavations. Specifically, it is noted that following completion of field surveys and test excavations undertaken for the Addendum ACHAR, field survey achieved 94 per cent coverage of the amended project area coverage was achieved, as well as substantial test excavations at creek lines as described above. While the potential need for investigation of a number of remaining creeks may need to be considered under the provisions of mitigation measure AH4, the survey coverage achieved means that the archaeological resource as described in Chapter 5 of the Addendum ACHAR negates the need for an update to the predictive model.

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## 7.1.7 Clarification of harm to archaeological sites

### Summary of issues

Heritage NSW requested further information on whether blasting will be undertaken as part of the construction methodology in proximity to identified rockshelters and grinding groove sites. Where blasting will or may occur, Heritage NSW requested further consideration of the indirect impacts to these sites from blasting (such as vibration). This is particularly relevant to the sites located in proximity to the Merotherie Energy Hub.

### Response

A blasting vibration and overpressure assessment will be required as part of any potential blast design. This assessment will determine the Maximum Instantaneous Charge to achieve the recommended ground vibration and overpressure limits. The proximity of identified Aboriginal heritage sites will be a key factors in determining ground vibration and overpressure limits.

In addition, a Blast Management Strategy will be prepared in accordance with section 4 of AS 2187.2-2006 for inclusion in the CNVMP.

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## 7.1.8 Consideration of ecologically sustainable development and cumulative impacts

### Summary of issues

The ACHAR states that ‘the current and proposed impacts of the project and associated material culture loss, can be considered to have significant benefits.’ Heritage NSW requested clarification of what is meant by benefit and provide context to this statement, as Heritage NSW is not able to support this conclusion based on the information provided.

### Response

This statement in the context provided in section 11.5 of the ACHAR relates to a number of positive outcomes from the project to the local Aboriginal community within a section focussed on an acknowledged cumulative impact to cultural materials that would occur from the project. This statement itself is explained in detail in section 11.5 of the ACHAR. A revised statement is provided in Chapter 7 of the Addendum ACHAR.

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## 7.1.9 Mitigation and management

### Summary of issues

Heritage NSW recommended that mitigation measure AH2 specifies that options to avoid harm to eight rockshelters, two sets of grinding grooves, one potentially culturally modified tree, two high density stone artefact scatters and the sensitive zones within 150 metres of key watercourse will be investigated. To ensure certainty in evaluating the level of harm associated with the project, Heritage NSW requested further information on whether harm to these sites would be avoided. This information is requested to be provided at the submissions stage and include information on how harm will be avoided or further detail on how this harm will be mitigated.

Heritage NSW recommended that mitigation measure AH3 specifies that on-country meetings will be undertaken with participating Elders and key knowledge-holders of the project to discuss efforts to conserve and communicate appropriate important information about places of cultural value intersected by the project. Heritage NSW requested clarification on if these meetings have been

completed and provision of the outcomes. Alternatively, if these meetings have not yet occurred, Heritage NSW requested provision of this information at the submissions stage.

## Response

Guiding principles of avoidance and/or impact minimalisation to cultural materials, which includes potential methods, are presented in Appendix F of the EIS ACHAR and updated in Appendix E of the Addendum ACHAR. Mitigation measures are also outlined, including mitigation measure AH1, which specifically commits to the avoidance of impact to key items of significance (including rock shelters, grinding grooves and heritage values at Laheys Creek), and AH2, which commits to a process of impact avoidance or minimisation through micro siting.

Implementation methods for avoiding or minimising impacts to identified Aboriginal sites and places would typically be highly specific to the cultural materials in question and the development activities occurring nearby. General approaches that can be applied with site specific options developed and applied as part of the ACHMP include:

- incorporation of the sites, cultural deposits, curtilages, and obligations for their protection into cultural inductions for site personnel
- where available, incorporation of the sites and curtilage into 'no-go' and/or constraint layers within the development document packages; and their inclusion into ground disturbance permit/approval requirements for the project
- establishment of fencing and/or signage during works in and around identified sites and cultural deposits
- where necessary, establishment of surface protection such as heavy duty ground protection mats, or equivalent
- the installation of underground/detectable tape at depths of 50 centimetres below current ground surface across the surface of the cultural deposits
- establishment of permanent (non-intrusive) signage to indicate cultural deposits and to contact an Aboriginal heritage specialist prior to development activity.

Additional site specific avoidance is provided for key sites in Chapter 8 and Appendix E of the Addendum ACHAR.

The proposed on-country meetings will be completed following project approval, if granted, in accordance with mitigation measure AH3.

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## 7.1.10 Advisory

### Summary of issues

Heritage NSW noted that the Aboriginal Heritage Information Management System (AHIMS) searches provided are over 12 months old. Heritage NSW requested evidence of an updated AHIMS search for the construction area and confirmation that there are no additional sites recorded within or immediately adjacent to the construction area.

Based on a review of AHIMS, sites identified during the ACHAR have not been registered on AHIMS. Heritage NSW requested a table listing sites by name, AHIMS ID and site type for ease of comparison, noting that sites still subject to clarification should not be listed on AHIMS until their status as a site is confirmed.

### Response

Updated AHIMS searches have been completed and considered in the Addendum ACHAR. The search results and discussion is provided in Appendix B of the Addendum ACHAR.

Aboriginal sites are listed as requested in Table 6.2 and Table 7.1 of the Addendum ACHAR.

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## 7.2 DCCEEW – Biodiversity Conservation and Science

The main issues raised by BCS, and responses to how those issues have been addressed, is provided below. In general, issues have been addressed through preparation of an updated biodiversity development assessment report (updated BDAR) presented as Appendix G of the Amendment Report. The updated BDAR provides additional detail on the issues raised below.

Due to the significant length of the BCS submission, the paragraph numbers from that submission have been replicated in the issue sections below, for ease of reference.

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### 7.2.1 Biodiversity

#### Summary of issue 1

1.1. Prepare a revised Serious and Irreversible Impact (SAIL) assessment for Box Gum Woodland critically endangered ecological community (Box Gum Woodland CEEC) in an updated BDAR which includes:

- a. A more detailed explanation on the process taken to avoid Box Gum Woodland CEEC within the development footprint. This should include an explanation of alternative technologies, routes, locations, and sites that have been considered. The updated BDAR should clearly demonstrate how the final alignment has the least impact to Box Gum Woodland CEEC.
- b. Specific and targeted commitments to implement during clearing and operational procedures (including pre-, during and post-construction) to avoid any impact greater than that identified in the updated BDAR.
- c. Consideration of updated impacts to Box Gum Woodland CEEC after including:
  - i. all areas subject to both permanent and temporary disturbance
  - ii. impacts on derived native shrubland and grassland communities
  - iii. changes made to plant community type (PCT) allocations following vegetation mapping and plot data review
  - iv. changes made to the extent of Category 2-Regulated land "
- d. Further avoidance to the higher quality remnants of Box Gum Woodland CEEC in the development footprint.

1.2 Revise the BDAR, in consultation with BCS, to provide additional and appropriate measures for Box Gum Woodland CEEC in accordance with section 7.16(3) of the Biodiversity Conservation Act 2016 (BC Act).

#### Response

##### Avoidance

A revised Serious and Irreversible Impact (SAIL) assessment for Box Gum Woodland critically endangered ecological community has been prepared. The revised assessment includes a more detailed avoidance discussion adapted from the Section 7 of the updated BDAR (Section 7 is where avoidance is examined in detail and applies to all biodiversity matters assessed, including SAIL entities).

Avoidance of high biodiversity values such as Box Gum Woodland CEEC and other TECs was one constraint used to inform the development of the project. Section 9 of the updated BDAR has been expanded with further discussion on co-location with other linear infrastructure, consideration of greater impacts from underground power line options, and reinforcing the proposed three levels of

disturbance scaled to the minimum necessary for each project component in place of clear felling the whole corridor.

In terms of alternative technologies, routes, locations, and sites have been considered. For example, undergrounding transmission lines would not avoid impacts. Undergrounding the transmission lines would involve excavation of a trench, or multiple parallel trenches where more than one high voltage transmission circuit is required, over the entire length of the alignment. It has the potential for significant disturbance to biodiversity as well as increasing project costs for construction and maintenance, compared to overhead transmission lines. Undergrounding also requires greater direct and full impacts to be assessed as there is limited opportunity for retention of vegetation and minimisation through partial impact assessment. This is because vegetation growth in the permanent easement is restricted by the shallow depth of soil and heat emanating from the underground transmission lines. This alternative approach is not deemed appropriate due to the greater extent of clearing that would be required.

The project has sought to avoid Box Gum Woodland CEEC by selecting large energy hubs in areas with limited native vegetation extent. This had the benefit of locating large critical project elements (including construction compounds and workforce accommodation camps) in areas mostly devoid of Box Gum Woodland.

Specifically, design has been successful in that a large proportion of the impact is to Derived Native Grassland and Regrowth Shrubland condition classes rather than better condition remnant wooded areas.

For example, for the White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions TEC, 30% of the predicted impact is to the Derived Native Grassland vegetation zone. In addition, 23% of the impact is in disturbed areas consisting of Derived Native Grassland in disturbance area A that have a VI score below the offset threshold for this TEC (i.e. an offset is not required under the BAM for this impact).

The project demonstrates avoidance of higher quality TEC remnants demonstrating how the final alignment has the least impact to Box Gum Woodland CEEC as follows:

- Only 7% of the impact to the White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions TEC is to vegetation remnants in moderate to good condition (5% of impact), or excellent near benchmark condition vegetation (2% of impact).

The mitigation from Section 8.4 of the updated BDAR is replicated in Section 9 in the discussion of mitigation for Box Gum Woodland CEEC. The specific mitigation measures targeted for Box Gum Woodland CEEC centre on the micro-siting process, pre-clearing surveys, delineation of ‘no go’ zones and project clearing boundaries and monitoring to ensure compliance with the approved impact as presented in the updated BDAR to ensure impact are not exceeded. These measures will allow for small site based changes to design in the detailed design phase that may minimise impacts to TECs.

### **Detailed design and micro-siting**

The EIS was assessed using a reference design, which includes sufficient detail to determine land and infrastructure requirements including the location and size of project features, and to inform constructability components. The BDAR used the reference design to develop an indicative yet realistic disturbance model, with actual disturbance areas to be confirmed during detailed design.

The micro-siting process will occur within the biodiversity study area. Micro-siting involves small site based changes that may be required for constructability or to avoid an unexpected feature and it does not involve large scale movements of project features that would result in a disturbance outside of the biodiversity study corridor. Micro siting presents an opportunity to build in avoidance at the detailed design phase.

On the basis the project is approved, the Network Operator would prepare a detailed design based on additional site investigations, technical specifications, topographical and access constraints, compliance with any planning approval requirements, and micro-siting of project features to avoid or further minimise impacts to environmental aspects.

The Network Operator would review the spatial data from the updated BDAR and other EIS studies to identify key constraints and opportunities when developing the detailed design. Confirmation of transmission tower locations is important as it sets the clearing extent of the permanent easement (Disturbance area A and B) and the adjacent hazard tree zone. This provides the opportunity for the avoidance of good quality Box Gum Woodland or other TECs if present on or outside of these disturbance areas, but within the updated BDAR study area.

When designing tower locations it is noted that the placement of one tower influences the placement of the next tower, and so forth. It is also noted that when developing the detailed design the Network Operator is also required to meet the technical specifications and avoid or further minimise impacts to other environmental values such as Aboriginal and historic heritage. The Network Operator, which comprises a multi-disciplinary team, must take all this information into account, including biodiversity values and constraints, when making decisions on the design including micro-siting of project features.

The Network Operator will review the location of final project features to ensure it does not result in increased impacts (compared to the updated BDAR), and look for opportunities to reduce impact, consistent with project commitments.

In carrying out vegetation clearing, the Network Operator would confirm the location and extent of vegetation to be cleared through pre-clearing surveys, demarcation of clearing extents onsite, and post-clearing survey. The Network Operator would typically only clear the minimum amount of vegetation necessary to facilitate construction and meet operational requirements.

## Mitigation

Section 8.4 of the updated BDAR has been updated to include specific and targeted commitments to implement during clearing and operational procedures (including pre-, during and post-construction) to avoid any impact greater than that identified in the updated BDAR. Mitigation measure B15 in the updated BDAR outlined a monitoring process where the predicted clearing of native vegetation by the project identified in the updated BDAR will be monitored against the recorded clearing. A revised Biodiversity Assessment Method (BAM-C) calculation on the project's final disturbance to biodiversity post construction will be completed. Any additional credit liability identified will be met as part of the biodiversity offset requirements within the biodiversity offset package. This is an important step to ensure clearing limits are complied with so that no inadvertent impacts to TECs or threatened species occurs.

Mitigation measure B4, outlined in Section 8.4 of the updated BDAR, involves micro-siting of associated works and access tracks. Micro-siting of temporary construction infrastructure (including site offices, compounds and access tracks) will be undertaken to minimise vegetation clearing and disturbance of watercourses (within the biodiversity study corridor). This would be done at the detailed design phase and on ground as works progress. This micro-siting process will include:

- prioritising areas of low biodiversity value
- utilising existing access tracks, where feasible
- locating waterway crossings at narrow width locations
- minimising the quantity of cut and fill activities.

The micro-siting process will occur within the biodiversity study area. Micro-siting involves small site based changes that may be required for constructability or to avoid an unexpected feature and it does not involve large scale movements of project features that would result in a disturbance outside of the biodiversity study corridor. Micro siting presents an opportunity to build in avoidance at the detailed design phase.

The Box Gum Woodland CEEC is widespread. During the micro-siting process the focus would be on avoidance and minimisation of impacts to the highest quality areas of the CEEC. Areas to consider include:

- Talbragar Valley CFG Connection to Spicers Creek Wind Farm along Dapper Road
- Inland Slopes RNI1 stage north of Tuckland State Forest, Tuckland Road, Barneys Reef Road,
- Inland Slopes CFG Connection to Tallawang east of the railway line
- Kerrabee RNI1 stage on Moolarben Mine land, between Birkalla Road and Blue Springs Road, Wilpinjong Mne land south of Wollar Road
- Kerrabee Valley of the Wind Stage north and south of the Golden Highway
- Liverpool Range Liverpool Ranges stage west of Rotherwood Road.

With the implementation of pre-clearing surveys, the proposed clearing extents will be marked out on site prior to the pre-clearing surveys. Pre-clearing surveys are to be carried out prior to the commencement of clearing works in each construction area. During the surveys, the ecologist will:

- survey the proposed clearing extent
- identify any fauna that will require relocation prior to clearing, including inspection of any built structures and wooden fence posts to be demolished
- confirm that biodiversity exclusion zones are demarcated
- confirm that hollow-bearing trees within and adjacent to the clearing extents are prominently marked/tagged; and
- confirm that nest boxes are in place (where required) in suitable locations adjacent to areas to be cleared, or suitable locations for installation have been identified.

As outlined in mitigation measure B8 in the updated BDAR, a Biodiversity Management Plan will be prepared and implemented for the duration of construction. The plan is to include (as a minimum):

- the location and extent of areas of vegetation clearance and habitat disturbance, and how these will be suitably demarcated on site
- the location and extent of areas to be protected (e.g. retained vegetation, hollow-bearing trees, nests, burrows and other habitat features (including applicable buffers to habitat features) located inside the construction area or in close proximity to the clearing areas
- measures to be implemented on site to clearly demarcate areas to be retained as ‘no go areas’.

‘No go area’ demarcation devices must be established prior to the commencement of clearing works in each construction area and be maintained throughout the construction phase.

## Updated BDAR

The impacts to Box Gum Woodland CEEC have been updated to reflect the changes in the disturbance area since exhibition. This includes all disturbances calculated for Disturbance area A, B and HZ. The impacts consider shrubland and grassland vegetation zones. The updates incorporate all changes made to plant community type (PCT) allocations following vegetation mapping and plot data review and any changes made to the extent of Category 2-Regulated land.

The classification and mapping of Box Gum Woodland CEEC has been revised in the review of collected VI plot data, vegetation mapping, and cross referencing VI plot floristic data with the PCT Filter Tool. Changes have been made to the classification and mapping of Box Gum Woodland CEEC as new data became available due to additional field surveys and/or as data was re-examined. The changes presented in the updated BDAR are based on the field data. The revised assessment of box gum woodland CEEC is provided in Section 4.3, 8.1, Appendix C and Appendix N of the updated BDAR and is carried through to the SAI impacts in Section 9. The associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

Table 7-1 presents the results of the changes to classification and mapping of Box Gum Woodland CEEC. PCT 330, 401, and 589 (PCTs that are part of the Box Gum Woodland CEEC) were added to the updated BDAR. The impacts to Box Gum Woodland CEEC have increased by 142.55 hectares.

Table 7-1 Results of the changes to classification and mapping of Box Gum Woodland CEEC

Initial PCT and Vegetation Zone allocation	Revised PCT and Vegetation Zone allocation	Differences in the PCT and Vegetation Zone allocation	Initial impact (ha)	Revised impact (ha)	Difference in impact (ha)
PCT 266, 277, 281, 483, 599 & 618 (all vegetation zones)	PCT 266, 277, 281, 330, 401, 483, 589, 599, 618 (all Vegetation Conditions)	PCT 330, 401, and 589 added	575.95	718.50	+142.55

A draft native vegetation regulatory map (NVR) map has been prepared for the locality and this was reviewed and used as the base of the land classification undertaken for the updated BDAR. The review of the Draft NVR map and field data resulted in the following influence on the land use mapping:

- Where an area of Category 1 land was mapped in the draft NVR map, but the field data suggests that this area is dominated by native vegetation (for example derived native grasslands) these areas were concerted to Category 2 land.
- All areas of TEC, including individual trees within Cat 1 land, were assigned to Category 2 land.
- No PCTs are mapped on Category 1 land. All PCTs are located on Category 2 land.

This on ground verification and comparison to the Draft NVR map resulted in an increase in the area of Category 2 land.

At this stage we have not proposed to provide any additional and appropriate measures for impacts to SAll entities.

## Summary of issue 2

2.1"Prepare a revised SAll assessment for Regent Honeyeater in an updated BDAR which includes:"

- A more detailed explanation on the process taken to avoid Regent Honeyeater important habitat in the development footprint. This should include an explanation of alternative technologies, routes, locations, and sites that have been considered. The updated BDAR should clearly demonstrate how the final alignment has the least impact to Regent Honeyeater important habitat.
- "Specific and targeted commitments to mitigate indirect impacts to Regent Honeyeater important habitat located adjacent to the development footprint. If residual indirect impacts have the potential to occur, discuss the need for additional offsetting."
- Consideration of updated impacts to Regent Honeyeater including:
  - all areas of mapped important habitat, including those currently omitted within the BDAR impact calculations
  - recalculating areas that experience a complete loss of habitat for the species, such as areas cleared of trees, as total loss with a future value of zero. "
- 2.1"Further avoidance and minimisation of impacts to Regent Honeyeater important habitat in the development footprint. "

2.2"Revise the BDAR, in consultation with BCS, to provide additional and appropriate measures for Regent Honeyeater in accordance with section 7.16(3) of the BC Act."



## Response

### Avoidance

EnergyCo established a transmission line corridor through the mining areas in response to strong community feedback on the previous study corridor that was developed by Transgrid that traversed high value agricultural lands on the Merriwa Cassilis Plateau. In doing so, EnergyCo sought to maximise the use of previously disturbed areas, such as mining areas.

As noted in section 2.7.1 of the EIS, EnergyCo considered Wollar as the best location to connect to the NSW transmission network given it connected to a 500kV network. The location of this connection point to the NSW transmission network, the need to avoid Goulburn River National Park, Munghorn Nature Reserve, and to utilise disturbed mining areas, set the trajectory of the transmission line alignment in this section of the project.

Complete avoidance of Regent Honeyeater habitat is not possible in this section of the project given these constraints, the extensive nature of the mapped area, and the need to avoid intervening vegetated areas, active mining and retain minimum buffers to dwellings.

To minimise impacts it was decided to co-locate with the existing transmission line infrastructure and in doing so sought to occupy areas that avoid or are located on the periphery of the mapped Regent Honeyeater habitat and therefore subject to existing disturbances and fragmentation.

In addition, following the SSI application and publication of the Scoping Report, there was an alignment change through the Moolarben coal mine which reduced the area of impact to the Regent Honeyeater mapped important habitat.

As part of the updated BDAR, minimising impact to this habitat was further developed in line with the partial clearing regime adopted.

In terms of alternative technologies, routes, locations, and sites, undergrounding was considered but discounted for the reasons outlined in the response to Box Gum Woodland.

### Detailed design and micro-siting

The process to avoid impacts to Regent Honeyeater important habitat during the detailed design is consistent with the approach used for Box Gum Woodland and other TECs.

### Revised SAI

A revised SAI assessment for Regent Honeyeater has been prepared. This is included in Section 9 of the updated BDAR. The revised assessment includes the items discussed below:

- A more detailed avoidance discussion adapted from Section 7 of the updated BDAR, where avoidance is examined in detail and applies to all biodiversity matters assessed, including Regent Honeyeater habitat (via Box Gum Woodland TEC), noting the above points on avoidance for this species.
- Mitigation to biodiversity matters, including SAI entities, is outlined in Section 8.4 of the updated BDAR. The mitigation from Section 8.4 of the updated BDAR will be replicated in Section 9 in the discussion of mitigation for Regent Honeyeater. This includes micro-siting and commitments in Mitigation Measure B15 to monitor impacts against the recorded clearing outlined in the updated BDAR. A discussion on the detailed design and micro-siting process is described above.
- The impacts to Regent Honeyeater mapped important habitat have been updated to reflect the changes in the disturbance area since exhibition (e.g. resolving slithers and anomalies in disturbance areas and adopting the latest Regent Honeyeater important habitat map). This includes all disturbances calculated for Disturbance area A, B and HZ.

In terms of calculating full loss for Regent Honeyeater habitat in areas cleared of trees, this is not considered reasonable for this species. There is because there would not be a complete loss of habitat for the species in areas cleared of trees (Disturbance area B and HZ). A total loss of habitat would be clearing all structural layers of the habitat to the ground leaving bare earth and would

result in a future value of zero. Whereas with the partial clearing approach, habitat features that can be used by Regent Honeyeater would remain in Disturbance area B and HZ. All available information on habitat used by the Regent Honeyeater indicates it will utilise the shrub layer for foraging.

The Regent Honeyeater is not listed as a species credit species due to its reliance on tree canopy. This species is listed as a species credit species based on the Important Habitat map which maps a variety of habitats not just areas with tree canopy, including existing transmission lines. There is no evidence to suggest that removal of the tree layer would degrade habitat value to the point where the species will no longer occur. Partial loss of habitat value for this species is deemed appropriate given that potential foraging opportunities in the form of a shrub layer within the Important Habitat map will be retained.

### Summary of issue 3

3.1" Recalculate residual impacts to SAll entities and associated credit obligations, based on a review of:"

- a. the classification and mapping of Box Gum Woodland CEEC
- b. the mapping of Regent Honeyeater important habitat
- c. "impacts associated with the proposed clearing methods, including permanent, temporary and partial impacts"
- d. the validity of impact assumptions in the 'hazard tree zone' disturbance area
- e. impacts to derived native shrubland and derived native grassland
- f. "changes made to the extent of Category 2-Regulated land in the land categorisation assessment"

### Response

The classification and mapping of Box Gum Woodland CEEC has been revised in the review of collected VI plot data, vegetation mapping, cross referencing VI plot floristic data with the PCT Filter Tool. Electronic data will be provided to BCS showing results of the PCT filter tool analysis for the subset of plots that were examined. Changes have been made to the classification and mapping of box gum woodland CEEC as new data became available and/or as data was re-examined. The changes presented in the updated BDAR are based on the field data. The revised assessment of Box Gum woodland CEEC is provided in Section 4.3, 8.1, Appendix C and Appendix N of the updated BDAR and is carried through to the SAll impacts in Section 9. The associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

The mapping of Regent Honeyeater important habitat uses the latest Mapped Important habitat layer provided by the Department. The revised impact assessment is based on this latest mapping layer. The revised impacts to Regent Honeyeater are outlined in Section 8.1 of the updated BDAR and are carried through to the SAll impacts in Section 9. The associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

All impacts, whether they are permanent, temporary or partial impacts are captured in the calculations of impact in Disturbance area A, B and HZ. This includes the revised assessment incorporating mosaic areas of DNS/DNG within Disturbance area B into the assessed area of impacted canopy vegetation. The impacts are outlined in Section 9 and associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

The residual impacts to SAll entities and associated credit obligations consider impacts to derived native shrubland and derived native grassland where these vegetation zones are located within Disturbance area A and would be cleared. There would be no impact to these vegetation zones where they are located within Disturbance area B or HZ. The calculations of impact are based on this scenario.

A review of the land categorisation was undertaken following revisions to classification and mapping of PCTs and Box Gum Woodland CEEC within the alignment as part of the updated BDAR. This review included consideration of additional field survey, collected VI plot data and cross referencing VI plot floristic data with the PCT Filter Tool. All areas of Box Gum Woodland CEEC have been excluded from Category 1 land mapping and are considered to be part of Category 2-Regulated land.

## Summary of issue 4

4.1 "Review PCT mapping in woodland patches containing both Box Gum Woodland CEEC and PCTs not associated with Box Gum Woodland CEEC, ensuring the PCT allocations align with relevant Biodiversity Assessment Method (BAM) plot floristic data. Update the extent of Box Gum Woodland CEEC mapping following this review."

## Response

The classification and mapping of Box Gum Woodland CEEC has been revised in the review of collected VI plot data, vegetation mapping, cross referencing VI plot floristic data with the PCT Filter Tool. Electronic data will be provided to BCS showing results of the PCT filter tool analysis for the subset of plots that were examined. Changes have been made to the classification and mapping of box gum woodland CEEC as new data became available and/or as data was re-examined. The changes presented in the updated BDAR are based on the field data and geomorphological features. The revised assessment of box gum woodland CEEC is provided in Section 4.3, 8.1, Appendix C and Appendix N of the updated BDAR and is carried through to the SAI impacts in Section 9. The associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

With reference to VI plots LC54 and LC56, the floristic data from these plots were put through the PCT Filter Tool with consideration of generally underlining geology and the results suggest that they are not a PCT that is part of Box Gum Woodland TEC. This area of vegetation is not straightforward to classify.

VI plot LC54 is co-dominated by *Eucalyptus crebra*, *Eucalyptus macrorhyncha* and *Eucalyptus blakelyi* with *Angophora floribunda* and *Brachychiton populneus*. The shrub layer and ground layer are open due to the effects of fire. Geology is sandstone (Pilliga Sandstone/Purlawaugh Formation boundary). PCT 479 was initially assigned to this vegetation due to *Eucalyptus crebra* and *Eucalyptus macrorhyncha* in the canopy. Plot LC54 has a relatively high number of species matches for PCT 479 so it is a reasonable choice. However, upon re-examination using the PCT Filter Tool, PCT 440 - Red Stringybark - Narrow-leaved Ironbark - Black Cypress Pine - hill red gum sandstone woodland of southern NSW Brigalow Belt South Bioregion is a top match and contains the most similar canopy species mix to what is present on site in this location. PCT 440 is a dry sclerophyll forest (shrubby sub-formation) that is not part of the Box Gum Woodland CEEC.

The vegetation at VI plot LC56 is also problematic to neatly assign to a PCT given the mixed canopy which included *Angophora floribunda*, *Eucalyptus moluccana*, *Eucalyptus dealbata*, *Eucalyptus melliodora*, *Eucalyptus blakelyi*, *Eucalyptus goniocalyx*, *Eucalyptus macrorhyncha*, *Brachychiton populneus* subsp. *populneus*, *Acacia linearifolia*, and *Callitris endlicheri* (dead due to fire). The area is at the interface between Kerrabee, Inland Slopes and Pilliga subregions and we have the issues of eucalypt hybridisation and coastal species mixing with inland species in many areas throughout the subject land.

Entering the Canopy and shrub layer species into the PCT Filter Tool outputs PCT 479 as one of the top three options for this vegetation at Plot LC56. Another stringybark/ironbark dominated PCT, PCT 478 is in the top three, as is PCT 393 which is a shrubby White Box PCT. PCT 393 - White Box shrubby woodland of the western Liverpool Range, Warrumbungle Range and south-west Pilliga forests, Brigalow Belt South Bioregion, was considered to be the best fit when the PCT matches were filtered based on the presence of the canopy species. PCT 393 is a dry sclerophyll forest (shrub/grass formation) found in the Brigalow Belt South bioregion.

Note that this VI plot is located in the Kerrabee subregion of the Sydney Basin bioregion approximately 6 km from the border with the Pilliga IBRA subregion. This area is most like the Brigalow Belt South bioregion and has little in common with the Sydney Basin in terms of geology and vegetation. Given the canopy is a good match for PCT 393 due to the presence of *Eucalyptus melliodora*, *Angophora floribunda* and *Eucalyptus goniocalyx*, and that several shrub species characteristic of PCT 393 are present it is reasonable to refine the mapping from PCT479 to PCT393 in this area despite the vegetation also being a good match for PCT479 due to the presence of *Acacia linearifolia* and the remaining shrub layer. PCT 393 is a dry sclerophyll forest (shrub/grass formation) that is not part of the Box Gum Woodland CEEC.

## Summary of issue 5

5.1 Ensure that:

- a. "the Regent Honeyeater species polygon includes all native vegetation identified in the Regent Honeyeater important habitat map"
- b. "spatial mapping, the BDAR and Biodiversity Assessment Method Calculator (BAM-C) cases are consistent with the impact identified in the Regent Honeyeater species polygon"
- c. "the area of impact identified for the Regent Honeyeater in the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and SAll impact assessments is consistent with the Regent Honeyeater species polygon."

## Response

The previous assessment of Regent Honeyeater important habitat was based on publicly available data that has since been updated to include additional treed areas within the alignment. The revised mapping of Regent Honeyeater important habitat uses the latest Mapped Important habitat layer provided by the Department. The revised impacts to Regent Honeyeater are outlined in Section 8.1 of the updated BDAR and are carried through to the SAll impacts in Section 9. The associated credit obligations are outlined in Section 10 and 11 of the updated BDAR.

The impacts to Regent Honeyeater mapped important habitat have been updated to reflect the changes in the disturbance area since exhibition and adjustment to reflect the latest Mapped Important habitat layer. This includes all disturbances calculated for Disturbance area A, B and HZ, for native vegetation identified in the Regent Honeyeater important habitat map.

The revised spatial mapping, the updated BDAR and Biodiversity Assessment Method Calculator (BAM-C) cases are consistent with the impact identified in the Regent Honeyeater species polygon.

The revised area of impact identified for the Regent Honeyeater in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Appendix C) and SAll impact assessments (updated BDAR Section 9) are consistent with the updated Regent Honeyeater species polygon.

## Summary of issue 6

6.1 "Apply further avoidance of higher quality areas of Box Gum Woodland CEEC (according to vegetation integrity score) and Regent Honeyeater important habitat, including areas mapped in Attachment D of this response. Update the BDAR, BAM-C and spatial data accordingly."

## Response

A more detailed avoidance discussion adapted from Section 7 of the updated BDAR (Section 7 is where avoidance is examined in detail and applies to all biodiversity matters assessed, including SAll entities).

The avoidance of Box Gum Woodland CEEC and mapped 'Important habitat' for the Regent Honeyeater was built into the design but is not the only driver, particularly given the extent and distribution of these SAll entities.

The projects alignment through the mining areas (that include both the SAll Box Gum Woodland CEEC and mapped 'Important habitat' for the Regent Honeyeater) is a function of the decision to move the previous corridor off the Merriwa Cassilis Plateau and through previously disturbed mining areas.

Starting at the connection point to the NEM, the alignment needed to avoid important ecological constraints such as Goulburn River NP, Munghorn Gap Nature Reserve, and areas of active mining, resulting in an alignment that is largely restricted to previously disturbed areas that avoid these constraints.

To further minimise impacts of the project on the important ecological constraints (BGW and Regent Honeyeater habitat), the alignment was collocated alongside the existing transmission line and where possible other infrastructure and disturbance. This specifically minimised the fragmentation impacts of the project and ensured the alignment was predominately located in areas of existing disturbance and/or outer edges of larger contiguous patches of habitat and ecological value.

This process of avoidance considerations will be outlined clearly in Section 9 of the updated BDAR with an updated avoidance section to be added. The design process has been thorough and demonstrates good avoidance of Box Gum Woodland CEEC and Regent Honeyeater habitat. Section 9 of the updated BDAR will be expanded with further discussion on co-location with other linear infrastructure, consideration of greater impacts from underground power line options, and reinforcing the proposed three levels of disturbance scaled to the minimum necessary for each project component in place of clear felling the whole corridor.

## Summary of issue 7

7.1 "Describe specific and targeted mitigation measures that will be implemented for all SAll entities to reduce indirect impacts."

### Response

Mitigation to biodiversity matters, including SAll entities, is outlined in Section 8.4 of the updated BDAR. The mitigation from Section 8.4 of the updated BDAR will be replicated in Section 9 in the discussion of mitigation for all SAll entities.

## Summary of issue 8

8.1 "Undertake targeted surveys or provide expert reports to determine the presence or absence of SAll entities that are assumed to be present, as identified in section 9.1.2 of the updated BDAR."

8.2 "Review the impact to Eastern Cave Bat and Fuzzy Box Woodland on Alluvial Soils threatened ecological community (TEC) SAll entities, and provide more information on the avoidance and mitigation measures to be applied to these entities."

8.3 "Recalculate and update residual impacts to SAll entities in section 9 of the updated BDAR to account for survey results and/or expert reports (as per Recommendation 8.1) and updated impact information (as per Recommendation 8.2)"

### Response

All SAll entities identified as 'Assumed present' are well understood and have been considered with appropriate caution and justification in accordance with BAM.

Further targeted surveys for SAll entities that were assumed present previously have been undertaken in accessible areas to reduce the extent and number of species 'Assumed present'. The residual areas of 'Assumed present' entities being assessed are isolated and relatively small proportions of the available potential habitat for the species that were subject to detailed survey and confirmed to be not present.

Significant areas of 'Assumed present' habitats for SAIL species in the previously inaccessible Moolarben Mine were subject to survey since the exhibited BDAR. Areas of assumed presence have now been reduced significantly for SAIL species. The residual impacts to SAIL entities has been recalculated in section 9 of the updated BDAR to account for survey results.

In residual areas where access has not been granted, the adopted approach of assuming presence, is considered precautionary and reasonable.

There is no justification for BCD requiring survey and or expert reports when BAM provides for the precautionary approach of 'assumed presence'. Given there are currently no listed experts for these species within the relevant IBRA regions, and access was restricted to the potential habitats for these species, BCD's position prevents the approval being progressed indefinitely.

BCD have assessed previously three Open cut Coal mines (including dozens of modifications) and dozens of renewable energy generators in direct proximity to the areas of habitat for these SAIL entities and the potential project impacts. For the majority of these species the entire Project corridor falls within previous study areas of these mines. Based on publicly available information there is no record of a number of these 'Assumed present' species being present or impacted by these projects. It is unreasonable to suggest that BCD do not have information available to further assess these SAIL matters, or the adequacy of avoidance and minimisation measures proposed, given the location of the project in this area within the existing disturbance corridor and alternatives within adjoining reserve estate.

A more detailed avoidance discussion adapted from Section 7 of the updated BDAR (Section 7 is where avoidance is examined in detail and applies to all biodiversity matters assessed, including SAIL entities). Avoidance of CEECs and known threatened species habitats was built into the design but is not the only driver. This will be outlined clearly in Section 9 of the updated BDAR with an updated avoidance section to be added. The design process has been thorough and demonstrates good avoidance of SAIL entities. Section 9 of the updated BDAR will be expanded with further discussion on co-location with other linear infrastructure, consideration of greater impacts from underground power line options, and reinforcing the proposed three levels of disturbance scaled to the minimum necessary for each project component in place of clear felling the whole corridor.

Further preclearing surveys of the construction footprint for SAIL entities 'Assumed present' are proposed in mitigation measure B10. Avoidance and mitigation of SAIL species habitats recorded within the construction footprint will be further minimised where possible through implementation of mitigation measure B1. While micro siting of towers and temporary construction impacts to further avoid disturbance to key features including identified roost caves for the species of bat including, the Large-eared Pied Bat, Eastern Cave Bat, Large Bent winged Bat in provided in mitigation measure B3.

## Summary of issue 9

9.1 Review and provide evidence that:

- a. "small slivers and gaps of vegetation which would be difficult to avoid clearing during construction have been incorporated into appropriate disturbance zones, and impacts have been assessed in the BAM-C"
- b. "the spatial data accurately reflects proposed disturbance zones in the development footprint"
- c. "the development footprint can be cleared according to the proposed disturbance zones as the current layout appears it may present challenges for large plant machinery."

9.2 "Develop a vegetation clearing protocol (including relevant commitments where applicable) in the BDAR, that will allow auditing of clearing activities against the clearing limits in each identified disturbance zone."

## Response

Consultation on this matter was undertaken with BCS. The exhibited BDAR approach to assessment was cautious and appropriate for determining the projects impacts, but we acknowledge that the conceptual disturbance footprint resulted in minor slithers of retained vegetation that if built as modelled were impractical to retain.

We also note that the envelopes used in building the conceptual footprint and disturbance areas (e.g. 8 m wide access track and 80x80 metre individual tower pads), were in many cases an upper limit footprint beyond the likely disturbance requirements of detailed design and construction.

The revised conceptual model and alignment has removed impractical areas of retained vegetation between areas of Disturbance area A (full clearing) and increased the maximum impact to this zone.

We have also incorporated a revised approach to the issues raised regarding the derived grassland/shrubland in partial impact zone. To address the concern of inadvertent disturbance to DNG/DNS within areas dominated or a mosaic of remnant canopy vegetation, we have developed an approach that consistently identifies small patches of DNG/DNS and dissolve these areas into the adjoining remnant vegetation condition zone.

The revised conceptual model and alignment was provided to BCS on 22 December 2023.

In terms of developing a vegetation clearing protocol (including relevant commitments where applicable) in the updated BDAR, that will allow auditing of clearing activities against the clearing limits in each identified disturbance zone, this is captured in mitigation measure B15 where "The predicted clearing of native vegetation by the project identified in Section 8.1 will be monitored against the recorded clearing. A revised Biodiversity Assessment Method (BAM-C) calculation on the project's final disturbance to biodiversity post construction will be completed. Any additional credit liability identified will be met as part of the biodiversity offset requirements within the biodiversity offset package." The clearing contractor is responsible for the clearing protocol.

## Summary of issue 10

10.1 " Revise the impact assessment to ensure all temporary impacts are included in the direct impact calculation in accordance with the BAM Operational Manual Stage 2."

10.2 "Provide specific commitments for threatened species or their habitats proposed to be completely avoided, detailing how this will occur, and map these areas in the BDAR and spatial data."

## Response

All impacts, whether permanent or temporary are captured in Disturbance area A, B and HZ. If there will be a direct impact within any disturbance area, it has been accounted for in the impact calculations.

Mitigation to biodiversity matters is outlined in Section 8.4 of the updated BDAR. Mitigation measures B8 and B10 include establishing no 'go area' demarcation devices that must be established prior to the commencement of clearing works in each construction area and be maintained throughout the construction phase. The 'no go areas' will be demarcated on ground with exclusion fencing. This applies to all 'no go areas' including areas on mine offset sites (which includes the area of *Acacia ausfeldii* on Ulan Mine land). This is considered effective for avoiding impacts to threatened species that will be retained.

## Summary of issue 11

11.1 "Provide specific commitments that all derived native grassland and shrubland (including mapped avoided areas) will be completely avoided, detailing how this will occur. Where these commitments cannot be made, include relevant areas in partial loss calculations. "

11.2 "Provide further detail on commitments to construction and operational protocols to ensure that derived native grassland and shrubland communities will not be impacted."

## Response

The residual impacts to PCTs consider impacts to derived native shrubland and derived native grassland where these vegetation zones are located within Disturbance area A and would be cleared. There would be no impact to these vegetation zones where they are located within Disturbance area B or HZ. The calculations of impact are based on this scenario.

Mitigation to biodiversity matters is outlined in Section 8.4 of the updated BDAR. Mitigation measures B8 and B10 include establishing no 'go area' demarcation devices that must be established prior to the commencement of clearing works in each construction area and be maintained throughout the construction phase. The 'no go areas' will be demarcated on ground with exclusion barrier fencing. This will apply to the boundaries of the clearing area.

We have also incorporated a revised approach to the issues raised regarding the derived grassland/shrubland in partial impact zone. To address the concern of inadvertent disturbance to DNG/DNS within areas dominated or a mosaic of remnant canopy vegetation, we have developed an approach that consistently identifies small patches of DNG/DNS and dissolve these areas into the adjoining remnant vegetation condition zone.

All impacts, whether permanent or temporary are captured in Disturbance area A, B and HZ. If there will be a direct impact within any disturbance area, it has been accounted for in the impact calculations.

Appendix M of the exhibited BDAR (a letter to BCS discussing partial impacts) includes the sentence in Section 2.1.1 that "The maintenance of vegetation will still require the need to trim, spray or otherwise continually suppress woody vegetation under powerlines." The body of the exhibited BDAR does not indicate this will occur. The letter to BCS included in Appendix M has introduced some confusion as to the management approach in Disturbance area B and HZ. The updated BDAR has been clarified to indicate what will and will not occur in Disturbance area B and HZ in terms of vegetation management when cross referencing Appendix M.

## Summary of issue 12

12.1 "Provide the raw data and analysis supporting partial loss assumptions, including plot locations and BAM-C cases, used in the analysis to inform Appendix M of the BDAR"

## Response

The partial impact data behind the information present within the exhibited BDAR was provided to BCS via email on 22 December 2023.

## Summary of issue 13

13.1 "Provide detailed methodology on the proposed micro-siting process, specifically addressing its parameters and limitations."

13.2 Clarify if the proposed micro-siting will be confined to the biodiversity study corridor.

13.3 "Identify, survey and assess impacts to all native vegetation, threatened species and their habitat with the potential to be impacted as a result of micro-siting."

## Response

Mitigation measure B4 involves Micro-siting of associated works and access tracks. Micro-siting of temporary construction infrastructure (including site offices, compounds and access tracks) will be undertaken to minimise vegetation clearing and disturbance of watercourses (within the biodiversity study corridor). This will include:

- prioritising areas of low biodiversity value
- utilising existing access tracks, where feasible
- locating waterway crossings at narrow width locations
- minimising the quantity of cut and fill activities.



The updated BDAR indicates that a detailed methodology on the proposed micro-siting process will be incorporated into the contractor's management plans.

The micro-siting process will occur within the biodiversity study corridor. The updated BDAR has been updated with this wording. Micro-siting involves small site based changes that may be required for constructability or to avoid an unexpected feature and does not involve large scale movements of project features that would result in a disturbance outside of the biodiversity study corridor.

Micro-siting is a process that will occur during the construction phase. It is not possible to predict at this stage where micro-siting needs to occur. As such, it is not possible to identify, survey and assess impacts to all native vegetation, threatened species and their habitat with the potential to be impacted as a result of micro-siting.

## **Summary of issue 14**

14.1 "Identify all potential direct and indirect impacts to biodiversity values to demonstrate a precautionary approach to the project's impacts."

14.2 "Provide an amended maximum credit obligation that captures any expected increase in the project's credit liability as a result of micro-siting, prior to project approval being granted."

## **Response**

Additional impacts to those presented in the updated BDAR are not expected. The disturbance areas are conceptual. The disturbance area is identified based on realistic project component locations and areas however it is indicative. There would be detailed design process and the final impact area would be confirmed during finalisation of design and construction methodology.

It is important that the clearing of native vegetation is monitored to ensure works are being done in accordance with the approval. Mitigation measure B15 states that "The predicted clearing of native vegetation by the project identified in Section 8.1 will be monitored against the recorded clearing. A revised Biodiversity Assessment Method (BAM-C) calculation on the project's final disturbance to biodiversity post construction will be completed. Any additional credit liability identified will be met as part of the biodiversity offset requirements within the biodiversity offset package." This is a measure, common to many projects, that will ensure the clearing limits outlined in the updated BDAR (i.e. the limits outlined in Section 8.1 which have been used to generate the credit liability) are followed. It is not possible to predict whether a clearing contractor will exceed clearing limits in the future and there is no expectation that clearing limits would be exceeded by any works including micro-siting.

The direct impacts to biodiversity have been updated since exhibition to incorporate all project changes. The direct impacts to biodiversity are presented in Section 8.1 of the updated BDAR. Indirect impacts have also been revised and are presented in Section 8.2 of the updated BDAR. The maximum credit obligation is presented in Section 10 and 11 of the updated BDAR which includes all expected impacts at the time of preparation of the updated BDAR.

## **Summary of issue 15**

15.1 Provide a proposed biodiversity offset strategy for the project.

## **Response**

The updated BDAR has been revised to provide an outline of a biodiversity offset strategy for the project.

## Summary of issue 16

16.1 "Provide an evidence-based justification to support partial impact assumptions for the hazard tree zone, including how the 10 per cent selective clearing limit of hazard trees will be carried out.

16.2 "Incorporate the hazard tree zone into Disturbance Area B if appropriate evidence cannot be provided to justify partial loss assumptions, and update relevant impact calculations in the updated BDAR, BAM-C and spatial data."

## Response

Addressed in Appendix M of the updated BDAR. The partial impacts have been clearly described, built on both literature-based evidence, consistent with previous approved ETL projects for the same SAI CEECs.

This is inconsistent with the approved BCD approach to accounting for species credit liabilities in accordance with BAM on PEC East and PEC West.

The Assessment of HTs is generally an operational maintenance assessment over the life of the asset and has limited merit forming part of the proposed projects construction.

The disturbance area HZ is conceptual. This is a hazard tree zone where there would be impacts to selected trees that are within the risk category height range 20–30 m and have poor structural stability therefore pose a risk of falling. This is an area of vegetation maintenance. The assessed impacts to Disturbance area HZ assume that 10% of the mapped Disturbance area HZ area would be impacted. This is likely to be an overestimate of the potential impact.

There has been consultation with BCS regarding the approach to the disturbance zones including Disturbance area HZ. Following this consultation, the revised assessment incorporates:

- further justification for the 10% impact assessment being a maximum likely impact within this zone, through use of lidar verification of canopy heights and tree canopy distribution within the zone
- confirmation of Hazard definition under a SULE assessment

In terms of the validity of the partial impact to Disturbance area HZ, we have assumed all tree related values will be taken to zero (full impact to tree related values) and the remaining shrub and ground layer variables reduced proportionally, based on field data collected from powerlines in the locality, to reflect a realistic outcome.

## Summary of issue 17

17.1 "Ensure that partial loss calculations only apply to threatened fauna species which do not rely on habitat with an overstorey of canopy trees in Disturbance Areas B and HZ (hazard tree zone)."

17.2 "Calculate total loss for all threatened fauna species which are reliant on an overstorey of canopy trees to fulfill an important part of their lifecycle, and update the BAM-C and spatial data accordingly."

## Response

This is inconsistent with the approved BCD approach to accounting for species credit liabilities in accordance with BAM on PEC East and PEC West. This process significantly increases complexity and would require further replication of up to 40 BAMC assessment calculators across the project.

BCD justification for applying full impact in partial impacts zone is not supported ecologically with all species identified retaining some ecological benefit from retained partial impacted areas either, through foraging or functional ecosystem values. The current assessment fully accounts for and assessed complete removal of all treed components and functions assessed by the BAM.

The BAM-C is the tool that operationalises the BAM (Biodiversity Assessment Method 2020 Operational Manual – Stage 2). The finalisation of the BAM-C credit reports and case(s) and submission of the BOAMS to the decision-maker is part of the legal requirements under the BC Act.

Section 10.1.1 (8) of the BAM states;

“The number and class of ecosystem credits and species credits that must be retired for the proposal is set out in the biodiversity credit report produced by the BAM-C. The biodiversity credit report must be included in the updated BDAR or BCAR as per the requirements in Appendix K or L (streamlined assessment modules). The biodiversity credit report that is included in a BDAR or BCAR submitted to a decision-maker must have a status of finalised.”

BCD are proposing for partial impacts to species polygons a new methodology inconsistent with the considered existing methodology of the BAM 2020, the equations underpinning the existing BAM-C and an outcome that will generate finalised BAM-C cases and credit reports inconsistent with the legal requirements of those finalised credit reports for the decision maker that do not reflect the final credit outcome for species.

The requested method is not previously outlined in stage 1-3 ops manuals, BAM methods or supporting guidance notes. The method suggested the current BAMC is unsuitable for assessed partial impacts for species credits.

We have run the suggested approach to full loss calculations provided by BCS via email on 25 January 2024. This has been done via the revision function in the BAM-C. The updated BDAR contains a combination of partial loss and full loss calculations for some species that may be considered tree dependent (See Section 11.4). These calculations of credit liability are provided for review at this stage. The suggested approach however is not consistent with previous approvals or the approach outlined in the BAM.

The updated BDAR has been expanded to include a review of species reliance on tree canopy.

Of the species outlined in the list of tree canopy reliant species provided by BCS, several of these are indeed reliant on tree canopy for important parts of their lifecycle. However, these species also use other components of the habitat. There are also species assessed which are not solely reliant on canopy trees.

The Regent Honeyeater is not listed as a species credit species due to its reliance on tree canopy. This species is listed as a species credit species based on the Important Habitat map which maps a variety of habitats not just areas with tree canopy. This species will freely use shrub layers without trees for foraging. There is no evidence base to suggest that removal of the tree layer would degrade habitat value to the point where the species will no longer occur. Partial loss of habitat value for this species is deemed appropriate given that potential foraging opportunities in the form of a shrub layer within the Important Habitat map will be retained.

Species such as Pink-tailed Legless Lizard, and also Striped Legless Lizard, are grassland or very open grassy woodland species. The literature supports the reliance of these species on open grassy habitats and that these species do not rely on the tree canopy. These species rely on open habitats without tree canopy so a partial loss in this case is appropriate. There is no evidence to suggest that if tree canopy is removed, the habitat value for Pink-tailed Legless Lizard or Striped Legless Lizard will be degraded to the point where the species will no longer occur.

Eastern Pygmy Possum shelters in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum dreys or thickets of vegetation, (e.g. grass-tree skirts). Trees are favoured as nesting sites. The published evidence suggests that this species is not reliant on tree canopy as a sole source of habitat. A thick shrub layer with sufficient foraging resources is important. The shrub layer which would be retained in Disturbance area B and HZ is likely to be an important resource. There is no evidence to suggest that if tree canopy is removed, the habitat value for Eastern Pygmy Possum will be degraded to the point where the species will no longer occur.

For the Large-eared Pied Bat and Eastern Cave Bat, as these species are cave roosting species the removal of trees in Areas B and HZ should not directly impact roosting habitat for these species. A partial impact to habitat for these species is justified by the available evidence. These species are not reliant on tree canopy. These species are cave dependent species that will utilise the surrounding habitat whether it is open woodland, forest or grassland for foraging. These species are able to fly across open areas lacking trees and are likely to forage in open areas. There is no

evidence to suggest that if tree canopy is removed, the habitat value for Large-eared Pied Bat and Eastern Cave Bat will be degraded to the point where the species will no longer occur. These species currently exist in a matrix of wooded and cleared areas.

For Squirrel Glider, the removal of trees would result in a complete loss of breeding habitat and may result in impacts to movement ability. However, this species will also use other structural elements of the habitat. Squirrel Glider has limited ability to disperse across urban or agricultural land but the literature shows that Squirrel Gliders are capable and willing to cross open habitat. The species polygon for this species encompasses the entirety of vegetation zones within PCTs that provide suitable habitat for this species. The species polygon is not restricted to specific trees that may provide breeding hollows. The selective removal of trees from Disturbance area B and HZ would not result in a complete impact to Squirrel Glider habitat and would be unlikely to degrade habitat value to the point where the species will no longer occur. The retained shrub layer would still provide sufficient cover and foraging opportunities suggesting that a full loss of habitat for this species would not occur.

Koalas utilise agricultural land and will cross fences and cleared paddocks. While trees will be removed the remaining habitat will still be useable by Koala, for example as movement habitat and for shelter. Koala is likely to forage on juvenile trees within Disturbance area B and HZ. The species polygon for this species encompasses the entirety of vegetation zones within PCTs that provide suitable habitat for this species. The species polygon is not restricted to specific trees that may provide foraging opportunities. There is no evidence to suggest that if tree canopy is removed, the habitat value for Koala will be degraded to the point where the species will no longer occur.

Glossy-black Cockatoo is a dual credit species, where foraging habitat is assessed via ecosystem credits and breeding habitat is assessed via species credits. This species is dependent on large hollow-bearing, dead or alive, eucalypts for nest sites. Removal of canopy trees may result in loss of large hollow-bearing trees that could be utilised as nesting sites. This would result in a loss of breeding habitat. The species polygons for this species are based on a 200 m buffer radius around a potential nest tree. The purpose of the buffer is to identify the essential area for breeding. In many cases the impact from Disturbance area B or HZ is to the buffer area and not the potential breeding tree itself. The habitat feature upon which this species relies for breeding is not within the subject land and as such would not be impacted by any of the disturbance areas. In this instance the trees would remain and the impact to the buffer area would not be considered to be a full impact to the habitat feature. The selective removal of trees that lie within Disturbance area B and HZ would result in an impact to potential breeding habitat for Masked Owl. This impact would remove the habitat feature that may provide the breeding habitat resulting in a full impact to the species.

Pale-headed Snake is highly adapted for life in trees. Trees are an important habitat component for this species. However, this species is known to move along the ground. The loss of tree habitat would be detrimental to this species and would remove sheltering, foraging and breeding opportunities. However, as this species moves along the ground the habitat in Area B and HZ is considered to still be suitable for dispersal after trees have been removed. The species polygon for this species encompasses the entirety of vegetation zones within PCTs that provide suitable habitat for this species. The species polygon is not restricted to specific trees that may provide suitable hollows. The selective removal of trees from Disturbance area B and HZ would result in a considerable but not complete impact to Pale-headed Snake habitat and would be unlikely to degrade habitat value to the point where the species will no longer occur. The retained shrub layer would still provide sufficient cover and foraging opportunities suggesting that a full loss of habitat for this species would not occur.

Masked Owl is a dual credit species, where foraging habitat is assessed via ecosystem credits and breeding habitat is assessed via species credits. The species polygons for this species are based on a 100 m buffer radius around a potential nest tree. Masked Owl roosts and breeds in trees using large tree hollows for nesting. Canopy loss may reduce the availability of tree hollows (breeding habitat) and tree dwelling mammals used as prey, but other ground dwelling prey species should continue to be available. The literature suggests that this species is known to hunt along the edges of forests and may utilise this change in foraging habitat structure. Under some circumstances, the Masked Owl may be a disturbance opportunist in terms of its ability to forage along roads, tracks,

ecotones, and recently harvested forest or cleared land. In many cases the impact from Disturbance area B or HZ is to the buffer area and not the potential breeding tree itself. The habitat feature upon which this species relies for breeding is not within the subject land and as such would not be impacted by any of the disturbance areas. In this instance the trees would remain and the impact to the buffer area would not be considered to be a full impact to the habitat feature. The selective removal of trees that lie within Disturbance area B and HZ would result in an impact to potential breeding habitat for Masked Owl. This impact would remove the habitat feature that may provide the breeding habitat resulting in a full impact to the species.

Broad-headed Snake and Barking Owl have since been excluded from the assessment based on further work undertaken since exhibition of the BDAR.

Little Eagle has a breeding habitat buffer zone mapped within the subject land. The stick nest and tree itself are not within the subject land so will not be directly impacted. The impact from Disturbance area B or HZ is to the buffer area and not the potential breeding tree itself. In this instance the tree and nest would remain and the impact to the buffer area would not be considered to be a full impact to the habitat feature. There is no evidence to suggest that if the edge of the buffer area is impacted then the habitat value will be degraded to the point where the species will no longer occur. A full impact to this species based on an impact to a buffer zone is not considered appropriate.

In summary, the only assessed species that are reliant on the tree canopy as a specific habitat feature (and are listed as species credit species for breeding habitat) are Glossy-black Cockatoo and Masked Owl. Where disturbance area B or HZ impact the buffer zones for these species there is unlikely to be a full impact. Where disturbance area B or HZ impact the potential nesting trees then there would be removal of the habitat feature upon which these species rely. This impact is however dealt with in the application of the partial loss calculations where total tree loss is captured for disturbance area B and HZ.

The partial loss scenarios for disturbance area B and HZ already take into account a full impact to tree related variables. As such, the impact to species that rely on tree related variables is inherently built into the future VI score for disturbance area B and HZ (i.e. tree values taken to zero – full loss). To calculate a full impact to Disturbance area B and HZ is to consider complete removal of the shrub layer and ground layer in addition to the tree canopy. The tree canopy reliant species such as Masked Owl and Glossy Black-Cockatoo are not dependent on the shrub layer or ground layer for breeding, they are dependent on the tree canopy for breeding. Adding removal of the shrub layer and ground layer to the impact calculation would not provide a more accurate account of impacts to the breeding habitat feature for these species (i.e. the trees which have already been accounted for in the partial loss calculation).

Our assessment has calculated the partial impact to species credit liability in accordance with (BAM 2020: Subsection 8.1.1, the Biodiversity Assessment Method 2020 Operational Manual – Stage 2) and BAM Appendix H, Equations 16–27.

The calculations of the number and type of species credits required to offset direct within the partial impact zone are based on change in VI score, from current to estimated future value across. This is determined by BAMC and described within the Operational manual.

Species credits where the unit of measure is ‘area’ are based on the loss of habitat, taken as the change in VI score across all areas of suitable habitat for the species, represented by the species polygon. Where the species polygon encompasses multiple vegetation zones, the BAM-C automatically collates the change in VI score for each vegetation zone within the species polygon to score the impact on species habitat (see BAM Appendix H, Equations 16–27).

This explicitly states that where species polygons encompasses multiple vegetation zones BAMC collates that changes in VI score for each veg zone using Equation 27.

The BAM 2020 also states in section 8.1.1 (5); “The assessor must use the BAM-C to apply Equation 27 in Appendix H to determine the change in vegetation integrity score for each vegetation zone”.

## Summary of issue 18

18.1 "Update the vegetation zone spatial data with unique vegetation zone identifiers, as documented in the BDAR, and provide updated spatial data to inform further detailed analysis and impact verification. "

### Response

The vegetation zone spatial data has been updated with unique vegetation zone identifiers, as documented in the updated BDAR.

## Summary of issue 19

19.1 Consult with the National Parks and Wildlife Service (NPWS) Area Manager to discuss impacts to the Goulburn River National Park and areas where the transmission line corridor is immediately adjacent to the national park.

### Response

The exhibited BDAR, EIS and subsequent workshop provided detailed justification and consideration of biodiversity matters for avoidance. The alignment and assessment have identified the alignment option that minimises impacts on biodiversity values to the maximum extent possible while also considering other constraints and project requirements. The further avoidance of values outlined in the BCD submission are not possible without greater impacts to these other considerations.

## Summary of issue 20

20.1 "Consider including landscape corridors as a Tier 1 constraint, including those displayed in Attachment D of this response."

20.2 "Describe avoidance and minimisation measures that have been applied to reduce impacts to landscape corridors that cross the development footprint."

### Response

The exhibited BDAR, EIS and subsequent workshop provided detailed justification and consideration of biodiversity matters for avoidance. The alignment and assessment have identified the alignment option that minimises impacts on biodiversity values to the maximum extent possible while also considering other constraints and project requirements. The further avoidance of values outlined in the BCD submission are not possible without greater impacts to these other considerations.

We cannot go back and insert landscape corridors as a Tier 1 constraint in a planning process that has been completed. The updated BDAR presents the process as it was done.

Section 7 of the updated BDAR examines avoidance in detail. The design process has been thorough and avoidance of biodiversity values is not the only consideration. The updated BDAR has been expanded with further discussion on co-location with other linear infrastructure, consideration of greater impacts from underground power line options, and reinforcing the proposed three levels of disturbance scaled to the minimum necessary for each project component in place of clear felling the whole corridor.

Figure 7-1 shows the potential impacts to habitat connectivity as outlined by BCS for the Kerrabee RNI stage (Moolarben and Wilpinjong mine lands). The areas with less vegetation and habitat to the south are where the Ulan-Wollar Rd, Gulgong-Sandy railway and existing transmission line are located. Moving any further south from these constraints would place the project in active mining areas which is not feasible. Some of the identified areas of landscape connectivity are considered to be edge effect as the connectivity is already impacted by Ulan-Wollar Road active mining, transmission lines. Moving the alignment south to avoid veg not feasible as there is insufficient space between transmission lines and Ulan-Wollar Road. Further south, connectivity is also limited already by Wollar Road and Peabody active mining, and existing transmission line.

Figure 7-2 shows the potential impacts to habitat connectivity as outlined by BCS for the Inland Slopes RNI1 stage and Kerrabee RNI1 stage (private property, Ulan mine and Moolarben land). In these areas the alignment has sought to minimise impacts to veg by placing it adjacent to an existing transmission line. Moving it further south to completely avoid vegetation and habitats is not possible due to the presence of the existing transmission line. Based on the extent of surrounding vegetation and habitats, complete avoidance of in this section of the project is not possible. Moving the alignment south into the cleared areas not proposed as it would be placed very close to existing dwellings either side of Cope Road. Moving the alignment north is not feasible as it conflicts with Ulan road, Sandy hollow/Gulgong railway, and active mining areas.

Figure 7-3 shows the potential impacts to habitat connectivity as outlined by BCS for the Inland Slopes RNI1 stage and Merotherie Hub (private property). The alignment impacts the northern most edges of vegetation on a sandstone formation known as Barneys Reef. Some of the identified areas of landscape connectivity are considered to be edge effect as connectivity is already impacted and physical habitat connectivity is non-existent to the north. Moving the alignment north would conflict with the Barneys Reef wind farm so is not possible from a design perspective.

Figure 7-4 shows the potential impacts to habitat connectivity as outlined by BCS for the Inland Slopes RNI1 stage on private property directly bordering Tuckland State Forest. In this area the alignment selected a narrower section of an otherwise potentially larger corridor which would have resulted in greater impacts to vegetation and habitat connectivity. Tuckland State Forest is located north and south of the private property that would be impacted, and as can be seen by this aerial photo complete avoidance of this habitat corridor is not possible. The alignment impacts a narrow section of a riparian corridor associated with Laheys Creek along Spring Ridge Road. Moving the alignment north or south would impact a greater extent of vegetation and habitats, and as demonstrated by this aerial photo, complete avoidance is not possible.

Figure 7-5 shows the potential impacts to habitat connectivity as outlined by BCS for the Kerrabee and Pilliga IBRA subregions Valley of the Winds and Liverpool Ranges stages (private property). In these areas, moving the alignment to avoid impacting the vegetation and habitats at these locations would impact new landowners that are not currently impacted. In this regard, the alignment was selected to maintain the same alignment as the Valley of the Winds development given landowner agreements had already been secured. Moving both 330kV alignments adjacent to the Talbragar River is not proposed due to the presence of BSAL, would require the alignment to move very close to a dwelling, and is more challenging as it would run parallel to Blue Springs Road.

Figure 7-6 shows the potential impacts to habitat connectivity as outlined by BCS for the Durridgere SCA within the Pilliga Liverpool Ranges Stage. In this area, the alignment was previously north and avoided SCA. The alignment was moved based on landowners hosting the Liverpool Range project being impacted greater than what was agreed and creating uncertainty and potential confusion between the two transmission alignments. To provide continuity and certainty, the alignment was changed to align with the Liverpool Range project to a point within the SCA. From here it moves west to reduce impacts to the SCA. It is noted that there will only be one alignment through the SCA, and on the basis Tilt Renewables are successful in their access to the project, it would result in a net reduction in impacts to the Durridgere SCA.

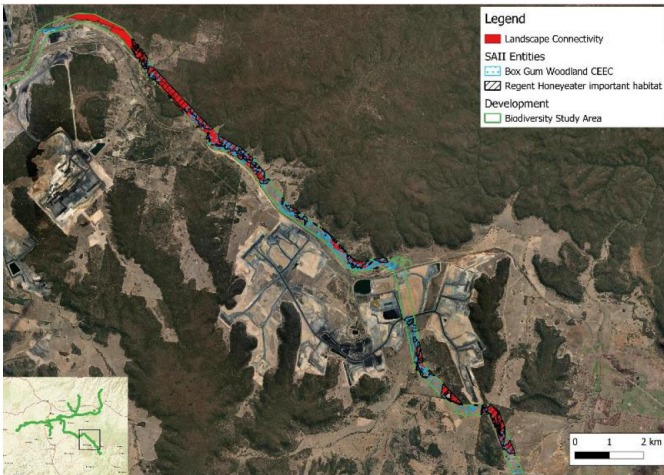


Figure 7-1 Areas recommended by BCS for further avoidance and minimisation of impact in the Kerrabee RNI stage (Moolarben and Wilpinjong mine lands)

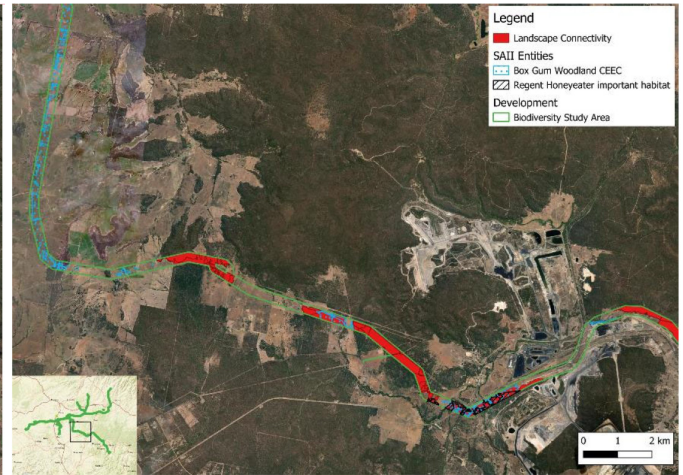


Figure 7-2 Areas recommended by BCS for further avoidance and minimisation of impact in the Inland Slopes RNI1 stage and Kerrabee RNI1 stage (private property, Ulan mine and Moolarben land)

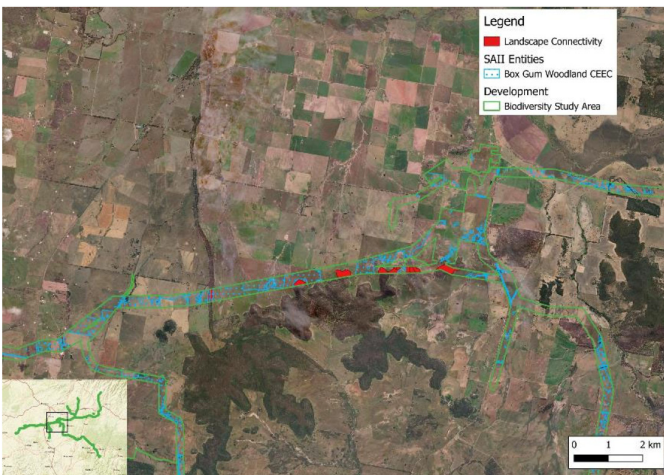


Figure 7-3 Areas recommended by BCS for further avoidance and minimisation of impact in the Inland Slopes RNI1 stage and Merotherie Hub (private property)

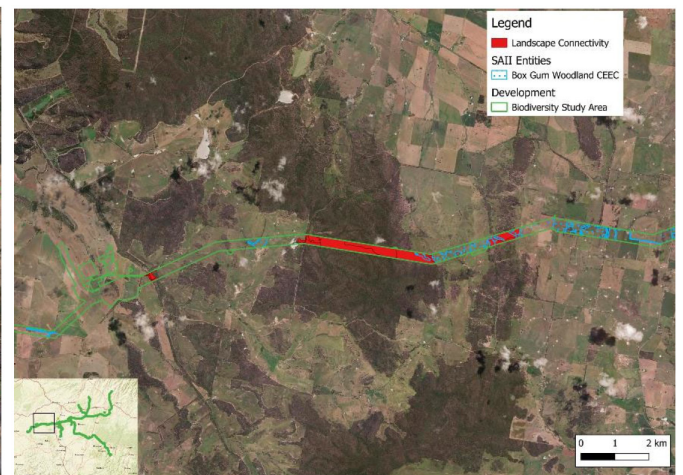


Figure 7-4 Areas recommended by BCS for further avoidance and minimisation of impact in the Inland Slopes RNI1 stage (private property directly north of Tuckland State Forest)



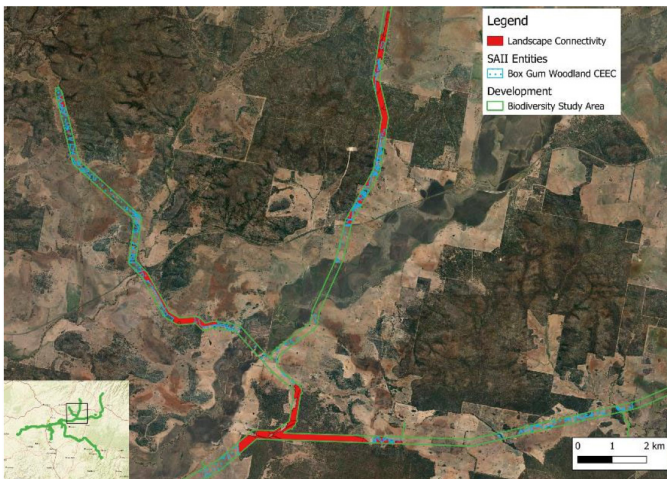


Figure 7-5 Areas recommended by BCS for further avoidance and minimisation of impact in the Kerrabee and Pilliga Valley of the Winds and Liverpool Ranges stages (private property)

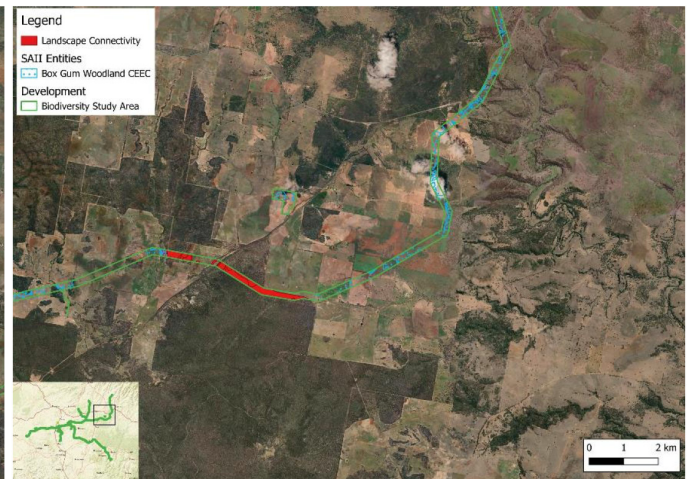


Figure 7-6 Areas recommended by BCS for further avoidance and minimisation of impact in the Pilliga Liverpool Range stage (Durridgere SCA)

## Summary of issue 21

21.1 "Undertake a connectivity impact assessment for all threatened species likely to use vegetated corridors impacted by the project, and describe the importance of this connectivity for these species' life cycle."

21.2 "Offset residual prescribed impacts to fauna connectivity that cannot be avoided or mitigated, by retiring additional biodiversity credits in accordance with the Biodiversity Conservation Regulation 2017."

## Response

The prescribed impacts section of the updated BDAR (Section 8.3) and BDAR Appendix J have been updated with a revised assessment of threatened species habitat connectivity. Offsets for residual prescribed impacts to fauna connectivity have been examined and are presented in the updated BDAR Section 8.3.4.

## Summary of issue 22

22.1 Remove the term 'connectivity corridors' when referencing retained tree stumps, to avoid potential confusion with statements relating to landscape-scale connectivity corridors.

22.2 "Revise Appendix J of the BDAR to include an assessment of the following, referencing published literature to support relevant claims:"

- a. which threatened species will benefit from retained tree stumps
- b. the potential efficacy of retained tree stumps for the Squirrel Glider
- c. "all other mitigation measures proposed to address connectivity impacts to threatened species."

22.3 "Assess whether any residual prescribed impacts to threatened fauna species, particularly the Squirrel Glider, are likely to occur, and if so, detail how the residual impacts will be offset."

## Response

The term 'connectivity corridors' when referencing retained tree stumps has been removed from the updated BDAR.

The prescribed impacts section of the exhibited BDAR (Section 8.3) and BDAR Appendix J have been updated in the updated BDAR with a revised assessment of threatened species habitat connectivity. Offsets for residual prescribed impacts to fauna connectivity have been examined and are presented in the updated BDAR Section 8.3.4.

## Summary of issue 23

23.1 "Clarify which mitigation measures represent commitments by including all relevant measures in Table 8-40 of the BDAR to allow for ease of referencing, auditing and inclusion in post-approval plans."

23.2 "Include a risk assessment of the likely success or failure of mitigation measures to address impacts to threatened species. Where the risk of failure remains high, or if explicit commitments cannot be made, the need for additional offsetting should be considered and included in the BDAR."

## Response

The wording of the mitigation and commitments are appropriate for the level of design and flexibility necessary for the implementation of the projects construction. The conservative approach to maximum thresholds provides adequate assurance impacts to biodiversity values will be minimised and mitigated appropriately.

All proposed mitigation measures are provided in Table 8-40. This table represents the commitments to mitigation for the project. Table 8-40 includes an estimate of likely efficacy including risk of failure for each measure.

## Summary of issue 24

24.1 "Complete an analysis of the potential impacts of the project to identify bird species at risk of collision or electrocution, and identify high-risk sections of the transmission line."

24.2 "Include measures in the BDAR to reduce impacts to bird species including installation of line markers, tower installations that discourage bird nesting, and implementing a monitoring program in high collision risk areas to assess the ongoing risk to fauna."

24.3 Apply an infrastructure exclusion buffer of 500 metres around all Wedge-tailed Eagle nests.

## Response

The assessment has not identified any additional areas of high risk habitats warranting further detailed risk assessment of avifauna.

No Wedge-tailed Eagle nests were located during the field survey.

Mitigation measure B14 Installation of bird diverters states that "Bird diverters will be installed on transmission lines within one kilometre (at a minimum) of wetland/riverine habitats to reduce impacts on aerial fauna species from collision with transmission lines and infrastructure. The exact position and diverter model will be finalised during detailed design. Installation of the bird diverters will occur within two weeks of transmission line installation or as soon as practical, and will remain in place and/or replaced as required."

Updated BDAR Section 8.2.3 includes an updated assessment of bird line strike and EMF assessment which identifies bird species at risk of collision or electrocution in the different areas of the alignment. Additional offsets for prescribed impacts will be proposed.

## Summary of issue 25

25.1 "Complete an assessment of cumulative impacts on biodiversity in accordance with the *Cumulative impact assessment guidelines for state significant projects* (DPE, 2022d)."

### Response

An updated assessment of cumulative impacts to biodiversity, replicated from the EIS chapter, is provided in Appendix O of the updated BDAR.

## Summary of issue 26

26.1 "Review and update the credits for each construction stage of the project to ensure consistency across the BDAR and all BAM-C cases."

### Response

A full review of credits for each construction stage of the project has been done based on the revised design (see updated BDAR Section 10 and 11).

## Summary of issue 27

27.1 "Ensure all parts of the development footprint mapped as Category 2–Vulnerable Regulated land on the transitional Native Vegetation Regulatory (NVR) map are designated as such in the project's land categorisation mapping, and the BAM is appropriately applied."

### Response

The updated BDAR includes a review of the Category 2–Vulnerable Regulated land on the transitional NVR map. Areas mapped as Category 2–Vulnerable Regulated land on the transitional NVR map are designated as such in the project's land categorisation mapping.

Note that the NVR map is a raster dataset. Conversion to vector format for incorporation into the PCT map for the project resulted in smoothing of pixels.

## Summary of issue 28

28.1 "Confirm the land categorisation dataset and PCT mapping are consistent with all land categorisation recommendations, ensuring:"

- a. "where there is sufficient evidence to support a Category 1-Exempt designation, that land and any associated BAM plot(s) are excluded from vegetation zones entered into the BAM-C and the spatial data depicting vegetation zones"
- b. "all vegetation zones entered into the BAM-C are mapped as Category 2-Regulated land"
- c. "minimum plot requirements are met for any vegetation zones affected by revision of the land categorisation."

### Response

A review of the land categorisation spatial data obtained from BCS (draft NVR map) was done in a GIS. The box gum woodland mapping was overlain on the draft NVR map and any areas mapped as field verified box gum woodland on Category 1 land were converted to Category 2 land. Field data collected from grassland reviewed and vegetation zones split into areas meeting offset thresholds and areas falling below offset thresholds to determine grassland quality.

Any BAM plots that were done in Category 1 land were not included in the BAM-C cases.

Spatial data being revised to ensure that all vegetation zones entered into the BAM-C are mapped as Category 2-Regulated land.

Where possible, minimum plot requirements are met for any vegetation zones affected by revision of the land categorisation, or approved duplication or benchmark data method was used.

## Summary of issue 29

29.1 "Map woody vegetation identified within the Department's NSW Native Vegetation Extent dataset as Category 2-Regulated land where evidence of lawful clearing cannot be provided, and apply the BAM to these areas."

## Response

The updated BDAR has been revised to map woody vegetation identified within the Department's NSW Native Vegetation Extent dataset as Category 2-Regulated land where evidence of lawful clearing cannot be provided, and the BAM has been applied to these areas.

Note that the area specified in BCS comment 29 is no longer in the subject land due to a design change.

## Summary of issue 30

30.1 " For all Category 1-Exempt polygons that overlay a Category 2-Regulated candidate mapped land use (NSW Landuse 2017 dataset):"

- a. "specify the Category 1-Exempt criteria that is applicable to the land and supply suitable supporting evidence, OR designate as Category 2-Regulated land"
- b. "when justifying Category 1-Exempt land on the basis of 'low conservation value' grasslands or other groundcover, demonstrate that the legislative requirements have been met."

## Response

The NSW Landuse 2017 dataset has been used in the assessment of Category 1 exempt land as outlined in the exhibited BDAR. A full revision of the land categorisation mapping has been undertaken using the draft NVR map provided by the Department. The updated BDAR includes updated mapping and spatial layers to address the issues with the initial BDAR mapping.

Importantly, mapped PCTs have not been excluded from the BAM-C based on any contradictory land categorisation mapping.

## Summary of issue 31

31.1 "Where the transmission line footprint crosses land associated with the Ulan, Moolarben and Wilpinjong Mines, consider within the land categorisation:"

- a. "any native vegetation clearing that may already be authorised under an existing development approval and hence can be designated Category 1-Exempt land"
- b. "any native vegetation required to be set aside for nature conservation, revegetation or vegetation offset under the development approval (including within plans established under the approval) and therefore required to be designated as Category 2-Regulated land."

## Response

A full revision of the land categorisation mapping has been undertaken using the draft NVR map provided by the Department. The updated BDAR includes updated mapping and spatial layers to address the issues with the initial BDAR mapping. The revised mapping includes consideration of approved native vegetation clearing that may already be authorised under an existing development approval. Any native vegetation required to be set aside for nature conservation, revegetation or vegetation offset under the development approval (including within plans established under the approval) will be designated as Category 2-Regulated land.

## Summary of issue 32

32.1 "Explain how the presence or absence of Box Gum Woodland CEEC has been considered within the land categorisation method, including: "

- a. "the diagnostic criteria adopted, referencing the NSW Scientific Committee Final Determination"
- b. explanation of the desktop and field methods employed for this purpose
- c. "the data used to determine presence or absence of the CEEC against the diagnostic criteria adopted."

32.2 "Designate land where Box Gum Woodland CEEC is determined to be present as Category 2-Regulated land and apply the BAM."

32.3 "Update the land categorisation and vegetation map spatial data as necessary based on BCS recommendations."

## Response

All field verified areas of box gum woodland CEEC have been assigned to Category 2 land, assigned a PCT and vegetation zone. This included derived native grasslands, shrublands, and areas of thinned trees over agricultural land.

The work was done based on review of available vegetation mapping and aerial photos with field verification in the form of rapid data points, photographs, and BAM VI plots as deemed necessary to collect sufficient information. The survey methods are outlined in the updated BDAR.

## Summary of issue 33

33.1 Review all Category 2-Regulated land designations on Australian Land Use Management (ALUM) classifications that are Category 1-Exempt land candidates, as per the NVR Map Method Statement, against the land category criteria in the *Local Land Services Act 2013* (LLS Act) and *Local Land Service Regulation 2014* (LLS Regulation). It is reasonable to designate land as Category 1-Exempt where:

- a. no Category 2-Regulated land criteria are met and
- b. there are multiple pieces of evidence for a Category 1-Exempt land designation

34.1 "Where Category 2-Regulated land is mapped as 'PCT 0', provide evidence that those specific areas do not contain any native vegetation. Otherwise include those areas within a vegetation zone in the BAM-C."

## Response

A full revision of the land categorisation mapping has been undertaken using the draft NVR map provided by the Department. The updated BDAR includes updated mapping and spatial layers to address the issues with the initial BDAR mapping.

Category 1 land has not been designated as Category 1 exempt where it is mapped as Category 2 unless the mapping was determined to be inaccurate. There are many instances where the map shows small pixels of Category 2 land surrounded by Category 1 land where nothing exists on ground (likely a result of a shadow being mapped as a tree). These areas were rectified to Category 1 land via review of aerial photography. This is outlined in Section 4.1.2.1 of the updated BDAR.

Category 2-Regulated land is mapped as 'PCT 0' in instances where the NVR map maps areas of waterway buffers. A good example of this is provided in BCS comment 27 where the Category 2 vulnerable regulated land map on the Talbragar River is shown. This area is dominated by ploughed cropping paddock which is clearly seen on an aerial photo. This is outlined in Section 4.1.2.1 of the updated BDAR.

## Summary of issue 34

34.1 Where Category 2-Regulated land is mapped as 'PCT 0', provide evidence that those specific areas do not contain any native vegetation. Otherwise include those areas within a vegetation zone in the BAM-C.

### Response

Category 2-Regulated land is mapped as 'PCT 0' in instances where the NVR map maps areas of waterway buffers. A good example of this is provided in BCS comment 27 where the Category 2 vulnerable regulated land map on the Talbragar River is shown. This area is dominated by ploughed cropping paddock which is clearly seen on an aerial photo. This is outlined in Section 4.1.2.1 of the updated BDAR.

## Summary of issue 35

35.1 "Provide BCS with a spatial file of the native vegetation extent cover, as mapped in the BDAR."

35.2 Recalculate the percentage of native vegetation cover for each Interim Biographic Regionalisation for Australia (IBRA) subregion intersected by the project according to section 5.2.1(7) of the BAM.

35.3 Following the recalculation of native vegetation cover:

- a. review the list of candidate species in each IBRA subregion to determine whether any additional threatened species require assessment
- b. recalculate the biodiversity credits for each IBRA subregion.

### Response

Native vegetation cover has been recalculated in the updated BDAR. A separate calculation of percentage native vegetation cover has been done for each IBRA subregion intersected by the project (see updated BDAR section 3.3).

BCS will be provided with a spatial file of the native vegetation extent cover, as mapped in the updated BDAR, as part of the data package.

Following recalculation of native vegetation cover, the list of candidate species in each IBRA subregion to determine whether any additional threatened species require assessment. No additional species were identified.

The biodiversity credits for each IBRA subregion were recalculated (see updated BDAR section 10 and 11).

## Summary of issue 36

36.1 Include any vegetation that has been mapped as native vegetation by the assessor in the project area and the buffer area in the native vegetation extent mapping.

### Response

Native vegetation cover has been recalculated in the updated BDAR. The calculation includes any vegetation that has been mapped as native vegetation in the subject land and the buffer area in the native vegetation extent mapping.

## Summary of issue 37

37.1 Conduct a full audit of the vegetation mapping for the BDAR, spatial data and BAM-C cases and ensure the information is consistent across all datasets. Where required, revise the credit obligation for the project in the BAM-C and BDAR.

## Response

A full review of vegetation mapping was undertaken for the updated BDAR. The information will be consistent across all datasets.

The biodiversity credits for each IBRA subregion were recalculated based on the revision (see updated BDAR section 10 and 11).

## Summary of issue 38

38.1 Revise the identifiers (names) assigned to vegetation zones to be more representative of the relative condition of the PCT.

## Response

Updated BDAR Section 4.4 contains a revised naming convention for vegetation zones based on VI score. This is considered to be more representative of the condition of each vegetation zone.

## Summary of issue 39

39.1 Undertake a full audit of PCT classification for the project based on BAM plot data information in the BioNet Vegetation Classification System, in consultation with BCS, to inform preparation of the updated BDAR.

39.2 Liaise with BCS to arrange a site visit focused on field-based PCT validation.

## Response

The BDAR presents a detailed justification for each PCT identification based on a wholistic view of soils, geomorphology, landscape and floristic field data collected by highly experienced (20 years field sampling) botanists over 2 years with reference to the VIS to provide the best fit PCT in accordance with BAM. Given the volume of data, an audit of selected VI plots was done using the PCT filter tool to support the conclusions made in the BDAR.

The site visit with BCS is yet to take place (cancelled by BCS). BCS were provided with some publicly accessible survey locations to check.

## Summary of issue 40

40.1 "Review the condition threshold metrics applied to all EPBC Act listed TECs against published criteria, and update the BDAR, BAM-C and spatial data where it is determined PCTs meet the TEC criteria."

## Response

The condition threshold metrics applied to all EPBC Act listed TECs has been reviewed against published criteria. The exhibited BDAR contained an assessment of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland against an older version of criteria as the exhibited BDAR was written prior to the release of the Conservation Advice for the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland in effect from 31 August 2023. The assessment has been revised in the updated BDAR (see BDAR Section 4.3.2). The assessment of the Grey Box TEC was also updated with additional data collected since exhibition. Data analysis is presented in Appendix N of the updated BDAR.

## Summary of issue 41

41.1 "Review and revise all BAM-C cases to ensure PCTs have been assigned to both EPBC Act and BC Act representations of relevant TECs. Where required, update the BDAR to account for changes to credit obligations."

## Response

Due to the way the BAM-C works it is not possible to assign a PCT to both a BC Act TEC and an EPBC Act TEC. A choice of one or the other must be made. Tab 3 Vegetation of the BAM-C allows for a choice of one or the other in the Associated TEC drop down menu. If the BC Act TEC is chosen, then EPBC Act TEC is shown as 'not listed', if the EPBC Act TEC is chosen, the BC Act TEC is shown as 'not listed'. This is an interesting quirk of the BAM-C and not an error made by the assessor.

The BC Act TEC was chosen for the PCTs in the BAM-C cases for this BDAR as it is necessary to capture all PCTs associated with the BC Act listed TEC. Not all vegetation zones meet condition thresholds to be part of an EPBC Act listed TEC so this choice was seen as less appropriate. The impact to EPBC Act TECs is calculated through the impact to vegetation zones.

## Summary of issue 42

42.1 Review the BAM plot data for missing data, errors and inconsistencies between Excel spreadsheets, BAM-C cases and the BDAR and update the BDAR, BAM-C and spatial data to be consistent.

42.2 Provide updated BAM plot data, in both scanned paper sheets and Excel sheets, to BCS which includes every plot informing the BDAR and BAM-C.

## Response

Updated data will be provided to BCS with the updated BDAR. Raw data will be provided in an as collected format which is important to show unmanipulated data. Some raw data is in the form of paper sheets, some is electronic in the form of excel files and some is output from a software program used to collect field data (Survey 123). The cleaned data (e.g. floristic data sheets with complete species identifications) will be provided in excel sheets.

## Summary of issue 43

43.1 Provide appropriate evidence to verify that all plots located outside of the subject land are adequately representative of the vegetation on the subject site, including:

- a. justification to demonstrate each plot's representativeness of its equivalent vegetation zone within the development footprint, and consistency with other plots collected within the same vegetation zone
- b. the distance between the plot and the nearest area of vegetation within the development footprint the plot is cross-referenced to an informing map.

## Response

Updated BDAR Section 2.2.3.1 has been updated to describe the use of plots located outside of the subject land. To ensure that the data used were representative of the vegetation zones within the subject land, only plots done within 1 km of the final subject land were included in the updated BDAR.

## Summary of issue 44

44.1 Revise the plot duplication approach to ensure plots are not duplicated across IBRA subregional boundaries

44.2 Undertake additional plot-based survey, or alternatively duplicate benchmark values for IBRA subregions which do not contain minimum plot numbers.

44.3 Provide the updated approach to providing additional BAM plots for vegetation zones to BCS prior to re-submission of the BDAR.



## Response

Plots are no longer duplicated across IBRA subregional boundaries. Updated BDAR Section 4.5.1 outlines the revised approach used. Only plots from the subregion being assessed have been used.

The modified approach is that suggested by BCS so no further consultation has been done. Where there were shortfalls in the minimum number of plots required for a vegetation zone the approach taken to the data was as follows:

- Where a vegetation zone has been sampled within a IBRA subregion, but there was still a shortfall in number of plots required to meet minimum plot numbers, the sampled plot with the highest VI score was duplicated to account for the plot shortfall.
- Where a vegetation zone was not sampled within a IBRA subregion (i.e. no plot data was available for the vegetation zone), data from a higher quality vegetation zone within the same PCT, or benchmark data for the relevant PCT was used to inform the assessment.

## Summary of issue 45

45.1 Remove all BAM plots undertaken for other projects from the assessment where the PCT has been re-assigned. Alternatively, use the PCT and condition class that was assigned in the original project BDAR.

45.2 Update the BDAR and relevant BAM-C cases with additional BAM plots to meet the minimum number of plots for each vegetation zone.

## Response

Updated BDAR Section 2.2.3.2 has been updated to address this issue. Plots from the Birriwa Solar Farm are no longer being used in this assessment. Plots from the Liverpool Range Wind Farm are still being used. Justification for the use of these plots is provided in updated BDAR Section 2.2.3.2.

The BDAR and relevant BAM-C cases have been updated with additional BAM plots to meet the minimum number of plots for each vegetation zone using the duplication or benchmark data approach.

## Summary of issue 46

46.1 Revise the use of local benchmark data to an approach that is consistent with Appendix A of the BAM.

## Response

Version 1.2 benchmarks as of 31 January 2023 were used. The default PCT benchmarks held within the BAM-C (i.e. the reference data for each PCT) were not modified (see Tab 3 of the BAM-C for each case). More appropriate local data has not been used to modify the PCT benchmarks that form the basis for VI assessment within the BAM-C.

## Summary of issue 47

47.1 Assume benchmark values for vegetation and assume the presence of all candidate species in inaccessible areas, until access can be obtained and appropriately survey undertaken.

47.2 Modifying benchmarks in specific vegetation zones by using more appropriate local data can only occur if written approval is granted by the decision-maker as per section 1.4.2(1) of the BAM.

## Response

Some areas could not be surveyed due to access restrictions. This approach of assuming benchmark values as an input into the BAM-C for a vegetation zone that lacks field data is logical for vegetation zones in moderate-good to Excellent condition and has been adopted in the updated BDAR. We have also applied benchmark data for a PCT to Thinned vegetation zones in the updated BDAR.

Benchmark data for disturbed vegetation zones such as Derived Native Grassland and Regrowth Shrubland that have missing structural layers (e.g. no trees) and absent functional attributes such as no large trees, no tree stem size classes, no fallen logs, etc. would result in the maximum vegetation integrity score being applied to a degraded vegetation zone and this would not be reflective of on ground conditions. In the absence of field data from these areas, aerial photos provide sufficient evidence to prove that these areas are disturbed and lack structural layers. To account for this, the scores for Tree composition, Shrub composition, Tree structure, Shrub structure, Length of fallen logs, Tree stem size classes, and Tree regeneration were set to zero for Derived Native Grassland vegetation zones where benchmark data had to be used. Tree composition, Tree structure, Tree composition, Length of fallen logs, Tree stem size classes, and Tree regeneration were set to zero for Regrowth shrubland vegetation zones where benchmark data had to be used.

Note that this is not modification of PCT benchmark data held within the BAM-C. The default benchmark data to which the VI plot data is compared in Tab 3 of the BAM-C remains unmodified in all cases. More appropriate local data has not been used to modify the PCT benchmarks that form the basis for VI assessment within the BAM-C.

The project has not used local data from relevant published sources or appropriate local reference sites to develop a benchmark for a PCT (see BAM Appendix A) to amend the reference data in the BAM-C.

## **Summary of issue 48**

48.1 Assign a best-fit PCT to all areas currently assigned as miscellaneous ecosystem, or justify why these areas do not contain any native vegetation.

### **Response**

Updated BDAR section 4.1.2 outlines the definition of Miscellaneous ecosystems. These areas are areas such as dams, weed dominated paddocks, and exotic tree plantings that cannot be reasonably assigned to a PCT but are not on mapped Category 1 land.

## **Summary of issue 49**

49.1 Assign all vegetation except for planted exotic vegetation to a vegetation zone and complete the minimum number of BAM plots.

49.2 Enter all BAM plots into the BAM-C to determine whether the vegetation zone requires offsetting, and to inform Category 1-Exempt land classification.

### **Response**

The study areas is dominated by extensive areas of exotic dominated and cleared pastures, that have been mapped by BCD as Category 1 lands not subject to assessment under the BAM. These area have historically and continuously been maintained as cleared with primary agricultural land uses. The request to justify the identification of these areas through detailed BAM plot sampling as a quantified method is beyond the current requirements of the LLS and BC Acts for existing land holders, would significantly increase the time, effort and complexity of the BDAR assessment and data required to be assessed with little to no change in outcomes.

The updated BDAR has provided reference to these areas, having being sampled through rapid assessment and photos to demonstrated the exotic dominance and pasture. Areas of grasslands and cleared lands that comprised native dominance, and or could be associated with an PCT or TEC were excluded from the Exotic vegetation and sampled in accordance with BAM.

Further evidence of the data and information collected within the rapid assessment and revisions to the mapping following refinement and further surveys is provided in the updated BDAR.

## Summary of issue 40

50.1 Provide relevant detail supported by evidence to demonstrate that the scattered tree module in Appendix B of the BAM can be used.

### Response

The use of the scattered tree module has been refined in the updated BDAR. Fewer scattered trees are mapped with all box gum woodland PCTs being moved into a Vegetation Zone and the normal BAM applied.

The scattered trees module has been applied with appropriate conservative assumptions for assuming worst case Class 3 Trees in areas that cannot be accessed for field confirmation. This is consistent with the approved process for PEC E and Pec W.

Scattered Trees assessment are restricted to areas of Category 1 cropping lands.

There are no Scattered trees within the development area associated with the Regent Honeyeater important habitat map. It is unclear what BCD are referring to near Wilpinjong, with reference to scattered trees No. 172 and No. 167.

The Scattered tree assessment details have been updated in updated BDAR Section 2.2.6 and 4.6.

## Summary of issue 51

51.1 Review the justification for excluding Regent Honeyeater as a candidate species from relevant scattered trees in the scattered tree streamlined assessment module.

51.2 If Regent Honeyeater cannot be removed from the scattered tree assessment, it must be retained and a credit liability for this species be calculated in accordance with the BAM.

### Response

Importantly, SAll species including Swift Parrot and Regent Honeyeater are excluded from the scattered tree assessments based on the absence of habitat constraints (i.e. the scattered trees are not in areas of mapped important habitat). As such, there is no impact to these SAll species credit species and the Scattered Tree module can be used. This is outlined in updated BDAR Section 4.6.

## Summary of issue 52

52.1 Review section 5.2 of the BDAR and associated BAM-C cases to ensure consistency in the application of habitat and geographic constraints.

52.2 Provide peer-reviewed evidence to support threatened species survey effort occurring outside of the Threatened Biodiversity Data Collection (TBDC) survey timeframes.

52.3 Conduct further targeted surveys for threatened species listed in Table 4 of BCS's response, assume presence or obtain an expert report.

52.4 Provide further evidence in the BDAR to support the exclusion of candidate species from each vegetation zone, stage and IBRA subregion.

### Response

The updated BDAR contains a revised assessment of threatened species in Section 5.2 in line with the changes to PCT mapping and project boundary changes.

Geographic and habitat constraints for each assessed species are outlined in Table 5-1 in updated BDAR Section 5.1.1.

Evidence to support threatened species survey effort occurring outside of the Threatened Biodiversity Data Collection (TBDC) survey timeframes is to be provided in updated BDAR Section 5.4.

Targeted surveys for threatened species have occurred since exhibition of the BDAR addressing the need for additional surveys of species outlined in Table 4 of the BCS submission. Where survey was not possible, species have been assumed to occur.

Updated BDAR Section 5.1.1, 5.1.2, 5.1.3 and 5.1.4 provides additional evidence to support the exclusion of candidate species from each vegetation zone, stage and IBRA subregion

### **Summary of issue 53**

53.1 Retain the candidate species currently listed as vagrant in the BDAR for further assessment. Impacts to the species should be determined through targeted surveys, assumed presence, or the preparation of an expert report. The BDAR, BAM-C and spatial data should be updated accordingly.

### **Response**

The species listed as vagrant in the exhibited BDAR are legitimately vagrant to the locality of the project or in the case of the plant species do not occur and are included as the candidate species list in the BAM-C is based on blunt IBRA subregion and PCT associations.

Updated BDAR Section 5.1.2 has been amended to deal with further assessment of candidate species credit species under BAM Subsection 5.2.3 in terms of habitat quality.

### **Summary of issue 54**

54.1 Review the PCT associations for candidate threatened species and update the BDAR and BAM-C accordingly.

54.2 Provide justification for the exclusion of any specific areas and/or vegetation zones from areas where species have been assumed present.

### **Response**

All species polygons have been revised in the updated BDAR to match updated PCT mapping and project design changes. Section 5.2 of the BDAR has been updated to reflect the changes.

### **Summary of issue 55**

55.1 Undertake an assessment of all indirect impacts likely to occur in both construction and operational phases of the project for the Little Eagle nest located near the Merotherie Energy Hub.

### **Response**

The BDAR has been revised to include direct impacts to the Little Eagle species polygon and an offset requirement has been developed (see Section 10 and 11). Inadvertent impacts on adjacent habitat or vegetation including impact to habitat surrounding a potential Little Eagle nest tree are recognised in Section 8.2.1 of the updated BDAR.

### **Summary of issue 56**

56.1 Review the species polygons for the Eastern Cave Bat and Large-eared Pied-bat and ensure all associated PCTs have been added in the BAM-C cases.

56.2 Conduct further targeted surveys, assume presence or provide an expert report to justify the exclusion of the Large Bent-winged Bat from the BAM-C.

### **Response**

The updated BDAR includes a review of the species polygons for the Eastern Cave Bat and Large-eared Pied-bat. Revised impacts are presented in Section 8.1.4.

Further survey has been undertaken for Large Bent-winged Bat since exhibition and the results are outlined in the updated BDAR in Section 5.3. No breeding caves were found in or adjacent to the subject land.

## Summary of issue 57

57.1 Conduct a full audit of the BDAR and the BAM-C to address inconsistencies in survey effort and habitat constraints for threatened forest owls.

57.2 Provide peer-reviewed justification to support surveys for threatened forest owls that occurred outside of appropriate survey windows, as listed in the TBDC.

57.3 Conduct targeted surveys for threatened forest owls in all stages of the project, or alternatively, assume presence or obtain an expert report.

## Response

The updated BDAR includes a review of the species polygons for threatened forest owls based on additional surveys undertaken since exhibition.

Evidence to support threatened species survey effort occurring outside of the Threatened Biodiversity Data Collection (TBDC) survey timeframes is to be provided in updated BDAR Section 5.4.

## Summary of issue 58

58.1 Review the species polygons for all flora species to ensure they are consistent with the appropriate method of species polygon generation, as described in Box 2 of the BAM and section 4.4.5 of the BAM Operational Manual Stage 1.

## Response

The updated BDAR includes a review of the species polygons for threatened plants based on additional surveys undertaken since exhibition. The appropriate method for species polygon creation for count and area species has been applied.

## Summary of issue 59

Review the species polygons and PCT associations for all threatened flora count species in areas where they have been assumed present and update the BDAR, BAM-C and spatial data.

## Response

It is not possible to create a species polygon for assumed presence of count species. The BAM and associated documents do not provide any guidance on creation of an assumed species polygon for a count species. As the species polygon for a count species must be a 30 m buffer around a recorded individual the application of this method to assumed habitat is problematic. The species polygon for a count species indicates the location of the population on the subject land and this is not used in credit calculations. The number of assumed individuals within an assumed species polygon cannot be estimated and entered into the BAM-C.

Based on samples collected since the original identifications, the potential *Eucalyptus cannonii* plants have been confirmed by the NSW Herbarium as *Eucalyptus macrorhyncha* and *Eucalyptus macrorhyncha* x *cannonii* hybrids so species polygons for this species are no longer required.

## Summary of issue 60

60.1 Include the associated PCTs, area impacted, and number of biodiversity credits for every entity considered to be a Matter of National Environmental Significance (MNES) in Table C.5 of the BDAR.

60.2 Ensure information in the Test of Significance for each MNES is consistent and reflects information presented in the BDAR.

## Response

Table C.5 of the updated BDAR has been revised with the associated PCTs, area impacted, and number of biodiversity credits (where possible). It is not possible to enter the number of biodiversity credits required for an ecosystem credit species as ecosystem credit species do not generate credits, ecosystem credit species contribute to the overall credit requirement for ecosystem credits.

The Tests of Significance for each MNES have been revised in line with the updated BDAR.

## Summary of issue 61

61.1 Conduct a full review of impacts to MNES in Appendix C of the BDAR to address inconsistencies with information presented in the main body of the BDAR, and provide evidence to support statements.

61.2 Quantify the use of the term 'marginal quality' in the assessment of impacts to MNES in Appendix C of the BDAR, particularly for Pink-tailed Legless Lizard, Striped Legless Lizard, Broad-headed Snake and Regent Honeyeater.

## Response

MNES Appendix C has been revised in line with the updated BDAR.

The term marginal quality refers to the following - "In terms of habitat, marginal quality habitat is a habitat supporting only a few species or individuals because of the limiting environmental conditions. Synonymous with poor or low quality habitat." This definition has been added to the updated BDAR.

## Summary of issue 62

62.1 Ensure the BDAR conforms to certification requirements as per section 6.15(1) of the BC Act.

62.2 Ensure the re-certified BDAR includes the finalised biodiversity credit reports from the submitted BAM-C cases.

## Response

Addressed in the updated BDAR.

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## 7.2.2 Flooding

### Summary of issues

DCCEEW – BCS will undertake a detailed assessment of the impacts of the project on flooding and hydrology at the submissions stage when information on the project footprint, clearing methods and layout and extent of impacts is known.

### Response

Potential flood related impacts of the exhibited project during its construction and operation were assessed in Technical paper 15 - Flooding of the EIS. Key findings of the assessment were summarised in Chapter 19 of the EIS. The assessment noted that impacts to flood extents due to construction activities and operation would be minimal and manageable through the implementation of mitigation measures.

Additional assessment have been undertaken to identify changes to potential flood related impacts associated with the amended project, since exhibition of the EIS is detailed in Appendix L of the Amendment Report. In relation to flood risk and flood behaviour during the construction of the amended project, construction of two new bridges over the Talbragar River and Laheys Creek as part of the proposed upgrades to Merotherie Road and Spring Ridge Road entails potential flood

risks. During a 10% Annual Exceedance Probability (AEP) event, the construction areas for these bridges are projected to be impacted by floodwaters that may pose hazards to construction personnel, equipment, and materials. As per mitigation measure FL10, flood emergency management procedures would be prepared and incorporated into the relevant environmental and/or safety management documents.

The additional assessment undertaken found that while the amended project would involve changes to the alignment and extent of the transmission line corridors and switching stations, there would be no significant change in their overall level of flood affectation. On this basis, the assessment of flood related impacts associated with the transmission line corridors and switching stations that is presented in Sections 6.1.4 and 6.1.5 of Technical paper 15 - Flooding would also be applicable to the amended project.

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## 7.3 DCCEEW – Water

DCCEEW – Water provided advice on water and wastewater matters associated with the project, dated 26 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.3.1 Water supply, take and licensing

#### Summary of issue

DCCEEW – Water provided pre-approval recommendations in relation to the project relating to construction water supply, take and licensing.

DCCEEW – Water commented that a variety of water supply options to meet the project's water demand are provided in the EIS, some that would require WALs with sufficient entitlement to accommodate the surface and or groundwater take, however, none have been confirmed. DCCEEW – Water recommended that the proponent confirm the water supply for the project and demonstrate the ability to obtain a secure and appropriately authorised water supply, and where required include relevant agreements and demonstration that sufficient water entitlements can be acquired.

During the second year of construction, 76 ML of groundwater take from the bores at the Elong Elong and Merotherie energy hubs has been proposed. DCCEEW – Water noted this water take needs to be accounted for on a WAL with sufficient entitlement, to ensure sufficient water is available from each impacted groundwater source to account for the volumes required. DCCEEW – Water recommended that the proponent obtain sufficient entitlement in the Gunnedah-Oxley Basin MDB Groundwater Source and Lachlan Fold Belt MDB Groundwater Source to account for the maximum proposed groundwater take from the bores at the Elong Elong and Merotherie energy hubs.

DCCEEW – Water commented that the EIS states that where the project's excavations or piles intercept the groundwater table, dewatering may be required and that it is likely to exceed 3 ML/year. The amount of groundwater take due to dewatering has not been quantified in the EIS. In accordance with the NSW Aquifer Interference Policy groundwater take needs to be quantified and accounted for. Additionally, this water needs to be accounted for to ensure sufficient water is available from each impacted groundwater source to account for the volumes required. DCCEEW – Water recommended that the proponent quantify the maximum annual volume of water take due to aquifer interference activities required for the project and demonstrate sufficient entitlement can be acquired in the relevant water source unless an exemption applies.

## Response

### Construction water supply

Analysis undertaken for the EIS estimates the construction phase water need for the project at 700 megalitres of water per year during construction. Of this total quantity, approximately 450 megalitres would be potable water, with the remaining 250 megalitres being non-potable. The actual water usage is expected to vary during the construction period depending on the nature and extent of construction activities taking place.

These are conservative estimates based on the peak workforce for the project. Furthermore, the wastewater treatment plants at the camps are estimated to treat around 240 litres of water per day, per person. This water is expected to be used for dust suppression, compaction and other construction purposes and would reduce the non-potable water demands, and thereby reduce the water take.

Water for construction of the project would be sourced according to the following hierarchy, where feasible and reasonable, and where water quality and volume requirements are met:

- rainwater harvesting (non-potable water)
- reuse of construction water (non-potable water)
- reuse of treated wastewater (discussed in section below) and/or groundwater inflows (non-potable water), where practicable
- existing unregulated surface water sources (non-potable water), including the Upper Talbragar River Water Source, Lower Talbragar River Water Source and Upper Goulburn River Water Source, under water access licences for the project
- extraction from regulated groundwater sources via new groundwater bores (non-potable water), primarily for dust suppression
- existing regulated and unregulated surface water sources (potable water)
- Council-owned potable water supplies in Dunedoo and Coolah (in the Warrumbungle LGA) and Gulgong (in the Mid-Western Regional LGA) where possible. Other sources would be investigated if these council owned supplies are not able to supply water to the project.

As per section 3.4 of Technical paper 14 – Hydrology and water quality of the EIS, due to unavailability of water usage data for Upper and Lower Talbragar River, water source data from adjacent Cudgegong River catchment was used to assess the impacts of the project on water resources as it consists of similar land uses and climatic conditions. It is noted that for all construction years, the available water for extraction would be limited by the preceding rainfall. As per the data interpretation in the assessment, there is a high chance of water being available for all construction activities requiring for 2024 and 2027.

Analysis of rainfall data in Technical paper 14 notes that Lower Talbragar has a large volume of potential water available, hence causing minimal impact and suggests it to be the preferred source of water for the project during low rainfall periods.

EnergyCo has been in consultation with a water broker to identify surface and groundwater sources that can meet the projects water supply requirements. Based on a review of the market, there is sufficient entitlements available from the Cudgegong and Talbragar water sources, noting the Cudgegong River has a higher potential for water availability and with a history of trading. In this regard the preferred approach would be to source water from exiting entitlements. The project team would engage with DCCEEW Water if a risk to water supply is identified during construction.

Separately to the project, EnergyCo is working with councils and DCCEEW's Local Water Utilities team to investigate opportunities to augment water supply and wastewater treatment capacity that would support security of supply and treatment in the longer term while also increasing capacity during the Central-West Orana REZ construction period.



Where these projects can meet the eligibility requirements for the forthcoming Community and Employment Benefit Program (CEBP) in the Central-West Orana REZ, funding for these projects may be allocated through the CEBP. To accelerate the delivery of projects allocated through the CEBP, EnergyCo has secured funding from the Transmission Acceleration Fund. Alternatively or in addition projects such as these may be accelerated through the Transmission Acceleration Fund advancing concessional financing to councils to be repaid via the proposed significant REZ generator Voluntary Planning Agreements with councils.

This may include projects such as upgrades to existing water supply and wastewater treatment infrastructure in the region or the development of new water security infrastructure benefitting communities in the Central-West Orana REZ through safe, secure and accessible water supply.

The CEBP is due to be open by the end of April 2024. Once applications are received and assessed, details of confirmed project and funding allocations will be published on EnergyCo’s website later in 2024.

The EIS provides an assessment of the potential impacts of the project to groundwater against the relevant impact assessment criteria for extracting groundwater at both the Merotherie and Elong Elong energy hubs. Appendix C of Technical paper 17 – Groundwater presents a ‘Bore dealing assessment’ for the potential groundwater supply locations at each energy hub. The assessment showed there would be no more than minimal harm to surrounding groundwater users and the environment, according to the ‘Assessing groundwater applications fact sheet’ (DPI, 2018).

Table 7-2 outlines the available groundwater entitlements in 2023/24 and the limits to the availability of water for the relevant groundwater sources for the Merotherie and Elong Elong energy hubs. This illustrates that there is sufficient availability within each groundwater source to cater for the expected project demand, should groundwater be required for water supply.

Table 7-2 Available groundwater entitlements

Energy Hub	Groundwater source	Total share component (2023/24) <sup>1</sup>	Limits to the availability of water – Long-term average annual extraction limit (LTAAEL)	Available remaining
Elong Elong	Gunnedah–Oxley Basin MDB Groundwater Source	27,293 ML	127,500 ML/year <sup>2</sup>	100,207 ML
Merotherie	Lachlan Fold Belt MDB Groundwater Source	74,642 ML	253,788 ML/year <sup>3</sup>	179,146 ML

1. NSW Water register (WaterNSW, 2023)
2. Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources Order 2020
3. Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources Order 2020

An assessment of potential groundwater interception at the energy hubs showed that, based on available information, groundwater is unlikely to be intercepted as excavations for foundations are unlikely to be as deep as the groundwater in this area. If shallow groundwater is encountered within the construction area, it is likely to be perched, non-permanent and localised (that is, not connected regionally). Therefore, there would be very limited to no groundwater inflow to the hillslope cuttings and no change in groundwater levels at nearby receivers. In areas where groundwater is shallow, alternative construction methodologies and designs would be considered and implemented where reasonable to minimise interaction with groundwater during the works.

The concrete piles for transmission towers may intercept the local water table where the water table is above the bottom of the pile; however, due to the existing groundwater levels being lower than the proposed excavation depths there would be no (or very limited) change in groundwater levels at any nearby receivers. Construction methods are available and routinely adopted for piles that do not require active and continuous dewatering. Concrete would be poured into the excavated pile, and water removed from the pile as it is displaced by the concrete.

Water displacement would be minor (piles are around 0.75 metres to 1.2 metres in diameter, and up to between five to 20 metres below ground level, so a maximum of about 24 cubic metres if groundwater was present at surface). Therefore, there is no permanent take of water needing to be accounted for in relation to piling activities.

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## 7.3.2 Wastewater management

### Summary of issue

DCCEEW – Water recommended, that prior to approval, the proponent should develop and provide further details on the management of wastewater to be collected and transported offsite to council wastewater treatment plants. This should be done in consultation with the relevant local council.

### Response

Wastewater and grey water from construction compounds (where wastewater treatment plants are not provided) and the initial establishment of the workforce accommodation camp sites would be collected and transported via tanker trucks to an appropriately licenced liquid waste treatment facility with sufficient capacity (which may result in longer distance transport than would be needed for local disposal).

Wastewater treatment facilities would be established at the workforce accommodation camps and potentially at the construction compounds. They would be designed to collect wastewater from construction activities (including concrete washout), showers, kitchens, laundries and toilets and to produce effluent that meets the water quality requirements for dust suppression and use for other construction activities within the construction area. All wastewater treatments plants would produce sludge that requires disposal at regular intervals. Liquid waste sludge would be disposed to sewer and transported via tanker trucks to an appropriately licenced liquid waste treatment facility.

The limited capacity of Mudgee sewage treatment plant to accept sewage from the project has been raised by Mid-Western regional Council (refer to Section 6.1 of this report). In response to this submission, a new mitigation measure has been included to ensure wastewater disposal to a local wastewater treatment facility is conducted in consultation with local council (mitigation measure WM7).

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## 7.3.3 Impacts to boreholes

### Summary of issue

DCCEEW – Water recommended, that after approval, the proponent should carry out appropriate mitigation measures to prevent damage to the two identified basic landholder rights bores within the construction area. DCCEEW – Water noted this is a requirement of the project SEARs and is also a commitment by the proponent as per mitigation measure GW4 of the EIS.

### Response

As identified by DCCEEW – Water, mitigation measure GW4 provides a commitment to avoid direct impacts to registered bores, where practicable. If the bores are able to be avoided during construction, then they will be clearly demarcated to protect the infrastructure. Where impact is unavoidable, the existing bores will require decommissioning, and be replaced in a similar nearby location in consultation with the landowner.

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## 7.3.4 Management plans

### Summary of issue

DCCEE – Water recommended, that after approval, the proponent should prepare and implement a progressive CEMP which must include but not limited to:

- quantifying any dewatering volumes encountered during construction and managed in accordance with the *Water Management Act 2000*
- monitoring and recording of extraction volumes from water supply bores and regular analysis of extracted volumes against predicted volumes.

DCCEE – Water identified that the EIS states that groundwater would be intercepted in some areas by piles (where groundwater is shallow) and would be displaced by concrete pile construction. The volume of this groundwater take has not been assessed but the proponent commits to prepare progressive CEMP (per mitigation measure GW1 of the EIS).

DCCEE – Water expressed that the CEMP and the Soil and Water Management sub-plan need to be consistent with the Guidelines for Controlled Activities on Waterfront Land. The project crosses multiple watercourses and all works within waterfront land (40 metres of a watercourse) are to be conducted in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DPE-Water, 2022).

### Response

A range of processes, procedures and actions would be implemented to ensure that construction activities are undertaken in accordance with the environmental, stakeholder and community management requirements identified in the EIS Chapter 21 (Environmental management), including preparation and implementation of the CEMP. The CEMP will be established prior to the commencement of construction, and encompasses protocols and measures that are designed to reflect the progressive nature of construction, addressing conditions and requirements as the project advances. A Soil and Water Management sub-plan will be prepared as part of the CEMP for the project and contain appropriate measures to minimise impacts to soil, surface water and groundwater.

As noted in Section 7.3.1, dewatering of groundwater is not predicted to occur during the construction or operation of the project. Mitigation measure GW1 provides a commitment that in the event that groundwater is encountered during excavations, any incidental groundwater volumes will be recorded and managed in accordance with the requirements of the *Water Management Act 2000*. Groundwater monitoring would be carried out as per mitigation measure GW1 and GW2.

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## 7.4 DPHI – Crown Lands

DPHI – Crown Lands provided advice on Crown land use matters, dated 16 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.4.1 Access using Crown roads

#### Summary of issues

DPHI – Crown Lands noted that Crown land (reserves and roads) have been identified in the construction area. While the roads may provide legal access, they may not be suitable for practical access to the site. DPHI – Crown Lands advised not to rely on these roads for practical access. To

use and build infrastructure on Crown land, the proponent needs authorisation under the *Crown Land Management Act 2016* and/or the *Roads Act 1993*.

## Response

During the construction of the project, the construction area would include one parcel of Crown land, which would include the travelling stock routes along Barneys Creek Road as well as Crown roads (including paper roads). Specifically, the construction area would cross two parcels of Crown land which are subject to undetermined land claims under the *Aboriginal Land Rights Act 1983*. This includes a small parcel of Crown land adjacent to Laheys Creek, one parcel to the south of the Golden Highway, where temporary access would be required to facilitate construction. EnergyCo continues to liaise with the Local Land Services (LLS) and/or the relevant LALC (depending on the status of this claim) to gain access to these land parcels. EnergyCo is continuing to consult with the relevant LALCs in relation to the project.

During operation, access to the proposed transmission line easements, energy hubs and substations for operational maintenance would be via access tracks, running to and along the proposed transmission line easements, and existing public and private roads. Improvements to existing access tracks and/or new access tracks would be required to provide appropriate access to the transmission easement and where required would be retained for operational purposes. A proposed microwave repeater would be located on Crown Land near Botobolar, about 14 kilometres southwest of the operation area at its closest point, near Wollar.

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## 7.4.2 Use of Crown land

### Summary of issue

To traverse Crown land with transmission lines, the proponent must apply for an easement/s. It is recommended the proponent also apply for a Crown licence for each Crown land parcel to temporarily authorise access while any easement applications are processed. Licences or easements must be obtained before infrastructure can traverse Crown land.

### Response

The project construction area would include one parcel of Crown land, which is associated with travelling stock routes along Barneys Creek Road, as well as Crown roads (including paper roads), and waterways (including Laheys Creek and Wilpinjong Creek). Where these parcels of Crown lands are enclosed (i.e. fenced within a landowners property), they remain Crown land.

The transmission line alignment and associated easement traverses one travelling stock route and several parcels of Crown Land that are associated with waterways, Crown roads and roadside areas. Easements would be created on sections of three Crown land parcels. Crown land (paper roads) located within the Elong Elong Energy Hub would be permanently acquired prior to the commencement of construction, and land use would change from its current agricultural land use to electrical infrastructure.

As identified in mitigation measure LP11, easements will be established for transmission lines by EnergyCo in consultation with landowners and in accordance with the Just Terms Act and *Crown Lands Management Act 2016 (NSW)* (as relevant) at the completion of construction.

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## 7.5 Heritage Council of NSW

The Heritage Council of NSW provided advice on historical heritage matters, dated 6 October 2023.

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### 7.5.1 Historical heritage

#### Summary of issue

Heritage Council of NSW noted that the construction area does not contain any State Heritage Register items, nor is there any State Heritage Register items in the immediate vicinity. Further, the construction area does not contain any known historical archaeological relics. However, it is noted that there are nine potential archaeological sites that may be impacted, for which there is a methodology to avoid and minimise any significant loss. Therefore, Heritage Council of NSW did not provide comments on the project.

#### Response

The Heritage Council of NSW's position is noted.

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## 7.6 DPI – Agriculture

DPI – Agriculture provided advice on agricultural matters, dated 24 October 2023.

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### 7.6.1 Agriculture

#### Summary of issue

DPI – Agriculture reviewed the EIS and Technical paper 2 – Agriculture and noted that the project encompasses a construction area of 4,000 ha of land used for livestock and cropping enterprises in the Central-West Orana REZ. The majority (75 per cent) of the agricultural portion of the construction area is Land and Soil Capability Class 5. DPI – Agriculture acknowledged the re-routing of the transmission corridor earlier this year to avoid large contiguous areas of important agricultural land to the east.

DPI – Agriculture commented that the Technical paper 2 – Agriculture provides a conservative estimate of 875 hectares of land permanently disturbed during the operational phase, which includes 125 hectares of mapped Biophysical Strategic Agricultural Land (BSAL), and potentially larger (not estimated) proportion of draft State Significant Agricultural Land (SSAL). DPI – Agriculture stated that it understood that while there is inevitable and permanent removal of agricultural land during operation, the overall direct impact on important agricultural land is nominal, projected to amount to a reduced gross agricultural income of \$317,550 per annum across the entire operation area.

In terms of impacts on agricultural activities, the expected range of impacts during both construction and operation are reasonable and manageable, and DPI – Agriculture indicated its support of the mitigation measures put forward in the EIS. It noted that potential issues for agriculture are most likely to present during construction with the introduction of a large workforce to the rural landscape and the related works associated with transmission augmentation. However, it is understood that during operation, typical local livestock grazing and dryland cropping activities can largely continue within transmission easements. DPI – Agriculture support the development of property plans in consultation with landholders to manage risks such as biosecurity, access to water, aerial agriculture and firefighting during all phases of the project.

## Response

DPI – Agriculture’s position is noted, in particular the support for individual Property Management Plans as specified in mitigation measure AG3 is noted.

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## 7.7 DPI – Fisheries

DPI – Fisheries provided advice on waterway crossing and riparian zones matters, dated 10 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.7.1 Water crossings

#### Summary of issue

DPI – Fisheries identified that while the project would employ drones or helicopters to transport transmission lines over major watercourses, the project would involve the construction of watercourse crossings and causeways over smaller watercourses which may be Key Fish Habitat. NSW DPI – Fisheries stated that the construction of waterway crossings should be in accordance with DPI – Fisheries Guideline document: *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (Fairfull & Witheridge, 2003) and the associated *Policy and Guidelines for Fish Habitat Conservation and Management* (DPI, 2013). This is to ensure that the works are designed and constructed in accordance with best management practice and with minimal impact on the aquatic environment within the immediate vicinity of the proposed works.

#### Response

Mitigation measure B17 commits to designing watercourse crossings to minimise disturbance and harm within riparian corridors and rehabilitate aquatic habitat to achieve a 'no net loss' of habitat within the affected area and catchment as a whole, in accordance with the *Why do fish need to cross the road? Fish passage requirements for waterway crossings* (Fairfull & Witheridge, 2003) and *Policy and guidelines for fish habitat conservation and management* (DPI, 2013).

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### 7.7.2 Riparian buffer zones and riparian vegetation management plan

#### Summary of issue

DPI – Fisheries’ policy advocates the use of terrestrial buffer zones as per the Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013) which states that ‘DPI will generally require riparian buffer zones to be established and maintained for developments or activities in or adjacent to TYPE 1 or 2 habitats or CLASS 1-3 waterways.’

DPI – Fisheries stated that while the EIS states that understorey vegetation (under two metres height) would be protected within vegetated riparian zones and disturbed riparian areas progressively stabilised and rehabilitated, DPI - Fisheries anticipates that the Riparian Vegetation Management Plan includes objectives to replant and replace overstorey vegetation that attains heights in excess of two metres, as this would be the riparian vegetation that is impacted upon.

#### Response

As described in the EIS, vegetation within the operation area with growth heights of two metres and above (largely trees and shrubs) would be cleared prior to and during operation, whereas native vegetation (including Derived Native Grasses and Derived Native Shrublands) with growth heights less than two metres would be retained. Hazard/high risk trees located inside and outside of the

transmission line easement would be removed. Hazard/high risk trees are defined as any tree or part of a tree that if it were to fall would infringe on the vegetation clearance requirements at maximum conductor sag of the transmission lines.

A Riparian Vegetation Management Plan (RVMP) will be developed and implemented for the project to manage activities within vegetated riparian zones to minimise impacts to aquatic environments (mitigation measure B13). A schedule of works will be stipulated within the approved RVMP. Riparian areas subject to disturbance will be progressively stabilised and rehabilitated.

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## 7.8 NSW Environment Protection Authority

The EPA provided advice on the project, dated 25 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.8.1 Environment protection licence

#### Summary of issues

Based on the information provided, the EPA noted the project does not appear to require an environment protection licence under the *Protection of the Environment Operations Act 1997* (POEO Act). However, as aspects of the project become more refined as part of the detailed design and construction process, the EPA may become the appropriate regulatory authority for the proposed activity and an environment protection licence (EPL) may be required under the POEO Act. The EPA recommended that the proponent continually review the project to determine if there is a change to the requirement for an EPL.

#### Response

Since exhibition of the EIS and as a result of further detailed construction planning, the estimated volumes of crushing, grinding or separating, (meaning the processing of materials including sand, gravel, rock or minerals) required during construction of the project has increased. Crushing and screening is proposed occur at four locations within the construction area, comprising the New Wollar Switching Station, the Merotherie and Elong Elong energy hubs and at switching station M1. If the total estimated amount of material to be processed at each site exceeds 150 tonnes of material per day or more than 30,000 tonnes per year, the need for an EPL under the POEO Act would be discussed with the EPA.

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## 7.9 Transport for NSW

Transport for NSW provided advice on traffic and transport matters, dated 12 November. Consideration of the items raised in their advice is provided in the following sections.

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### 7.9.1 Infrastructure approval for all road upgrades (Local and State Classified Roads)

#### Summary of issues

Transport for NSW requested further information on the scope of the Port to Central-West Orana REZ (P2R) OSOM road infrastructure intersection upgrades including:

- clarification if the OSOM upgrades at the intersections with the state classified road network were reliant on the separate Part 5 environmental approval underpinning the P2R OSOM road infrastructure upgrades or if an additional Part 5 environmental approval is to be prepared and determined by EnergyCo
- if it is the former, then the OSOM road infrastructure upgrades must be reviewed to assess the scope changes and implications to the Central-West Orana REZ scope of works for the road infrastructure upgrades. The EIS and Technical paper 13 – Traffic and transport are required to be either updated to identify that EnergyCo will be the proponent and determine the OSOM road infrastructure upgrades will form part of a further separate Part 5.1 environmental assessment or include and assess the scope of the road infrastructure upgrades for the OSOM movements as part of the project, which will require the following information to be provided – swept paths for the design vehicle, the vehicle configuration and laden dimensions and a strategic design for each intersection with the classified road network outside of the scope of the P2R project
- detail on the switch room and transformers vehicle configuration, laden dimensions and weights to ensure they align with the scope of the P2R design parameters that will form part of the separate Part 5 environmental approval for the OSOM upgrades from the Port of Newcastle.

Transport for NSW also requested a table that identifies the following information for proposed road upgrades:

- the location of each road upgrade
- the scope of the upgrade
- what vehicles the upgrade is intended for
- whether it forms part of the project scope or if seeking as a part of a separate environmental assessment (Part 5)
- who the proponent will be
- the legislative consultation requirements with Transport for NSW (in relation to the state classified road network)
- timing of the environmental assessment determination.

Transport for NSW noted that it will not be exercising the functions of the roads authority for any unclassified roads (local) by virtue of the *Roads Act 1993*.



## Response

Sections 3.2.4 and 1.4.2 of the EIS provided a general overview of the local road and intersection upgrades proposed for the project. The EIS indicated that local road and intersection upgrades would be required at the following locations to ensure safe access to construction sites and accommodate the movement of oversize and overmass (OSOM) equipment for the project (refer to section 3.4.3 of the Amendment Report for a clarification on these works), subject to expected traffic volumes and turn warrant assessment. The local road and intersection upgrades included:

- a section of Merotherie Road
- a section of Spring Ridge Road
- a section of Dapper Road
- Spring Ridge Road/Dapper Road intersection
- Neeleys Lane/Ulan Road intersection
- Golden Highway/Ulan Road intersection
- intersection of Merotherie Road with the access road to the Merotherie Energy Hub
- Merotherie Road/Golden Highway intersection
- intersection of Barigan Road with the existing access road to the existing Transgrid Wollar Substation.

The EIS included the provision that EnergyCo may assess and determine those upgrades under Division 5.1 of the EP&A Act to allow the works to be determined and commence construction prior to the determination of the CSSI application. The road and intersection upgrades were also included in the EIS so that in the event they were not determined under Division 5.1, they could be determined under this CSSI application. It is now confirmed that the works will be included as part of the CSSI application (and as such EnergyCo would be the proponent for the works), and the timing of approval would be in accordance with the timing of the CSSI approval, anticipated to be mid-2024).

Further refinements to the alignment and design of the local road and intersection upgrades are proposed to consider further design development and minimise the potential impacts of the project where practicable.

Refinements to the local road and intersection upgrades are detailed in section 3.3 of the Amendment Report, and comprise:

- minor changes to the extent and/or alignment of the local road and intersection upgrades
- installing a new bridge on Merotherie Road at its crossing of the Talbragar River to replace the existing crossing
- installing a new bridge on Spring Ridge Road at its crossing of Laheys Creek to replace the existing causeway
- upgrading drainage infrastructure
- upgrading Neeleys Lane from the Neeleys Lane/Ulan Road intersection to the entrance of the Neeleys Lane workforce accommodation camp
- removing the upgrade of the intersection of Barigan Road with the existing access road to the existing Transgrid Wollar Substation, as these works have already been completed as part of the Wollar solar farm development.

EnergyCo notes Transport for NSW's request for detailed information regarding the proposed road upgrades, however the details will be provided during the detailed design of the project considering its applicability.

In addition, as noted in Section 1.4.3 of the EIS, the proposed generators within the Central-West Orana REZ will use designated oversized and over mass (OSOM) routes to transport OSOM components from the Port of Newcastle to the Central-West Orana REZ. Accordingly, the NSW Government has requested that EnergyCo identify and carry out required upgrades to a number of intersections along the State Road Network to facilitate the transportation of OSOM components. The P2R OSOM road infrastructure intersection upgrades project is, however, separate to the road and infrastructure upgrades proposed as part of this project. Accordingly, assessment and approval of those works is outside the scope of this CSSI application.

Further, this project is not reliant on the P2R road upgrades program of works which are a separate development and for a different purpose. EnergyCo will continue engaging with Transport for NSW on the P2R program of works separately.

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## 7.9.2 Transmission line implications to the State Classified Road network

### Summary of issues

Transport for NSW provided the following comments in relation to the transmission lines crossing the Castlereagh Highway and the Golden Highway:

- no poles or towers are permitted to be installed within the Transport for NSW State Road reserve for Castlereagh Highway or the Golden Highway
- poles or towers to be located outside to Clear Zones (see *Austrroads Guide to Road Design* (Austrroads, 2021))
- any additional access locations for the construction of the transmission lines over the State classified road network are required to be identified within the Submissions Report
- clearances over the Castlereagh Highway and Golden Highway would need to be in accordance with the network operator utility owner requirements for the 330 kV–500 kV installation and will need to be at a minimum of 14 metres above the Castlereagh Highway and Golden Highway
- Transport for NSW does not support easements in active road corridors, as there are protections under the *Roads Act 1993*, for public road
- provide further information in relation to any earthworks that will have implications on the classified road corridor.

### Response

A combination of 500 kV and 330 kV transmission lines supported on towers are proposed to cross the Castlereagh Highway and the Golden Highway. The type and arrangement of the transmission line towers would continue to be refined as part of the finalisation of the project design. Towers may be required to be installed within the State Road Reserve for Castlereagh Highway and Golden Highway. These would be installed in accordance with the provisions of section 138 of the *Roads Act 1993*, along with the Austrroads standards.

The transmission lines would be constructed in accordance with all relevant Australian Standards, including AS/NZS 7000: 2016 – Overhead Line Design. Table 3.5 of the standard states that the minimum clearance of a 330 kV or 500 kV line over a roadway is nine metres.

Works within public road reserves would be conducted in accordance with the *Roads Act 1993*. No easements are proposed in active road corridors as part the project.

Proposed road upgrades are described Section 3.3.4 of the Amendment Report. No earthworks material would be stored or left within the road corridor during construction of the project.

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## 7.9.3 Estimation of project traffic generation

### Summary of issues

Transport for NSW commented that the assumptions regarding project traffic generation have not been stipulated within the Technical paper 13 – Traffic and transport. Transport for NSW requested a table outlining the assumptions including:

- an indicative assessment of the vehicles associated with all aspects of the construction of the project, inclusive of all inputs and outputs into the projects during construction such as water, excavation, fill, concrete, crushing, delivery of workforce accommodation delivery of components, equipment, workforce (at the peak of construction), workforce prior to erection of workforce accommodation, the required workforce, and vehicles to service the workforce accommodation etc)
- the vehicle types, the daily number of vehicles, the hourly number of vehicles, the lengths of heavy vehicles, the dimensions of the laden loads of OSOM vehicles (high risk), identify the lengths of OSOM travelling under exemptions, if these vehicles will be occurring in the morning and afternoon peak or at what time of day they will be travelling on the network and if they are occurring during the peak of construction.

### Response

Construction vehicle movements have been estimated based on the peak construction workforce, project construction activities, construction program and staging, the size of construction compounds and the number of the construction workforce that would be staying at accommodation camps.

Traffic generation associated with workforce activities before the workforce accommodation camp is established constitutes only of a small percentage of peak vehicle movements. The evaluation of the impacts of peak movements has been undertaken as a worst case scenario and confirms that there would not be material detrimental impacts to the capacity of the road network. As such it was not considered necessary to undertake further lower-impact scenarios.

The construction activities are expected to peak from mid-2025 to mid-2026 with the workforce accommodation camps to be at full capacity during this period. Based on the construction activities scheduled in this period, EnergyCo has provided estimates of the traffic and transport movements to/from the workforce accommodation camps, energy hubs and switching stations. The estimates of traffic movements have taken into consideration:

- movements of construction workers which would mainly occur in the morning and afternoon peak
- material transfers distributed throughout the day
- movement of visitors and deliveries
- typical movements at switching stations and access gates along the transmission lines.

The maximum hourly movements generated to/from the respective sites were used in Technical paper 13 – Traffic and transport to assess the worst-case impact of the project (i.e. peak hour during peak construction).

Traffic generated during construction considered all aspects of construction traffic generated which included the breakdown of light and heavy (including OSOM) vehicle movements. The breakdown revealed that OSOM movements constitute of only a small percentage of the overall traffic generation during construction. Additionally, as detailed in Section 17.4.4 of the EIS, OSOM movement would be determined on the basis of appropriate travel permits, sought from the National Heavy Vehicle Regulator (NHVR).

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## 7.9.4 Background traffic volumes

### Summary of issues

Section 3.4 of Technical paper 13 – Traffic and transport states ‘No background traffic growth factors were applied to the existing traffic demand, as there is minimal land use growth in the study area, with fluctuations in traffic generally attributable to activities generated by other projects in the area.’

Transport for NSW commented that the project would occur within the declared Central-West Orana REZ and there is a significant volume of major projects that are being approved and will have coinciding timeframes for construction. Therefore, Transport for NSW are of the view that the assumption of land use growth is not accurate and the coinciding project timing and traffic volumes for the construction periods must be included to provide an accurate representation of the background traffic at the peak of the construction period for the project, at the key intersections with the state classified road network.

Transport for NSW requested that:

- the annual growth of the Castlereagh Highway (1.6 per cent), Mitchell Highway (1.5 per cent) and Golden Highway (1.6 per cent) is applied linearly to the year of peak of construction to accurately reflect the background traffic volumes occurring on the network
- the background traffic volumes applied at each key intersection and access track that connects to the state classified road network is revised to include the annual growth rate that is applied linearly to the year of peak of construction; and
- the assessment includes the cumulative traffic volumes for each major project that will have a coinciding timeframe for construction with the project.

Transport for NSW stated that any other assumption within the Technical paper 13 – Traffic and transport that is based on the current background traffic volume is to be revised. This includes adjusting the with and without development scenarios based on the revised background traffic volumes.

### Response

No background traffic growth factors were applied to the existing traffic demand, as there is minimal land use growth in the study area, and fluctuations in traffic volumes are generally attributable to traffic movements generated by other projects in the study area (reviewed through the cumulative impact assessment). Based on a desktop review of the Transport for NSW Traffic Volume Viewer, the Golden Highway west of Sandy Hollow (approximately 57 kilometres east of the project), shows that while traffic volumes are returning to the pre-COVID conditions, there was generally no growth recorded between 2017 to 2019. Similar traffic patterns are found for the Newell Highway (west of the project) between Dubbo and Gilgandra.

An analysis has been completed applying a 1.6 per cent growth annually to the base traffic volume on the Golden Highway and Castlereagh Highway, which demonstrates that the background traffic growth would not significantly add to the base traffic volume, with an increase of up to four vehicles per hour in each direction of travel on the State Road network in the year 2026. Additional sensitivity analysis has been included in key intersections to ensure that the intersections impacted would perform adequately given a conservative growth rate. Details of the analysis are presented in sections 2.23 and 5.11.4 and Appendix J of the Amendment Report.

An assessment of potential cumulative traffic impacts considering other projects in the region in combination with the potential traffic generation from the project was undertaken as part of the environmental assessment of the project and detailed in Appendix E of the EIS and summarised in EIS Chapter 20 (Cumulative impacts). Assessment of cumulative impacts on traffic and transport was conducted in accordance to the *Cumulative Impact Assessment Guidelines for State Significant Projects* (DPE, 2022d).

An updated cumulative impact assessment, which includes new information on other relevant projects since public exhibition of the EIS is presented in Section 5.15 and Appendix L of the Amendment Report.

For the cumulative assessment, other projects were considered where they had construction routes have the on the same routes proposed by this project, assumed to occur in the same time period. The assessment were performed by applying this cumulative traffic from external developments (which are temporary in nature) detailed in Appendix J of the Amendment Report on top of the base case existing background traffic (including the 1.6 per cent background traffic growth on State Roads) and project case with construction traffic (which are also temporary in nature). These were conservatively assessed for the worst case during the morning and afternoon peak at each intersection during the peak of construction at each state classified road network that forms part of a construction route.

The assessment considered projects with overlapping construction routes and likely construction programs.

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## 7.9.5 Data collection

### Summary of issues

Transport for NSW commented that intersection counts have not been undertaken at each key intersection with the state classified road network that would be utilised as a part of the construction route for the project. Transport for NSW requested that additional traffic counts with a minimum of one day (preferably 7 days improved accuracy of the data) as per *Austrroads Guide to Traffic Management Part 3* (Austrroads, 2020) are undertaken at each intersection with the state classified road network on the construction routes.

Transport for NSW commented that midblock counts have been undertaken on certain sections of the state classified road network instead of intersection counts. It is of the view that midblock counts will not identify the existing turning volumes at the key intersections with the state classified road network that form part of the construction routes within Figure 3-2 of the Technical paper 13 – Traffic and transport. Transport for NSW requested traffic counts at each intersection with the state classified road network that previously relied on the midblock counts. The traffic count survey is required to be undertaken for a minimum of one full day (preferably seven days for improved accuracy) in accordance with *Austrroads Guide to Traffic Management Part 3* (Austrroads, 2020).

Transport for NSW commented that the traffic count surveys that underpin the traffic assessment were undertaken for a period between 6:00 am and 10:00 am and 3:00 pm and 7:00 pm, which does not represent a full day count and cannot be relied upon as an accurate data source for the background traffic volumes. Further intersection traffic counts are required by Transport for NSW to be undertaken at each intersection with the state classified road network for a minimum period of one full day (preferably seven days for improved accuracy) and required to undertaken in accordance with *Austrroads Guide to Traffic Management Part 3* (Austrroads, 2020).

Transport for NSW requested that every section within the Technical paper 13 – Traffic and transport that relies on the intersection traffic counts for the classified road network is to be updated based on the outcome of the further traffic count surveys at each intersection with the state classified road network. The raw data underpinning the revised intersection counts (i.e. tube counts) is required to be provided as a part of an appendices.

## Response

Data collection consisted of a combination of intersection traffic counts and midblock surveys. The intersection counts and midblock (automatic traffic counters) surveys were conducted to understand the current traffic demands, conditions and travel patterns during the busiest travel periods. Intersection traffic counts were undertaken between 6:00 am and 10:00 am and 3:00 pm and 7:00 pm to capture the traffic movements at key intersections during peak hours, which would also coincide with the peak movement generation anticipated from the project. The survey provided separated traffic counts for light and heavy vehicles.

The 24-hour midblock counts (Automatic Traffic Counters) were conducted at key mid-block locations between 16 and 23 October 2022 to capture traffic data including volume, speed and vehicle classifications across this period. While it can be useful to have more data in the off-peak periods, it is not essential for the purpose of reporting the project's impacts given the project's peak travel needs would be within the typical peak periods of the road network.

The survey locations were selected based on:

- potential construction routes to be used for construction of the project
- likely access points to the key construction areas, construction compounds, and workforce accommodation camps.

As detailed in Section 5.11.3 of the Amendment Report, additional traffic counts have been undertaken at the following intersections:

- Cassilis Road and Golden Highway
- Golden Highway and Castlereagh Highway.

The use of midblock counts to survey the main road where an access point is required for the proposed construction is justified. The project requires access to tracks and local roads that are remote or currently only service several rural properties which have minimal traffic generation. The midblock counts provide substantial traffic data of the major road across a seven-day period, providing more accurate peak periods, thus ensure that the project considers the worst-case scenario.

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## 7.9.6 Crash analysis

### Summary of issues

The crash data identified within the Technical paper 13 – Traffic and transport is representative of a 5-year period between 2016 and 2020 based on available data from Transport for NSW Open Data platform. The Transport for NSW Open Data platform provides crash data sets for an updated period between 2018–2022, the crash data is required to be updated based on the current data set.

### Response

The crash analysis in Technical paper 13 – Traffic and transport was completed using the crash data available at the time of the assessment. The crash analysis has been updated using data from 2018 to 2022 as detailed in Appendix J of the Amendment Report.

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## 7.9.7 Construction assessment – Elong Elong Energy Hub

### Summary of issues

Transport for NSW requested updates to the traffic assessment to identify the additional workforce accommodation camp at the Elong Elong Energy Hub which would be accessed via Spring Ridge Road and the Golden Highway. Transport for NSW request the following updates and additional information in relation to workforce accommodation:

- traffic volumes for the workforce at the Elong Elong Energy Hub (during peak of construction)
- the operation (i.e. the traffic volumes associated with servicing the workforce accommodation)
- the traffic volumes and vehicle types associated with the construction of the workforce accommodation
- the origin and destination survey (to understand the impact on each intersection) with the state classified road network during the construction of the workforce accommodation and the peak of construction (worst-case scenario) of the project
- explanation of whether the workforce accommodation will be staged and if the traffic assessment has accounted for the workforce required at the Elong Elong Energy Hub prior to the workforce accommodation being available for occupation
- assess the compliance of the Spring Ridge Road/Golden Highway intersection with Safe Intersection Sight Distance (Part 4A of *Austrroads Guide to Road Design* (Austrroads, 2021)) based on the design speed 100 km/hr + 10 km/hr for a 2.5 second reaction time which equates to 300 metres
- if the Safe Intersection Sight Distance (SISD) does not comply a strategic design will be required that identifies measures to achieve compliance or other mitigation measures such as identifying alternative routes and methods to prohibit the use of the Spring Ridge Road/Golden Highway intersection.
- a turn warrant assessment is required as a part of the revised traffic assessment and is required to base the traffic volumes during the morning and afternoon peak of peak of construction (informed by the above revisions to the traffic volumes) for the Spring Ridge Road/Golden Highway. The existing background morning and afternoon peaks for the Golden Highway are required to be based on updated traffic volumes. Provide a strategic design for the intersection treatments required for the intersection of Spring Ridge Road/Golden Highway.

### Response

There is no workforce accommodation camp proposed or detailed in the EIS at Elong Elong Energy Hub. Workforce accommodation camps are only proposed at Merotherie Energy Hub and Neeleys Lane in Turrill.

A SISD assessment and a turn warrant assessment of the Spring Ridge Road and Golden Highway intersection was completed and is detailed in section 5.2 of the Appendix J of the Amendment Report. Based on a desktop assessment of the SISD, the intersection complies with regulatory standards. The turn warrant also indicates that the intersection layout would meet the expected capacity and therefore an intersection upgrade. would not be required. Upgrade to the intersection of Spring Ridge Road and the Golden Highway is not proposed as part of the scope of the project.

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## 7.9.8 Construction assessment – workforce accommodation camps

### Summary of issues

Transport for NSW requested updates to the traffic assessment to address the following with respect to the traffic generation and intersection upgrades required as an outcome of the workforce accommodation camps at Merotherie Energy Hub and Neeleys Lane, Turill:

- traffic volumes for the workforce at Neeleys Lane and Merotherie Road (during peak of construction) associated with light, heavy and OSOM vehicles
- the operation (i.e. the traffic volumes associated with servicing the workforce accommodation)
- the traffic volumes and vehicle types associated with the construction of the workforce accommodation
- the origin and destination survey (to understand the impact on each intersection) with the state classified road network during the construction of the workforce accommodation and the peak of construction (worst-case scenario) of the overall project
- explanation of whether the workforce accommodation will be staged and if the traffic assessment has accounted for the workforce required at the Merotherie Energy Hub and Neeleys Lane prior to the workforce accommodation being available for occupation
- assess the compliance of the Neeleys Lane/Golden Highway and Merotherie Road/Golden Highway intersection with SISD (Part 4A of Austroads Guide to Road Design (Austroads, 2021)) based on the design speed 100 km/hr+10 km/hr for a 2.5 sec reaction time which equates to 300 metres. If the intersection does not comply a strategic design will be required that identifies measures to achieve compliance or other mitigation measures such as identifying alternative routes and methods to prohibit the use of the Spring Ridge Road/Golden Highway intersection
- a turn warrant assessment is required as a part of the revised traffic assessment and is required to base the traffic volumes during the morning and afternoon peak during peak construction (informed by the above revisions to the traffic volumes) for the Neeleys Lane/Golden Highway and Merotherie Road/Golden Highway intersection
- provide a strategic design for each intersection based on the design vehicle and inclusive of swept path analysis identifying that the design vehicle can enter/exit simultaneously, and the design vehicle will be able to turn into and out of the intersection without creating additional conflict points and wholly within the proposed intersection treatments.

### Response

The estimated construction volumes generated by the project during peak construction remain consistent with the volumes described in Section 17.4.1 of the EIS, with the exception of the Neeleys Lane workforce accommodation camp. The provision of a construction compound at the Neeleys Lane workforce accommodation camp would increase the heavy vehicle traffic movements generated by the site, as described in Section 5.11.4 of the Amendment Report and detailed in Appendix J to the Amendment Report.

Trip generation from camp locations account for light vehicle and heavy vehicle movements only, during peak of construction. OSOM vehicles make up a small number of the overall project movements. OSOM movements would be undertaken in accordance with any permits or approvals issued by the Nation Heavy Vehicle Regulator. Typically, OSOM movements would be undertaken outside of standard working hours, when there would be less traffic on the road network.

Construction of the workforce accommodation camps is indicatively planned to commence in November 2024, during the enabling work phase of construction. Construction of the camps is estimated to be completed with approximately four to six months of construction commencement. Staging the workforce accommodation is not proposed.



Traffic volumes during the peak construction period of the project were assessed to predict the worst case scenario as detailed in Technical paper 13 – Traffic and transport. The estimated heavy and light vehicles generated at the workforce accommodation camps was included. Construction of the workforce accommodation camps would not generate traffic movements higher than those experienced during the peak construction period involving construction of the transmission lines, energy hubs, switching stations and associated infrastructure. The number of OSOM traffic volumes are considered to be small, and therefore negligible for the assessment.

The Neeleys Lane and Golden Highway intersection is not proposed to be used by construction vehicles to access the Neeleys Lane workforce accommodation camp.

A SISD assessment and a turn warrant assessment of the Merotherie Road and Golden Highway intersection was completed and is detailed in section 5.2 of the Appendix J of the Amendment Report. Based on a desktop assessment of the SISD, the intersection complies with regulatory standards.

The Merotherie Road and Golden Highway intersection is proposed to be upgraded as described in section 3.3.4 of the Amendment Report. The design for this intersection will be provided during the detailed design stage of the project. Road upgrades will be designed and constructed in accordance with Austroads Guidelines, relevant applicable standards and consider the appropriate design vehicles.

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## 7.9.9 Construction assessment – intersections

### Summary of issues

Transport for NSW requested the reassessment of intersections with the State classified road network that form part of the construction routes to address its detailed comments provided in Attachment 2 of its submission. Transport for NSW requested the traffic assessment is amended to:

- accurately reflect the current road environment or existing intersection treatments
- include an assessment of the cumulative traffic volumes on the capacity of the intersection treatments
- include an assessment of the SISD compliance for the 2.5 second reaction time for the 100 km/hr+10 km/hr design speed which equates to a requirement for 300 metres of SISD in each direction
- include a turn warrant assessment applying the base case existing background traffic and assessing the worst case (background+ annual growth applied linearly to the year of peak of construction plus cumulative traffic volumes from other projects utilising the same access plus the with development worst case scenario) during the morning and afternoon peak at each intersection during peak of construction at each state classified road network that forms part of a construction route in Figure 5-2 of the EIS
- consider all the key intersections with the state classified road network (inclusive of the access gates)
- supported by intersection traffic counts for each intersection with the state classified road network that forms part of a construction route in Figure 5-2 of the EIS
- review the adequacy of the existing intersection treatments (where applicable) for the proposed design vehicle (heavy vehicle and OSOM) through swept path analysis

- include the strategic designs for key state classified road intersections that forms part of the construction route where the:
  - design vehicle and throat of the existing intersection does not permit simultaneous passing of the design vehicle in and out of the intersections in all directions
  - where the design vehicle cannot turn wholly from the existing intersection treatments
  - where the capacity assessment warrants a further intersection upgrade to a higher order treatment (based on the worst-case scenario and outcome of the warrants assessment)
  - where the SISD does not comply with the 300-metre requirement for the design speed
  - strategic designs must be provided in the Submissions Report for any intersection with the state classified road network
- include a swept path analysis for the design vehicle (largest vehicle) for each key intersection requiring infrastructure road upgrades. The swept path analysis is to identify that the largest vehicle can turn wholly within the proposed intersection treatments and turn simultaneously in all directions from the proposed treatments.

## Response

The existing traffic environment relevant to the project is described in Chapter 4 of Technical paper 13 – Traffic and transport. Additional traffic counts have been undertaken at two intersections along the Golden Highway to supplement the traffic assessment in response to Transport for NSW comments. These counts in combination with the background traffic growth factors are considered in the additional traffic assessment in Appendix J of the Amendment Report.

The assessment of cumulative traffic volumes was completed as summarised in EIS Chapter 20 (Cumulative impacts) and detailed in Appendix E of the EIS. An updated cumulative impact assessments consider the proposed amendments to the project and the additional traffic count data is provided in Appendix L of the Amendment Report.

SISD compliance checks have been carried out through desktop analysis. in accordance with *Austrads Guide to Road Design Part 4A Unsignalised and Signalised Intersections*. The results of the compliance checks on intersection with the Golden Highway and Castlereagh Highway are detailed in section 5.2.3 in Appendix J of the Amendment Report.

Additional turn warrant assessments have been completed considering peak construction traffic volumes during the morning and afternoon peak traffic periods, based on consideration of background traffic and growth rates, plus the with-project worst case. The results of the assessment of intersections with the Golden Highway and Castlereagh Highway are detailed in section 5.2.2 in Appendix J of the Amendment Report. Turn warrant assessment of the project in conjunction with other projects (i.e. the cumulative scenario) have not been presented in the Amendment report, as the speculative nature of some cumulative projects means that accurate quantification of cumulative traffic impacts is uncertain, and that this would be investigated during detailed design and detailed construction planning. Following this. the final scope of intersection potential upgrades would be confirmed.

As detailed in Section 3.3.4 of the Amendment Report, further refinements to the alignment and design of the local road and intersection upgrades are proposed to reflect further design development and minimise the potential impacts of the project where practicable. The road upgrades proposed along Merotherie Road and Spring Ridge Road would facilitate safe access for OSOM vehicles. Road upgrades will be designed and constructed in accordance with Austrads Guidelines, relevant applicable standards and consider the appropriate design vehicles. Design for road upgrades on State roads would be provided to Transport for NSW. Swept path analysis will be completed as part of the detailed design process considering the largest vehicle that is proposed to use each intersection for construction of the project.

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## 7.9.10 Stringing of transmission lines across roads

### Summary of issues

Transport for NSW noted that Technical paper 13 – Traffic and transport identifies ‘temporary hurdles are vertical structures used to support new conductors being strung across existing transmission lines, major roads, rail lines or other infrastructure.’ Transport for NSW commented that no information has been provided in the EIS about the dimensions and specifications for the hurdles and where they would be positioned within the classified road network.

Transport for NSW is of the view that the erection of the temporary hurdles could have potential implications for OSOMs utilising the Golden Highway and Castlereagh Highway and could impact on the efficiency of the state classified road network. Transport for NSW noted that other methods exist for the stringing of transmission lines across the state classified road network that does not involve the erection of structures in and over the state classified road network and road reserve.

Transport for NSW stated that it would not support the short-term full road closure of the Golden Highway and Castlereagh Highway. Road closures would have an adverse impact on the efficiency of the state classified road network and impact on the development of the major projects within the REZ as Castlereagh Highway and Golden Highway are key strategic freight corridors from the Port of Newcastle. Transport for NSW commented that other methods of stringing of the transmission lines across state classified road networks do not require short term full road closures.

### Response

The proposed transmission line alignment would involve crossing the Golden Highway at three locations and at one location along the Castlereagh Highway. The proposed approach for construction of these crossings is the use of temporary hurdles and netting.

The key advantage of utilising hurdle structures to facilitate construction of the project where it intersects the Golden Highway and Castlereagh Highway include:

- they would provide protection to vehicles utilising the existing roads during the stringing operations; and
- they would minimise the number of road closures required during stringing operations.

The hurdle structures generally comprise the following components:

- hurdle support structures, which would be installed on the edge of existing roads, outside of the clear zone (the area along the edge of roads that should be kept free from features that would be potentially hazardous to vehicles)
- protective ropes or catch netting, which would be installed above the road, between the hurdle support structures.

Multiple short term road closures would be required to establish the above two components. However, once the hurdle is complete, there would be minimal closures required to support the stringing. Short term closures would also be required for removal of the hurdle, which would have temporary minor impacts on the efficiency and capacity of State roads as the roads have sufficient spare capacity.

There is an option to string the conductors without erecting hurdle structures. If this approach were adopted, road closures would be required for each conductor being strung over the road, rather than just for the erection and removal of the catch netting or hurdle support structures. This would result in a greater impact to the road network.

As specified in mitigation measures T8, Road Occupancy Licence(s) will be sought for all temporary lane closures (as required by the relevant roads authority). Where road closures are likely to result in a significant traffic impact (e.g. short-term full road closure and long-term temporary lane/road closures), prior consultation will be undertaken with potentially affected stakeholders (e.g. landowners, emergency services, transport services) and relevant approval(s) obtained from the relevant roads authority. Where feasible, temporary road closures will be planned to occur outside of the traffic peak periods to minimise impacts to the road network.

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## 7.10 NSW National Parks and Wildlife Service

NSW National Parks and Wildlife Service (NPWS) provided advice on matters relating to Goulburn River National Park and Durridgere SCA, dated 10 November 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.10.1 Permissibility under the NP&W Act

#### Summary of issues

NPWS acknowledged that section 3.4.2 of the EIS recognises that an easement under section 153 of the *National Parks and Wildlife Act 1974* (NP&W Act) is required for the transmission corridor on Durridgere SCA, and that EnergyCo has referenced the State Environmental Planning Policy (Transport and Infrastructure) 2021 (or TISEPP) as the environmental planning instrument which allows for infrastructure development under the EP&A Act on reserved land in justifying the permissibility of that easement. NPWS noted this does not adequately address the provisions of the NP&W Act, and the statutory permissibility considerations under that Act required to support the NSW Minister administering the NP&W Act in their decision to issue the easement.

NPWS agreed that section 2.43 of TISEPP categorises the project as electricity transmission development, as 2.5 kilometres of the Cassilis connection is located on Durridgere SCA. The project has applied section 2.44(1)(a) of the TISEPP as being the next step. Under this section of the TISEPP development for this purpose can occur without consent on reserved land, but only if that development is authorised by or under the NP&W Act. NPWS commented that the EIS alludes to authorising the project under the NP&W Act by simply stating that section 153 of the NP&W Act can apply, empowering the Minister administering the NP&W Act to grant an easement for the project. However, the EIS does not address certain provisions of the NP&W Act, which must be considered before the Minister can grant that easement, subject to the direction given under section 186(1) of the NP&W Act.

NPWS recommended revising the EIS, and relevant technical papers, to:

- address, and modify the permissibility assessment to ensure essential information is provided to the NSW Minister administering the NP&W Act to facilitate authorisation of the project as future infrastructure development on reserved land
- ensure recognition of NPWS as the Park Authority and direct all consultation on any project aspects which interface, or impact directly on land reserved under the NP&W Act to the NPWS Manager for the Mudgee Area
- recognise reserved land under the NP&W Act as environmentally sensitive areas of state significance, and its role in the protected area and conservation reservation system in the region (bioregion)

- recognise Durridgere CCA Zone 3 SCA, reservation status subject to the *Brigalow and Nandewar Community Conservation Area Act 2005* and justify the project against the provisions of the NP&W Act, as required to inform any future decision made by the NSW Minister administering that Act prior to granting an easement. The EIS must explicitly consider the:
  - objects under s.2A of the NP&W Act, which includes the effect on the management principles as set for a SCA under s.30G of that Act, and
  - public interest, this is the public interest in the protection of the values for which Durridgere SCA was reserved, and in the appropriate management of those lands
- accept, and include a condition that restricts EnergyCo to the project’s proposed establishment of a single tower 300 kV transmission line with a 60 metre wide corridor on Durridgere SCA in the preferred alignment, as approved by NPWS
- recognise that the authorisation process under section 153 of the NP&W Act and the establishment of an easement is based on the existence of a planning approval as issued by the NSW Minister for Planning under the EP&A Act. As part of the project post approval process NPWS will issue a construction agreement permitting construction on Durridgere SCA prior to establishing the formal easement on completion and survey of the final alignment, and corridor extent for the electrical transmission line
- ensure any utility adjustments as mentioned in the EIS around existing utilities, Transgrid and Essential Energy transmission infrastructure as required to provide a suitable connection to the existing NSW transmission network will not affect reserved land in this locality, or if known or likely impacts and risks are clearly specified as part of the EIS.

## Response

Around 2.5 kilometres of the proposed Cassilis connection would traverse the Durridgere SCA, reserved under the NP&W Act. Section 153 of the NP&W Act empowers the Minister administering the NP&W Act (the NSW Minister for Environment and Heritage) to grant an easement through a SCA for the ‘erection of standards, posts, wires and appliances for the conveyance or transmission of electricity’. This easement would only be created on the proviso that the Liverpool Range Wind Farm was granted access to connect to the Merotherie Energy Hub under the REZ access scheme. EnergyCo would not construct project infrastructure nor create an easement through the Durridgere SCA until a time that access has been granted to this proponent. It should be noted that the proponent for the Liverpool Range Wind Farm has a prior approval to create an alternative easement through the Durridgere SCA in the event they are not granted access to connect to the Merotherie Energy Hub. Only one easement for transmission line as part of the project would pass through the Durridgere SCA.

EnergyCo has commenced discussions with the NPWS concerning the creation of an easement for the project within the Durridgere SCA. EnergyCo note that the authorisation process under section 153 of the NP&W Act is subject to approval of the project by the NSW Minister for Planning under the EP&A Act. Additionally, EnergyCo recognises that development for the purpose of electricity transmission can be conducted on any land without consent but may only be carried out on land reserved under NPWS if it is authorised or where an easement has been granted. Since an easement has not been granted, it is recognised that a CSSI approval is not the sole requisite approval required in this case.

Under Schedule 3, Part 1 (6) of the *Brigalow and Nandewar Community Conservation Area Act 2005*, the Durridgere State Forest (Z3-23), an area of about 3,443 hectares, being the whole or a part of Durridgere State Forest No 882, is prescribed as a State forest reserved as SCA. The current woodland is now an important refuge for threatened species and provides important linkages to wilderness areas in the Sydney Basin and NSW South Western Slopes Bioregion (OEH, 2014a).

EnergyCo acknowledges and accepts the requirement outlined to adhere strictly to the project’s proposed establishment of a single tower 300 kV transmission line within a 60 metre wide corridor in Durridgere SCA, as delineated in the preferred alignment and approved by NPW.

There is no requirement for utility adjustments for Transgrid, Essential Energy, and other existing utilities within the SCA alignment. The adjustments do not demand an easement larger than what is required for the 330 kV transmission line.

Further justification of the project is provided against clauses 2A and 30G of the NP&W Act as outlined in Table 7-3.

Table 7-3 Consideration of the object of the NP&W Act

Clause	Clause description	Considerations
<b>2A Objects of Act</b>		
(1)	<p>The objects of this Act are as follows –</p> <p>(a) the conservation of nature, including, but not limited to, the conservation of –</p> <ul style="list-style-type: none"> <li>(i) habitat, ecosystems and ecosystem processes, and</li> <li>(ii) biological diversity at the community, species and genetic levels, and</li> <li>(iii) landforms of significance, including geological features and processes, and</li> <li>(iv) landscapes and natural features of significance including wilderness and wild rivers,</li> </ul> <p>(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to –</p> <ul style="list-style-type: none"> <li>(i) places, objects and features of significance to Aboriginal people, and</li> <li>(ii) places of social value to the people of New South Wales, and</li> <li>(iii) places of historic, architectural or scientific significance,</li> </ul> <p>(c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,</p> <p>(d) providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.</p>	<p>The development of project has considered the conservation of nature alongside engineering and social factors in determining a project alignment. The proposed portion of the alignment through the Durridgere SCA significantly reduces the area of clearing within the SCA (to around 15 hectares) when compared to the approved Liverpool Range Wind Farm (LRWF) (around 40 hectares).</p> <p>Aboriginal and non-Aboriginal heritage assessment have been completed for the project and impact to heritage sites have been incorporated into the project development where practicable, Mitigation measure has been identified to minimise impacts to heritage during construction.</p> <p>The EIS evaluates the existing environment and provides technically supported assessments of the potential impacts of the project.</p> <p>Management of the easement through Durridgere SCA would consider the management principles relevant to the reservation.</p>
(2)	The objects of this Act are to be achieved by applying the principles of ecologically sustainable development.	Ecologically sustainable development was considered with respect to the project in section 23.2.6 of the EIS.
(3)	<p>In carrying out functions under this Act, the Minister, the Secretary and the Service are to give effect to the following –</p> <p>(a) the objects of this Act,</p> <p>(b) the public interest in the protection of the values for which land is reserved under this Act and the appropriate management of those lands.</p>	Not applicable to the project.
<b>30G State conservation areas</b>		
(1)	<p>The purpose of reserving land as a SCA is to identify, protect and conserve areas –</p> <p>(a) that contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance, and</p>	Clearing of the easement would be required to facilitate construction of the project through the SCA. It would be kept to the minimum required to construct and safely operate the project. Mitigation measures would be applied to minimise impacts to biodiversity from the project.

Clause	Clause description	Considerations
	(b) that are capable of providing opportunities for sustainable visitor or tourist use and enjoyment, the sustainable use of buildings and structures or research, and	The presence of the project would not prevent visitors from entering the Durridgere SCA.
	(c) that are capable of providing opportunities for uses permitted under other provisions of this Act in such areas, including uses permitted under Section 47J, so as to enable those areas to be managed in accordance with subsection (2).	The easement would be subject to some restrictions in land use to ensure safe operation of the transmission lines. However these restrictions are not prohibitive.
(2)	A SCA is to be managed in accordance with the following principles –	Mitigation measures to avoid and minimise impact to biodiversity have been identified for the project during construction and operation of the project.
	(a) the conservation of biodiversity, the maintenance of ecosystem function, the protection of natural phenomena and the maintenance of natural landscapes,	
	(b) the conservation of places, objects and features of cultural value,	Mitigation measures to avoid and minimise impact to places, objects and features of cultural value have been identified for the project during construction and operation of the project.
	(c) provision for the undertaking of uses permitted under other provisions of this Act in such areas (including uses permitted under Section 47J) having regard to the conservation of the natural and cultural values of the SCA,	The easement would be subject to some restrictions in land use to ensure safe operation of the transmission lines. However these restrictions are not prohibitive.
	(ca) provision for the carrying out of development in any part of a special area (within the meaning of the <i>Hunter Water Act 1991</i> ) in the SCA that is permitted under Section 185A having regard to the conservation of the natural and cultural values of the SCA,	The easement would be subject to some restrictions in land use to ensure safe operation of the transmission lines. However these restrictions are not prohibitive.
	(d) provision for sustainable visitor or tourist use and enjoyment that is compatible with the conservation of the SCA's natural and cultural values and with uses permitted under other provisions of this Act in such areas,	The presence of the project would not prevent visitors from entering the Durridgere SCA and enjoying the remaining uncleared areas.
	(e) provision for the sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to the conservation of the SCA's natural and cultural values and with uses permitted under other provisions of this Act in such areas,	No buildings are proposed to be impacts in the Durridgere SCA.
	(f) provision for appropriate research and monitoring.	The project would not prevent the undertaking or research and monitoring in the SCA.

## 7.10.2 Easements under the NP&W Act

### Summary of issues

NPWS acknowledged that EnergyCo is seeking an easement on Durridgere SCA on an alignment that significantly differs from the approved Liverpool Range Wind Farm alignment which is held by Tilt Renewables Pty Ltd. As Tilt Renewables has already secured rights to an electricity transmission easement on Durridgere SCA, NPWS remains reluctant to commence the project's authorisation process. A conflict arises with the project and NPWS commitment to having only one authorised right for an easement, burdening Durridgere SCA.

NPWS acknowledged that the alignment proposed by EnergyCo is the preferred option and it will result in a net decrease in adverse impacts to the natural and cultural values of the reserved land. NPWS recommended EnergyCo and Tilt Renewables negotiate an agreed solution to establish a legal arrangement or legally binding commitment between the two parties to confirm connection arrangements and establish one right to an easement. NPWS recommended revising the EIS, and relevant technical papers, to address the current limitations in authorising the project.

## Response

The proposed easement through Durridgere SCA for this project would replace the easement required by Tilt Renewables Pty Ltd. EnergyCo is in discussions with Tilt Renewables Pty Ltd to confirm the approach to securing access rights in the Durridgere SCA. Section 7.10.1 of this report details the steps being taken by EnergyCo to resolve connection arrangements.

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## 7.10.3 Interface with Goulburn River National Park

### Summary of issues

Subject to section 7.1 of the EIS, NPWS recognised the proposed alignment of twin double circuit 500 kV transmission lines between the New Wollar Switching Station and the Merotherie Energy Hub connection adjoins the Goulburn River National Park along its western edge. NPWS raised concerns around the perceived potential encroachment on to reserved land, and requested confirmation via orthorectification of the mapping used, or survey confirming the legal boundary of Goulburn River National Park with that of the project, to ensure mapping layers are provided at a scale fit for assessment, and approval purposes. This includes any adjustments needed on the proposed tower locations against the changes in elevation on the interface of Goulburn River National Park which appear to differ by at least 30 metres. NPWS remains concerned that this may influence vegetation clearing requirements around hazardous tree management in the disturbance area HZ that interfaces with Goulburn River National Park.

NPWS recommended revising the EIS, and relevant technical papers, to:

- confirm that no project encroachment is proposed or will occur, and the transmission line corridor avoids all direct impacts to Goulburn River National Park at the interface. NPWS requested confirmation on the project alignment, and either orthorectification of the spatial layers and provision of mapping to a scale that clearly demonstrates avoidance or confirm via survey of the legal gazetted boundary of Goulburn River National Park with that of the project
- consider the proposed tower locations against the variation in elevation at the interface with Goulburn River National Park, address any incursion as a result of the disturbance area HZ requiring hazardous tree management. If tree removal is required, then that loss is to form part of the BDAR and the credit calculations
- ensure the continued operation of the current access easements held by Wilpinjong, Moolarben and Ulan Coal mining operations. It is requested that EnergyCo consult with NPWS and the mines operators directly, as there are floating easements over trails to provide access to Goulburn River National Park. The access easements permit adaptable and variable access to Goulburn River National Park as required subject to the mining operations and their planning approvals.

## Response

The Goulburn River National Park is located wholly outside the construction area, noting that at its closest point, the project is located immediately adjacent to the boundary of the Goulburn River National Park along parts of the New Wollar to Merotherie Energy Hub connection.

The transmission line alignment has been developed to avoid any encroachments into the Goulburn River National Park (including encroachments associated with the easement Hazard Zone).



EnergyCo is in discussions with the Wilpinjong, Moolarben and Ulan Coal mines regarding existing access trails to the Goulburn River National Park. It is intended that these existing trails will be retained in the operational phase of the project.

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## 7.10.4 Communications

### Summary of issues

On review of the Technical paper 12 – Electro Magnetic Field Assessment, NPWS raised a concern that there was not a Radio Frequency Interference (RFI) Assessment and that this issue may affect NPWS, and other emergency service providers by interfering with essential radio communications in this area. This potentially inhibits NPWS ability to undertake park management and emergency operations in the immediate area, and so NPWS requested that this risk is identified, mitigated and managed.

NPWS acknowledged that the EMF risks overall are deemed low in accordance with the International Commission for Non-Ionizing Radiation Protection (ICNIRP) Guideline for Limiting Exposure to time-varying electric, magnetic and electromagnetic fields (ICNIRP, 2020).

NPWS recommended revising Technical paper 12 – Electro Magnetic Field Assessment, and the EIS to consider and assess radio frequency interference as it applies to communications and the impacts and risks to NPWS land management obligations and the agency's ability to delivery on emergency operations safely in the affected area.

### Response

An RFI assessment was not conducted as the transmission line design would incorporate measures to mitigate potential interference. The design adheres to AS 2344:2016 standards, ensuring compliance with limits for EMF interference from overhead power lines. Additionally, ongoing assessments indicate that the transmission lines would be in line with RFI compliance requirements. It's worth noting that the negligible impact on ultra-high frequency (UHF) signals, which encompass mobile phone coverage frequencies, further supports the lack of necessity for a separate RFI assessment. Additionally, section 8.5.2 of the EIS addresses potential impacts on GPS, indicating that any interference issues would be addressed through consultation, potentially involving the installation of signal boosting equipment or antenna enhancements, with associated costs to be considered by EnergyCo.

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## 7.10.5 Aviation

### Summary of issues

On review of Technical paper 1 – Aviation, NPWS noted that the assessment only referenced NPWS' aerial baiting activities under its pest management program. This activity is only one of many aerial operations conducted by NPWS in its land management role. NPWS recognised that the project towers are at a maximum height of 72 metres in this location and are low enough to not infringe any certified Obstacle Limitation Surfaces (OLS). However, the project would introduce new airspace obstacles and management issues for low flight/low visibility operations at the interface of Goulburn River National Park, and internally as part Durridgere SCA.

NPWS recommended revising the Technical paper 1 – Aviation, and the EIS to:

- consider the full suite of management operations (aerial baiting, aerial shooting, survey, mapping, filming, bushfire response, park asset construction and maintenance etc) as conducted by NPWS as the Park Authority. NPWS identified that most aerial activities involve low level flight, in adverse or low visibility conditions using both helicopters and fixed wing aircraft on all reserved land in the area

- confirm if obstacle lighting would be required for the project, especially during emergency operations such as emergency wildfire response, particularly in the active defence of critical transmission assets.

## Response

Mitigation measures AS1 and AS3 commit to consulting with NPWS for the safety of aviation movements. The final design of the project, including the transmission line alignment and tower coordinates and elevations will be provided to NPWS prior to their construction. Additional notification(s) will be undertaken if the final detailed design of the project alters the details previously supplied to these stakeholders, prior to the construction of the modified design elements. NPWS will also be notified of the scheduling of the use of cranes, drones and helicopters for the construction of the project, prior to the commencement of relevant works.

It is unlikely that obstacle lighting would be required for the transmission towers. However, this would be confirmed by CASA once it has conducted its own safety assessment. As noted in Section 7.13 of this report, CASA has not identified the need for obstacle lighting based on the EIS.

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## 7.10.6 Bushfire

### Summary of issues

On review of Technical paper 10 – Bushfire, NPWS acknowledged that the project as CSSI does not require authorisation from a bushfire authority under *Rural Fires Act 1997* and the EP&A Act. NPWS also recognised that the *Planning for Bushfire Protection guidelines* (RFS, 2019) provides very limited guidance for critical energy development in areas susceptible to bushfire, the guideline does however ask for consistency. NPWS had no further comment beyond justifying the adequacy of the fire planning for the project on Durridgere SCA is adequate, and realistic.

NPWS also had concerns about the maintenance of ongoing access from the classified road network to critical fire and management trails on Durridgere SCA and Goulburn River National Park during construction and operation, as the project would intersect with a number of key access points on both the interface of reserved land and alternative tenures initially. These access points are critical, serving both designated trails under the adopted Fire Access and Fire Trail Plans under the *Rural Fires Act 1997*, and approved NPWS Reserve Fire Management Strategies subject to the *Fire Management Manual* (DPE, 2023a).

NPWS recommended revising the Technical paper 10 – Bushfire, and the EIS to:

- consider and apply as part of the project’s bushfire planning the relevant reserve fire management strategies or plans for:
  - Goulburn River National Park and Munghorn Gap Nature Reserve (NPWS, 2004)
  - *Durridgere SCA Fire Management Strategy* (NPWS, 2009)
- protect the integrity of access by ensuring critical access to fire and management trails is identified, included in the project planning and operationally maintained during construction and operation of the transmission line, especially for (but not restricted to):
  - Ulan-Wollar Road, access to Goulburn River National Park via Wilpinjong Fire trail (Figure 1) and Sleeper Fire Trail (Figure 2)
  - Ulan Road, access to Durridgere SCA and Summerhill Road boundary road functions

- ensure NPWS, as a bush firefighting authority is a key stakeholder and is directly consulted in the preparation of the CEMP and any relevant Bushfire Emergency Management and Evacuation Planning. The plans are to:
  - provide clear protocols for the management of bushfire risk during construction as it affects land reserved under the NP&W Act
  - restrict and prevent high ignition activities from occurring during periods of high fire danger, with a requirement to comply with any direction given by the Park Authority on closures of Durridgere SCA during any stage of construction or operation
  - adequately deliver induction training prior to construction on Durridgere SCA with NPWS, to highlight management of reserved land specific risks and bushfire protocols, provide clarity on fire detection and reporting systems
  - justify that design and protection of the transmission line assets, as they affect reserved land, are compliant with relevant industry and statutory guidelines, adequately addressing ignition risk and prevention
- ensure NPWS as a key stakeholder is included in any consultation during the preparation of any operational documents developed for the project to implement the Network Operator’s Safety Management system, policies and guidelines in the management of bushfire, wildfire response and hazard reduction to minimise risk to both electrical transmission line assets and reserved land.

## Response

The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe.

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. To ensure safe electrical clearances would be achieved during operation, vegetation within the transmission easements with growth heights of two metres and above (largely trees and shrubs) would be removed by the Network Operator prior to and during operation, whereas native vegetation with growth heights less than two metres would be retained. In addition, large trees in close proximity to the easement (deemed ‘hazard trees’) would also be removed where they pose a potential risk. This approach seeks to balance sufficient bushfire risk mitigation with protection of biodiversity, and has been applied in other recent transmission infrastructure projects in NSW.

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared to detail the emergency response plan for the project and the fire management plan during both construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and NPWS and be provided to the relevant Local Emergency Management Committees prior to operation. The plan would also deal with facilitating access to key access points that intersect with the project.

During construction, risk of bushfires impacting construction of the project would be managed with the implementation of a Bushfire Emergency Management and Evacuation Plan, including monitoring the weather and any ignition that starts within proximity to the project. Any fires that have the potential to isolate or impact part or all of the construction area would trigger the Bushfire Emergency Management and Evacuation Plan.

Similarly, during operation, maintenance activities would have similar potential ignition sources to those that would occur during construction (as identified in section 16.4.1), such as hot works, sparks from construction plant, machinery and motor vehicles and cigarette use, however on a smaller scale. Mitigation measures would be implemented to minimise bushfire risk from maintenance activities, including emergency protocols in accordance with a Bushfire Emergency Management and Evacuation Plan.

The Bushfire Emergency Management and Evacuation Plans would be prepared in accordance with RFS's *Guide to Developing a Bushfire Emergency Management Plan* and meet the requirements of *Australian Standard AS3745-2010 Planning for emergencies in facilities*.

As outlined in mitigation measure BF3, access for firefighting appliances will be provided in accordance with section 2 of the RFS Fire Trails Standards.

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## 7.10.7 Landscape character and visual amenity

### Summary of issues

On review of Technical paper 3 – Visual and landscape character, NPWS acknowledged that the transmission line, at the moment, would not require any lighting, so no light pollution impacts are expected during future transmission line operation. However NPWS commented that, as the switching stations and energy hubs at Merotherie and Elong Elong would have lighting for security purposes, the permanent lighting (designed in accordance AS4282-2019) would be in contrast with the landscape character.

NPWS recognised that as an elevated, undulating landscape visual impacts would be variable, but may occur to sensitive conservation and recreational landscape features such as Goulburn River National Park and Munghorn Gap Nature Reserve (camping and picnic sites, walking tracks and lookouts that provide scenic views over the surrounding area) as a new, large scale infrastructure development.

NPWS recommended revising the Technical paper 3 – Visual and landscape character, and the EIS to:

- ensure the project in both planning and in the CEMP preparation consider the NPWS *Developments adjacent to National Parks and Wildlife Service lands* (NPWS, 2020) as a guide, to assist in identifying interface impacts and environmental matters specific to reserved land, and their management
- assess the energy hubs and switching stations that are approximate to reserved land, ensuring they use low-level lighting at night, with designs set to minimise obtrusive lighting spill, referencing the *National Light Pollution Guidelines for Wildlife* (Department of Climate Change, Energy, the Environment and Water, 2023)
- consider protection of the heritage significance of the Goulburn River National Park, which includes amenity values based on significant settings and views to, and from key vantage points.

### Response

The EIS addresses the issues to be considered when assessing proposals adjacent to the NPWS parks as identified in *NPWS Developments adjacent to National Parks and Wildlife Service lands* (NPWS, 2020). The management of environmental impacts during the main construction works would be documented in the CEMP.

There would be minimal impacts to adjacent habitats from light spill due to an absence of lights on the transmission line towers and within the transmission line easements. Light spill from other components of the project (such as energy hubs and switching stations) while likely to occur nightly, would be minimal and unlikely to adversely reduce the landscape amenity. The nearest permanent lighting source to an NPWS estate would be the New Wollar Switching Station located about five kilometres south west of Goulburn National Park.

Lighting designs would be in accordance with the *Australian and New Zealand Standard AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting* and the *Siding Springs Dark Sky Planning Guideline* (DPE, 2023d) which would minimise spill into adjoining areas. Furthermore, as outlined in mitigation measure B19, lighting designs will be in accordance with the *National Light Pollution Guidelines for Wildlife* (Department of Climate Change, Energy, the Environment and Water, 2023).

As detailed in Technical paper 3 – Visual and landscape character, the characterisation of landscape character types and zoned considered the scenic quality of the landscape including distinctive terrain, greater vegetation cover, natural waterbodies, heritage or cultural landscape and built form features. The heritage significance of Goulburn River National Park and Munghorn Gap nature reserve was considered in the landscape and visual assessment. The Durridgere, Goulburn River and Munghorn Gap forested hills landscape character zone (FH-2) located in the eastern part of the project includes the forest areas in Durridgere SCA and Goulburn River National Park. Due to the undulating terrain and absence of transmission infrastructure in the Durridgere, Goulburn River and Munghorn Gap (FH-2) landscape character zone, there would be a moderate landscape character impact during construction and operation due to the creation of cleared easements.

As part of Technical paper 3 – Visual and landscape character, 26 publicly accessible viewpoints were selected as representative of the range of views to the project from public areas. These viewpoints mainly consisted of views from local roads and highways. There were no areas of open space, lookouts or other recreational areas identified within the study area that would have a view to the project. As identified in Technical paper 6 – Non-Aboriginal heritage, there are no significant views from the Goulburn River National Park in the direction of the proposed transmission line, and there is already an existing transmission line running along the southern boundary of the Goulburn River National Park. Therefore visual impacts as a result of the transmission line is considered negligible.

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## 7.10.8 Biodiversity

### Summary of issues

NPWS noted that the Technical paper 4 – BDAR states that the project alignment is external to Goulburn River National Park as part of the Tier 1 exclusions, and this is accepted pending any changes as outlined in Section 7.10.3.

NPWS raised the following issues with respect to the Technical paper 4 – BDAR:

- clarity around the values present, and biodiversity loss attached to Durridgere SCA and the required project area within the BDAR, noting that the project would require a linear corridor that is 2.5 kilometres by 60 metres wide, resulting in the loss of 15 hectares of native vegetation. NPWS is of the view that the BDAR does not quantify the loss of biodiversity as a result of the project with respect to Durridgere SCA
- acknowledgement in the BDAR on the level of biodiversity and landform protection under the NP&W Act.

NPWS recommended revising the Technical paper 4 – BDAR, and the EIS to:

- recognise reserved land under the NP&W Act as environmentally sensitive areas of state significance acknowledging the reservation status, consistency with the objects (section 2A) in the protection and conservation of natural values and from the perspective of the public interest in managing the land
- confirm the project alignment and corridor extent on Durridgere SCA, ensuring the corridor is comprehensively surveyed, adequately depicted at a scale suitable for assessment purposes and the calculation of biodiversity loss, and credit requirements specific to Durridgere SCA are stated as part of the BDAR

- confirm that the applied Disturbance Area B and HZ clearing requirements on the outer extent of the transmission line corridor will not affect reserved lands, requiring individual tree removal. NPWS advised that if removal is required losses must be included in the impact calculations subject to the BDAR, reported on as part of a separate section as per point 6.2 above
- assume until proven otherwise that all individuals likely to be *Eucalyptus cannonii* on Durridgere SCA are in the application of the precautionary approach, with credits calculated as such. NPWS noted this will apply until a definitive call is made on the hybrid or intergrade status
- address the loss of hollow-bearing tree resources on Durridgere SCA concisely, with mitigation inclusive of avoidance or replacement strategies e.g. hollow hog, entire tree relocation to compensate for the loss of resources for hollow dependent fauna
- consider the potential adverse impacts of the project, around the risk of collision or electrocution from the electrical transmission line on Durridgere SCA, or interface with flyways onto Goulburn River National Park as likely high-risk sections of the project, with key species at risk identified, and accounted for consider Hazardous Tree removal, if applicable on reserved land as it accords with *NPWS Tree risk management policy* (NPWS, 2021) and the application of the *Tree Risk Management Procedures* (NPWS, 2019)
- assess habitat connectivity, and cumulative connectivity loss as it affects reserved land in the Study Area, based on key landscape corridors, and linkages between reserved land
- include measures to minimise, mitigate or manage impacts to natural (biodiversity) values as it relates to the direct impacts occurring on Durridgere SCA, and at the interface of Goulburn River National Park, as it will relate any future CEMP, or Biodiversity Management documentation prepared for the project. NPWS recommended:
  - the consolidation of mitigation measures in the BDAR and include those specific to reserved land
  - ensuring measures are adequate, reasonable and fit for purpose in reducing risk associated with both identified direct and indirect impacts to reserved lands proximate to the project
  - including vegetation clearance protocols to restrict and manage impacts or disturbance to Durridgere SCA
  - addressing the loss of conservation focus, edge effects, barriers to movement for key species at risk and management of impacts to aerial species
- acknowledge and clarify the biodiversity impacts (in Chapter 10 – Impact summary of the BDAR) and credit calculations as it relates to Durridgere SCA, and any other reserved land impacts under the BDAR. The BDAR should provide direct advice on the loss of biodiversity values relating the land reserved under the NP&W Act
- provide a suitable offset arrangement, to address the loss of biodiversity, as natural values on Durridgere SCA as a result of the project with an agreed and positive biodiversity or reserved land outcome with suitable commitments on management support. NPWS noted that the BDAR should provide a solution to the loss of protected land from the conservation reservation system as imposed under this project.

## Response

Potential biodiversity impacts resulting from the project, including impacts to Durridgere SCA, were assessed in accordance with Commonwealth and State legislation and the BAM (DPIE, 2020a). The assessment of biodiversity impacts as detailed in the Technical paper 4 – BDAR and the updated BDAR in Appendix G of the Amendment Report.

The BAM sets out how biodiversity values will be assessed, prescribes requirements to avoid and minimise impacts, establishes rules for calculating the number and class of credits required for unavoidable impacts, and determines the trading rules that will apply (with respect to offsets).

It is acknowledged that the section of the project through Durridgere SCA has high biodiversity value. The project would have a direct impact to around 15 hectares of vegetation in the Durridgere SCA due to the clearing of vegetation within the transmission line easement. The predicted impacts to Durridgere SCA are not individually identified in the updated BDAR but are captured as part of the overall assessment of impacts to listed biodiversity values.

The area to be impacted in the Durridgere SCA was fully surveyed and findings of those surveys are captured in the BDAR. No TECs were identified in Durridgere SCA. The native vegetation identified in the Durridgere area is PCT 477 – Inland Scribbly Gum – Red Stringybark – Black Cypress Pine – Red Ironbark open forest on sandstone hills in the southern Brigalow Belt South Bioregion and northern NSW South Western Slopes Bioregion. PCT 477 is mapped in at Durridgere, Bungaba and Uarby. These areas are sandy plains dominated by distinct stands of *Eucalyptus rossii* and *Callitris endlicheri* with other eucalypts including *Eucalyptus dealbata*, *Eucalyptus macrorhyncha*, *Eucalyptus crebra* present. No pure *Eucalyptus cannonii* plants were located within the subject land during surveys. *Eucalyptus cannonii* was removed from the assessment due to advice on identification from the National Herbarium of NSW based on the collection and provision of better fruiting and flowering material.

Mitigation measures have been identified to address impacts on availability of nesting hollows. Mitigation measure B6 commits to preparing and implementing a supplementary hollow and nest strategy that requires the creation of nest boxes, or other hollow creation method, to provide alternative roosting and/or nesting habitat for threatened fauna displaced during clearing.

The potential impact from bird strike from the project has been considered in the updated BDAR and is detailed in section 8.2 of the updated BDAR. The project has the potential to impact threatened fauna due to injury or mortality arising from collision with transmission lines. While this type of indirect impact has the potential to lead to an increase in bird and flying fox mortality, mitigation measures (including bird flappers/ divertors) would be implemented to ensure the likely impacts are minimised.

Construction of the project has the potential to impact habitat connectivity for the Squirrel Glider, threatened woodland birds and threatened bat species where the transmission line easement intersects areas of native vegetation, including through Durridgere SCA. The transmission lines would result in a highly permeable structure for biodiversity and connectivity is expected to remain largely unaffected for all species. While the impacts to connectivity would be permanent, the potential consequences would be minor. Any impacts are likely to reduce over time as biodiversity acclimatises to the presence of the transmission line and towers.

Connectivity corridors, in the form of installation of under-transmission line glider poles (in accordance with clearance requirements for transmission lines and infrastructure) are to be investigated and installed in appropriate locations where the project will impact habitat connectivity for arboreal species. The exact location and design of under-transmission line glider poles and/or rope bridges will be nominated as part of a Connectivity Strategy.

A consolidated list of the mitigation measures proposed to minimise biodiversity impacts from the project is provided in Appendix B of this report and in the updated BDAR in Appendix G of the Amendment Report. The mitigation measures do not specifically refer to Durridgere SCA but they address the biodiversity impacts that would occur in the Durridgere SCA from the project.

The offsets required for full and partial clearing of native vegetation have been estimated for the project would need to be secured in accordance with the Biodiversity Offset Scheme established under the *Biodiversity Conservation Act 2016*. The offsets required for clearing the Durridgere SCA have not been calculated separately but are captured in the overall credit calculations.

EnergyCo's preferred option to secure biodiversity offsets is to establish biodiversity stewardship agreements with landowners in proximity to the project. However, to provide increased flexibility, EnergyCo is also seeking to purchase available credits through the Credit Supply Taskforce, or on the open market, and where all options are exhausted, payment into the Biodiversity Conservation Fund. EnergyCo has been in discussions with the Credit Supply Taskforce regarding the type and quantum of required biodiversity credits.

EnergyCo has been in discussions with a number of landowners to confirm interest in biodiversity stewardship agreements. Two properties have been acquired including:

- a 684 hectare property adjacent to Goulburn River National Park to offset the mining offset areas
- a 1,708 hectare property in Capertee National Park that has entire Regent Honeyeater credit requirements.

EnergyCo is currently negotiating a biodiversity stewardship agreement with a landowner within the Central-West Orana REZ that is assessed as delivering another large portion of the project's offset liability

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## 7.11 Fire and Rescue NSW

Fire and Rescue NSW provided advice on fire hazard matters, dated 02 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.11.1 BESS

#### Summary of issues

Fire and Rescue NSW noted the potential incorporation of a 200 MW/400 MWh Battery Energy Storage System (BESS) at the Merotherie Energy Hub site. It has been the experience of Fire and Rescue NSW that BESS facilities pose special problems of firefighting and special hazards exist that may require additional fire safety and management measures.

If a BESS is incorporated in the project, Fire and Rescue NSW make the following recommendations:

- as stated in mitigation measure HA3, that a comprehensive Fire Safety Study is developed. The Fire Safety Study is to be developed in accordance with the requirements of *Hazardous Industry Planning Advisory Paper No.2* (NSW Department of Planning, 2011b) and is to meet the operational requirements of FRNSW
- that the development of the Fire Safety Study consider the operational capability of local fire agencies and the need for the facility to achieve an adequate level of on-site fire and life safety independence. The Fire Safety Study should consider worst-case fire scenarios including a full BESS unit fire and demonstrate no fire propagation within the facility
- that the development of a FSS be a condition of approval
- that a comprehensive Emergency Plan is developed for the site in accordance with *Hazardous Industry Planning Advisory Paper No.1* (NSW Department of Planning, 2011a). The findings of the Fire Safety Study should inform the development and content of the Emergency Plan
- that an Emergency Services Information Package be prepared in accordance with *Fire and Rescue NSW fire safety guideline – Emergency services information package and tactical fire plans* (Fire and Rescue NSW, 2019)
- an Emergency Responders Induction Package is developed for the site in consultation with, and to the satisfaction of Fire and Rescue NSW prior to commissioning of the site. The package should inform first responders of site-specific features and safety measures to ensure they are able to undertake their duties effectively in accordance with agency specific Standard Operational Guidelines. The format of the Induction Package should be such that it can be readily shared across all Agencies.

#### Response

The BESS is no longer proposed as part of this project.



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## 7.12 NSW Rural Fire Service

RFS provided advice the project date 22 November 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.12.1 Assessment approach

#### Summary of issues

RFS advised the Bushfire Risk Assessment Report, prepared by BlackAsh Bushfire Consulting, dated 15 September 2023 provides a generally acceptable response, however, it cannot be verified at this time with the current information provided for assessment due a lack of detail pertaining to the specific locations and construction designs for each development site. RFS commented that a further review will be required at a future stage in order to undertake a detailed assessment of the proposed structures throughout the project against *Planning for Bush Fire Protection 2019* before recommendations can be provided.

All proposed development should be reviewed for compliance with *Planning for Bush Fire Protection 2019* and certified by a recognised RFS bushfire consultant prior to commencement of construction.

#### Response

Asset Protection Zones (APZs) for switching stations and energy hubs (including the maintenance facility) will be established in accordance with the requirements of the RFS's documents *Planning for Bushfire Protection 2019* (Appendix 4) and Standards for APZs. Mitigation measure BF1 has been amended to ensure the final project design and associated APZs will be developed in consultation with RFS.

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### 7.12.2 Management plans

#### Summary of issues

RFS commented that a Fire Management Plan (FMP) shall be prepared in consultation with RFS Fire Control Centre relevant to each site and shall include:

- 24 hour emergency contact details including alternative telephone contact
- site infrastructure plan
- firefighting water supply plan
- site access and internal road plan
- construction of APZs and their continued maintenance
- location of hazards (Physical, Chemical and Electrical) that will impact on firefighting operations and procedures to manage identified hazards during firefighting operations
- such additional matters as required by the RFS District Office (FMP review and updates).

RFS commented that a Bush Fire Emergency Management and Evacuation Plan must be prepared and be consistent with the RFS document: A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan. The plan must include, but not be limited to, the following:

- that the workers/staff (except for construction managers etc) are not to be occupied on days of a 'catastrophic' fire danger rating
- a mechanism for the relocation of occupants on days with an 'catastrophic' fire danger rating
- contact details for the local RFS office
- procedures for co-ordinated evacuation of the site in consultation with local emergency services.

RFS noted that a copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee relevant to each site for its information prior to occupation of the development.

## Response

Comprehensive Bushfire Emergency Management and Evacuation Plans would be prepared to outline emergency response for the project and the fire management during both construction and operation. The Bushfire Emergency Management and Evacuation Plans would be prepared in consultation with RFS and NPWS, and be provided to the relevant Local Emergency Management Committees prior to construction and when updated.

The Bushfire Emergency Management and Evacuation Plans would be prepared in accordance with RFS's Guide to Developing a Bushfire Emergency Management Plan and meet the requirements of Australian Standard *AS3745-2010 Planning for emergencies in facilities*. The plans would include:

- protocols for the relocation of workers to nominated safe refuge zones during a bushfire emergency, either within or remote to the work zone
- protocols for the management of bushfire risk and fuel management during construction and operation. This would include the restriction and/or prevention of certain activities that present bushfire risks on days with a fire danger rating of equal to or greater than 'high', and as directed by relevant state authorities
- training to inform workers of bushfire risks and preventative actions, including risks associated with the operation (and maintenance) of vehicles, plant and equipment
- contact details for the local RFS office.

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## 7.12.3 Transmission infrastructure risk

### Summary of issues

RFS noted the EIS summary highlighted the following information, 'a recent Standing Committee on State Development held by the Parliament of NSW on the feasibility of undergrounding the transmission infrastructure for renewable energy projects (Parliament NSW, 2023) that the risk of a bushfire being ignited by high voltage transmission lines is low. Electric and magnetic fields would be produced by electrical current moving through the project infrastructure.'

RFS also commented that the bush fire assessment report provided the following information on this issue: Areas mapped for this project have a history of bushfires including most significant fires during 2011–2012 and 2016–2017. Bushfires caused by electrical infrastructure are well documented and supported by research. Victoria has a long history of large-scale wildfires including the Ash Wednesday fires of 1983, and Black Saturday fires of 2009, which were both caused by faults in the electrical distribution network, that collectively burned over 270,000 hectares, destroyed 1,833 homes and resulted in the deaths of 159 people.

## Response

The history of bushfires in the area and the presence of bushfire prone land is noted. The project would be designed and managed in accordance with the *Electricity Supply Act 1995* and *Electricity Supply (Safety and Network Management) Regulation 2014* which requires a network operator to take all reasonable steps to ensure that all aspects of its network are safe. Bushfire risk management will be part of the Network Operator's safety management system.

The risk of a bushfire being ignited by high voltage transmission lines is low. High voltage (above 220 kV) transmission lines have lower risk than distribution lines, as they are suspended higher above the ground, significantly reducing the likelihood of physical contact with vegetation or arcing to ground (EnergyCo, 2023f).

To manage the bushfire risks, project infrastructure would be regularly inspected and maintained to minimise risk of failure or incident. APZs would also be provided at the switching stations and energy hubs, which would be regularly maintained to manage the risk of fire spreading from these locations.

To ensure safe electrical clearances would be achieved during operation, vegetation within the transmission easements with growth heights of two metres and above (largely trees and shrubs) would be removed by the Network Operator prior to and during operation, whereas native vegetation with growth heights less than two metres would be retained. In addition, large trees in close proximity to the easement (deemed 'hazard trees') would also be removed where they pose a potential risk. This approach seeks to balance sufficient bushfire risk mitigation with protection of biodiversity, and has been applied in other recent transmission infrastructure projects in NSW.

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## 7.13 Civil Aviation Safety Authority

Civil Aviation Safety Authority (CASA) provided advice on aviation matters, dated 28 September 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.13.1 Aircraft operations

#### Summary of issue

CASA has reviewed the EIS and agrees with the aeronautical assessment in Technical paper 1 – Aviation as prepared by Aviation Projects. CASA agreed that the project would not require obstacle lighting to maintain an acceptable level of safety to aircraft due to the height of the transmission towers not exceeding 72 metres above ground level.

CASA has determined that the transmission line and associated construction for the project would not be a hazard to aircraft operations subject to the following conditions:

- consultation with Defence must be undertaken to provide them with appropriate information to assess the transmission line and ensure appropriate publication in Defence flying publications and charts
- Airservices Australia must be advised of the surveyed height and location of each transmission tower once completed to ensure appropriate publication in Civilian flying publications and charts
- potentially affected landing area (non-certified aerodrome) owners must be consulted, and the provision of aviation marker balls must be included where deemed necessary and agreed between the proponent and the landing site owner.

## Response

The transmission line and transmission line towers are unlikely to impact take-off and landing operations at the Aircraft Landing Areas (ALAs) assessed in close proximity to the transmission line alignment. Mitigation measures AS1 and AS3 commit to consulting with stakeholders for the safety of aviation movements. The final design of the project, including the final transmission line alignment and transmission line tower coordinates and elevations will be provided to the following stakeholders prior to construction:

- Airservices Australia
- Commonwealth Department of Defence
- owners of Dalkeith, Tongy and Merotherie ALA
- NSW National Parks and Wildlife Service
- property owners/occupiers within 5.5 kilometres the transmission easement.

Additional notification(s) will be undertaken if the final detailed design of the project alters the details previously supplied to these stakeholders, prior to the construction of the modified design elements. The same stakeholders will also be notified of the scheduling of the use of cranes (for transmission tower erection) and drones and helicopters for the construction of the project, prior to the commencement of relevant works.

As per mitigation measure AS2, at locations where the transmission lines will impact existing aerial farming operations, consultation will be undertaken with relevant landowners to identify appropriate mitigation arrangements such as the installation of aerial warning markers on the transmission lines (where feasible).

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## 7.14 Airservices Australia

Airservices Australia provided advice, dated 25 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.14.1 Aircraft operations

#### Summary of issue

Airservices Australia reviewed the EIS and, in particular, the Technical paper 1 – Aviation and note that the final design of the project with transmission line and tower coordinates and elevations will be provided to the following stakeholders prior to construction:

- Airservices Australia
- Commonwealth Department of Defence
- owners of Dalkeith, Tongy and Merotherie ALAs
- NSW National Parks and Wildlife Service
- property owners/occupiers within 5.5 kilometres of the transmission easement

Therefore, Airservices will reserve comment until the detailed design is forwarded to Airservices for formal assessment.

#### Response

Airservices Australia's position is noted.

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## 7.15 Department of Regional NSW – Mining, Exploration and Geoscience

Department of Regional NSW - Mining, Exploration and Geoscience provided advice on impacts to exploration and mining operations matters, dated 12 October 2023. Consideration of the items raised in their advice is provided in the following sections.

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### 7.15.1 Impacts to coal mining and exploration activities

#### Summary of issues

Department of Regional NSW – Mining, Exploration and Geoscience noted the EIS identified 17 exploration licences held by eight companies and three current coal mining operations (Wilpinjong, Moolarben and Ulan Coal Mines) that intersect the project. As noted in the EIS, to minimise disruption to coal mining activities, mine operators will be consulted on construction methodologies and activities as part of continued design development and prior to and during construction activities.

Furthermore, Department of Regional NSW – Mining, Exploration and Geoscience noted that EnergyCo plan to consult with the holders of exploration licences which cover the construction and project study areas to understand current exploration activities. The Department of Regional NSW – Mining, Exploration and Geoscience requested responses (if available) from exploration licence holders to be included in the submissions report.

#### Response

EnergyCo met with five of the six exploration licence holders during development of the EIS to discuss the proposed project and potential interactions with the exploration licenced areas. The remaining exploration licence holder was consulted during preparation of this report, once contact details were made available. The following responses were received with respect to exploration licences:

- EL9419 – Ulan Coal Glencore requested the alignment be moved to avoid their exploration licence. This is not considered feasible due to competing constraints as discussed in Section 5.21.4 of this report.
- EL8160 – Bowdens Silver Pty Limited raised no material issues with the project.
- EL6169 and EL6288 – EnergyCo working with Wilpinjong Coal and Yancoal Australia and the interfaces with the project is being managed through the third party agreements.
- EL8366 – Munro Geological Services requested the alignment she moved south. This is not considered feasible due to competing constraints, noting exploration licences are located to the north and south of this exploration licence.
- EL9138 – Gilmore Metals Pty Ltd was contacted but no response was provided.

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## 7.16 WaterNSW

WaterNSW provided advice on impact to water infrastructure, dated 28 September 2023. Consideration of the items raised in their advice is provided in this section.

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### 7.16.1 Interaction with WaterNSW assets

#### Summary of issue

WaterNSW noted that the project is not located close to any WaterNSW land or assets, and as such Water NSW have no particular comments or requirements relating to the project.

WaterNSW noted that there are a number of private groundwater bores within the construction area. However, construction of the project should not impact that network. In addition, WaterNSW noted that the transport route (while on the gazetted and approved OSOM routes) for the project crosses over some water quality monitoring sites, however the project is not expected to interact directly with these sites.

During the implementation of the project, if interaction with any WaterNSW asset is encountered, WaterNSW requested that the proponent contact WaterNSW to discuss any potential impact, and mitigation measures prior to works commencing. The project should also ensure that ongoing WaterNSW access to the water quality monitoring sites is enabled.

#### Response

The project (as amended) would not directly impact any WaterNSW assets. Furthermore, the mitigation measure GW4 included as part of the EIS for the project provides a commitment to avoid direct impacts to registered bores, where practicable. If the bores are not required to be removed during construction, then they will be avoided to protect the infrastructure where practical. Where impact is unavoidable and a bore will require decommissioning, it will be replaced in a similar nearby location in consultation with landowner.

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## 7.17 NSW Telco Authority

NSW Telco Authority provided advice on impact to their assets, dated 7 November 2023. Consideration of the items raised in their advice is provided in this section.

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### 7.17.1 Interaction with NSW Telco Authority assets

#### Summary of issues

NSW Telco Authority commented that there are some Public Safety Network links that traverse through the planned operational footprint of the Central-West Orana Transmission project. NSW Telco Authority provided the following as a guide for a 'no-go' zones:

- NSW Telco Authority would require 100 metre clearance from the closest point of a proposed transmission structure to the path of a Public Safety Network link.
- NSW Telco Authority would require one kilometre clearance from the closest point of a proposed transmission structure and Public Safety Network/Australian Communications and Media Authority site.

NSW Telco Authority stated that any structure that fails to meet the clearance requirements above will require a detailed impact analysis.

## Response

As part of the transmission tower design development, the interface with microwave links was considered. Where practicable, the transmission towers have been placed 100 m outside the line between two microwave link points (referred to as the link path) to avoid potential impacts. However, in some locations due to local constraints some towers have been placed within 100 m of the link path. These will be reviewed during detailed design to determine the impact on the microwave link.

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## 7.18 Australian Government – Department of Defence

The Department of Defence provided advice, dated 8 November 2023. Consideration of the items raised in their advice is provided in this section.

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### 7.18.1 Aviation

#### Summary of issue

The Department of Defence stated that the project is not in close proximity to Defence properties, however the project is located within Danger Area D538A, Danger Area D538B and Restricted area R559A. The Department of Defence commented that Technical paper 1 – Aviation accurately identifies these areas and notes that both Danger Areas D538A and D538B are from Surface height to 7,500 ft and 10,000 ft respectively, therefore infringing. The Restricted Airspace Area R559A lower limit is 7500 ft, therefore no infringement.

The Department of Defence also noted that the management of the impacts on aviation safety require consultation and notification of stakeholders including Airservices Australia as the project qualifies as a tall structure and includes the following approach from Technical paper 1 – Aviation:

The concept design of the transmission line tower coordinates and elevations would be provided to Airservices Australia as they have been assigned the task of maintaining a database of tall structures, the top measurement of which is:

- 30 metres or more above ground level – within 30 kilometres of an aerodrome; or
- 45 metres or more above ground level elsewhere.

The purpose of notifying Airservices Australia of these structures is to enable their details to be provided in aeronautical information databases and maps/charts etc used by pilots, so that the obstacles can be avoided. The notification to Airservices Australia would be made as early as possible following the concept design of the project. Aeronautical charts are updated twice per year, in June and December.

The Department of Defence stated the additional transmission lines are unlikely to impact upon the military flight operations in these special use airspaces if published on aeronautical charts and Defence is advised in the conditions and construction phases of the project. The Department of Defence requests information to assess the transmission line construction detail to ensure any appropriate conditions are applied. It would be appreciated if the requested detail could be submitted to the Defence group inbox at [land.planning@defence.gov.au](mailto:land.planning@defence.gov.au).

## Response

The Department of Defence' position is noted. Mitigation measures AS1 and AS3 commit to consulting with stakeholders for the safety of aviation movements. The final design of the project, including the final transmission line alignment and transmission line tower coordinates and elevations will be provided to the Department of Defence. Additional notification(s) will be undertaken if the final detailed design of the project alters the details previously supplied to the Department of Defence, prior to the construction of the modified design elements.

The Department of Defence will also be notified of the scheduling of the use of cranes (for transmission tower erection) and drones and helicopters for the construction of the project, prior to the commencement of relevant works.



# 8 Conclusion

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## 8.1 Summary

The Central-West Orana REZ Transmission project is CSSI and is subject to assessment and approval in accordance with Part 5, Division 5.2 of the EP&A Act.

An EIS was prepared to address the requirements of Division 5.2 of the EP&A Act, the SEARs, Part 8 Division 5 of the EP&A Regulation and with consideration of the *State Significant Infrastructure Guidelines* (DPE, 2022a). The EIS was placed on public exhibition by the DPHI between 28 September 2023 to 8 November 2023, and submissions were invited.

This Submissions Report documents and considers the issues raised in community and organisation submissions, and other government agency advice received by DPHI in accordance with section 5.17(6)(a) of the EP&A Act. EnergyCo has carefully considered the content of the submissions and has prepared responses to the issues raised, with the responses provided in this report. This report also describes the actions taken since the EIS was placed on public exhibition. Information about the need for, and justification of, the project is provided in the EIS. This Submissions Report provides further information, in the responses to submissions received, about how the project has developed and how the potential impacts would be managed.

EnergyCo has also undertaken further investigations since the public exhibition of the EIS and is proposing a number of design amendments and refinements. The aim of these amendments and refinements are to address issues raised during engagement and in submissions, take into account further design development, and minimise the potential impacts of the project where practicable; particularly in respect of land use and visual impacts. The amendments and refinements have been developed taking into account consultation with the community and key stakeholders, and submissions made. This report is to be read in conjunction with the Amendment Report.

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## 8.2 Updated project justification

The project, including the proposed amendments and refinements identified in this Submissions Report, comprises the construction and operation of new electricity transmission infrastructure and new energy hubs and switching stations within the Central-West Orana REZ. The project would enable 4.5 gigawatts of new network capacity to be unlocked initially, with around six gigawatts by 2038. It would enable renewable energy generators within the Central-West Orana REZ to access the new transmission infrastructure to export electricity to the rest of the network. As such, the project is critically important in securing new sources of electricity to replace coal-fired power and in supporting NSW and Commonwealth Government climate change commitments to reduce emissions in the electricity sector, benefitting current and future NSW residents through the provision of a clean, affordable and secure source of electricity.

Projects of this scale and geographical spread inevitably have impacts on the local environment and community, particularly during construction. A number of competing environmental, social and technical constraints are present which have required adopting a balanced approach to corridor planning to determine the most appropriate project alignment.

The most significant impact to the biophysical environment would be on biodiversity due to the extent of vegetation clearing required along the approximately 250 kilometre transmission corridor. While efforts have been made to avoid biodiversity impacts, for example, by locating the alignment in previously disturbed areas such as mining areas and adjacent to existing transmission lines, some impacts have not been able to be avoided and will be addressed through biodiversity offsets.

Impacts to surface and groundwater have the potential to occur during construction, however they would be temporary and minor. The project is not anticipated to cause impacts that would lead to serious and irreversible environmental damage.

The most significant impacts to the community would be from land use change, in particular the loss of agricultural land and amenity impacts such as noise and visual impacts. The project would require the use of agricultural land either permanently (for operation) or temporarily until construction activities are completed. The permanent loss of agricultural land is equivalent to approximately 0.04 per cent of the total area of agricultural land use in the four LGAs where the project is located. There would also be potential impacts on First Nations cultural values due to changes to the landscape, access and sites of cultural heritage significance. Further investigation will be undertaken during the detailed design stage to avoid and minimise impacts on important cultural heritage sites in consultation with RAPs.

Construction and operation of the project would provide positive economic activity to the regional and NSW economy. The direct and indirect impacts on the regional economy during construction are estimated at up to \$1.32 million in average output per year of construction (the gross value of business turnover in a region).

Construction of the project would result in a reduction in the land available for agricultural activity. The agricultural impacts of the project during construction are less than 0.2 per cent of agricultural economic activity in the region and a fraction of the economic activity gains from the project.

A range of mitigation measures identified in Appendix B of this report would be implemented during construction and operation to manage and minimise potential impacts.

The project is consistent with the principles of ecologically sustainable development identified in the EP&A Regulation as detailed below:

- **Precautionary principle:** through the integration of environmental considerations into project development and design, the project would not cause serious or irreversible environmental damage. The assessment of potential environmental impacts of corridor and design options has drawn on a combination of desk-top data and a comprehensive program of field investigations which reduces the level of uncertainty of potential impacts.
- **Intergenerational equity:** the important role of the project in relation to emissions reduction and security of energy supply would benefit current and future generations and help to facilitate intergenerational equity.
- **Conservation of biological diversity and ecological integrity:** while the project will result in impacts to native vegetation, given its scale and geographic spread, the development of the project has sought to avoid areas of high biodiversity value by locating the alignment in previously disturbed areas where possible. Refinement of the design has sought to further minimise biodiversity impacts with biodiversity offsets required for those impacts that cannot be avoided or mitigated.
- **Improved valuation, pricing and incentive mechanisms:** The costs of design development, mitigation measures and biodiversity offsets, adopted to avoid and minimise environmental and/or social impacts, are included in the total estimated project cost, such that the projects are internalised within the project cost and act as an incentive to reduce impacts.

Having regard to all of the matters considered in this report, the EIS and the Amendment Report, it is considered that the project is justified, as the need for, and the benefits of the project would outweigh the residual impacts.

During the continued development of the project design and the construction methodology, opportunities to further minimise potential impacts will be sought and ongoing input from stakeholders and the community will be taken into account. The potential residual construction and operational impacts of the project are considered manageable with the implementation of the proposed mitigation and management measures.

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## 8.3 Next steps

DPHI will review this report alongside, the EIS and the Amendment Report, on behalf of the Minister for Planning. An Environmental Assessment Report prepared by DPHI will be provided to the Minister, who will then approve the project with conditions, or refuse to approve the project. The Environmental Assessment Report and the Minister's determination will be published on the Planning Portal website following determination, including conditions of approval, should the project be approved.

As the project is a controlled action, should the project be approved the Minister, it would then be assessed using the bilateral assessment process for the required approval from the Commonwealth Minister for the Environment and Water (or its delegate).

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# Appendix A

## Submissions register

This table presents a cross reference to where issues have been addressed in the report for each community submission.

Table A-1 Community submissions register (public and organisations)

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
1	SE-64535620	S-64535619	Coolah District Development Group	Section 5.2
2	SE-64549735	S-64549734	Central West Cycle Trail	Section 5.3
3	SE-64547708	S-64547707	Community Power Agency	Section 5.6
4	SE-64544460	S-64544459	Mudgee District Environment Group	Section 5.10
5	SE-64544957	S-64544956	Uarbry Tongy Lane Alliance Inc	Section 5.20
6	SE-64541972	S-64541971	Save Our Woodlands	Section 5.14
7	SE-64523985	S-64523984	Wilpinjong Coal	Section 5.22
8	SE-64526465	S-64526464	Edify Energy Pty Ltd	Section 5.8
9	SE-64514468	S-64514467	Rylstone District Environment Society	Section 5.17
10	SE-62969475	S-62969474	Merriwa-Cassilis Alliance	Section 5.12
11	SE-64496967	S-64496966	Ulan Coal Mines Pty Ltd	Section 5.21
12	SE-64487464	S-64487463	Orange Compass	Section 5.16
13	SE-64479469	S-64479468	Central West Environment Council	Section 5.5
14	SE-64476479	S-64476478	Climate and Energy Realists Queensland	Section 5.7
15	SE-64476710	S-64476709	Environmentally Concerned Citizens of Orange	Section 5.9
16	SE-64472959	S-64472958	CWO REZist Inc	Section 5.13
17	SE-64386466	S-64386465	Wollar Progression Association	Section 5.23
18	SE-64380957	S-64380956	Kareba Pastoral Co	Section 5.11
19	SE-64311473	S-64311472	Cassilis District Development Group	Section 5.4
20	SE-63779708	S-63779707	YANCOAL AUSTRALIA LTD	Section 5.24
21	SE-63710712	S-63710711	Save our Surroundings (SOS)	Section 5.18
22	SE-62977975	S-62977974	Wellington Valley Wiradjuri Aboriginal Corporation	Section 5.19
23	SE-64510956	S-62969474	Merriwa-Cassilis Alliance	Section 5.12
24	SE-64414460	S-64414459	APA Group	Section 5.1
25	SE-62798962	S-62798961	N/A	Sections 4.5, 4.15, 4.8, 4.9, 4.7, 4.1
26	SE-63125968	S-63125967	N/A	Section 4.15
27	SE-63225709	S-63225708	N/A	Sections 4.4, 4.12
28	SE-63358211	S-63358210	N/A	Sections 4.15, 4.6
29	SE-63375011	S-63375010	N/A	Sections 4.7, 4.23, 4.1

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
30	SE-63407711	S-63407710	N/A	Sections 4.27, 4.4, 4.2, 4.8
31	SE-63443207	S-63443206	N/A	Sections 4.8, 4.9, 4.7, 4.1, 4.3, 4.12, 4.13, 4.25, 4.16, 4.17, 4.22, 4.4, 4.23
32	SE-63457263	S-63457262	N/A	Sections 4.8, 4.15, 4.7, 4.18, 4.9, 4.23, 4.16, 4.5
33	SE-63457266	S-63457265	N/A	Sections 4.6, 4.15, 4.7, 4.12, 4.16, 4.8
34	SE-63500708	S-63500707	N/A	Sections 4.16, 4.6, 4.18, 4.7, 4.15, 4.12
35	SE-63512964	S-63512963	N/A	Section 4.11
36	SE-63519997	S-63519996	N/A	Sections 4.25, 4.23, 4.1, 4.5
37	SE-63522208	S-63522207	N/A	Section 4.27
38	SE-63627230	S-63627229	N/A	Sections 4.23, 4.12, 4.5, 4.6, 4.7, 4.9, 4.19, 4.17, 4.8, 4.15, 4.10, 4.11
39	SE-63680207	S-63680206	N/A	Sections 4.7, 4.9, 4.19, 4.18, 4.12, 4.1, 4.6, 4.3, 4.8
40	SE-63710470	S-63710469	N/A	Section 4.25
41	SE-63710714	S-63710713	N/A	Section 4.25
42	SE-63715708	S-63715707	N/A	Sections 4.18, 4.6, 4.15, 4.8, 4.9, 4.4, 4.12, 4.14, 4.16, 4.17
43	SE-63749468	S-63749467	N/A	Section 4.1
44	SE-63749474	S-63749473	N/A	Sections 4.1, 4.8, 4.7, 4.12
45	SE-63754471	S-63754470	N/A	Sections 4.5, 4.8, 4.1, 4.9
46	SE-63758959	S-63758958	N/A	Section 4.1
47	SE-63847744	S-63519996	N/A	Sections 4.12, 4.16, 4.23, 4.22, 4.7, 4.15, 4.3, 4.18, 4.9, 4.1, 4.27
48	SE-63906004	S-63906003	N/A	Sections 4.1, 4.14, 4.8, 4.15, 4.7, 4.18, 4.9
49	SE-63942712	S-63942711	N/A	Sections 4.6, 4.15, 4.1
50	SE-63951710	S-63951709	N/A	Sections 4.1, 4.6, 4.8, 4.12, 4.5
51	SE-64042216	S-64042215	N/A	Sections 4.12, 4.9, 4.8, 4.15, 4.6, 4.5
52	SE-64055476	S-64055475	N/A	Sections 4.6, 4.8, 4.7, 4.15, 4.9, 4.23, 4.1
53	SE-64055486	S-64055485	N/A	Sections 4.25, 4.4, 4.7, 4.8, 4.3, 4.18, 4.16, 4.15, 4.5
54	SE-64067736	S-64067735	N/A	Section 4.1
55	SE-64088965	S-64088964	N/A	Sections 4.9, 4.23, 4.6, 4.1
56	SE-64154974	S-64154973	N/A	Section 4.1
57	SE-64183463	S-64183462	N/A	Sections 4.25, 4.4, 4.1, 4.22, 4.23, 4.10, 4.27, 4.13, 4.12, 4.5, 4.6, 4.7, 4.17, 4.16
58	SE-64187458	S-64187457	N/A	Sections 4.4, 4.25, 4.1, 4.13, 4.7, 4.10, 4.22, 4.27, 4.23
59	SE-64188228	S-64188227	N/A	Sections 4.6, 4.5, 4.12, 4.15, 4.18, 4.14, 4.16, 4.7, 4.21, 4.3
60	SE-64191766	S-64191765	N/A	Sections 4.5, 4.1, 4.7, 4.13, 4.12

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
61	SE-64232980	S-64232979	N/A	Sections 4.1, 4.6
62	SE-64232987	S-64232986	N/A	Sections 4.4, 4.12, 4.6, 4.1, 4.15, 4.23, 4.5, 4.9
63	SE-64237742	S-64237741	N/A	Sections 4.5, 4.4, 4.6, 4.27, 4.12, 4.9, 4.19, 4.15
64	SE-64278460	S-64278459	N/A	Sections 4.6, 4.4, 4.5, 4.25, 4.8, 4.3, 4.14, 4.16, 4.23
65	SE-64286716	S-64286715	N/A	Sections 4.15, 4.7, 4.9, 4.13, 4.1, 4.6, 4.23, 4.12
66	SE-64318207	S-64318206	N/A	Sections 4.1, 4.23, 4.18, 4.17, 4.12, 4.13, 4.6, 4.4
67	SE-64340958	S-64340957	N/A	Sections 4.6, 4.12, 4.7, 4.9, 4.8, 4.1
68	SE-64342007	S-64342006	N/A	Sections 4.9, 4.7, 4.8, 4.13, 4.1
69	SE-64342044	S-64342043	N/A	Sections 4.5, 4.12, 4.1, 4.7, 4.6, 4.11, 4.4
70	SE-64342047	S-64342046	N/A	Sections 4.13, 4.12, 4.23
71	SE-64342059	S-64342058	N/A	Sections 4.7, 4.16, 4.12, 4.4, 4.5, 4.15, 4.23
72	SE-64342061	S-64342060	N/A	Sections 4.8, 4.23, 4.9, 4.7, 4.5, 4.15
73	SE-64343708	S-64343707	N/A	Sections 4.1, 4.7, 4.15, 4.6, 4.5, 4.12
74	SE-64343712	S-64343711	N/A	Sections 4.4, 4.5, 4.8, 4.1, 4.9
75	SE-64344485	S-64344484	N/A	Sections 4.25, 4.15, 4.5, 4.14, 4.8, 4.20
76	SE-64349960	S-64349959	N/A	Section 4.1
77	SE-64350960	S-64350959	N/A	Sections 4.8, 4.14, 4.16, 4.9, 4.15, 4.6, 4.7
78	SE-64350981	S-64350980	N/A	Sections 4.1, 4.5, 4.6, 4.4
79	SE-64350986	S-64350985	N/A	Section 4.23
80	SE-64351001	S-64351000	N/A	Sections 4.1, 4.23
81	SE-64352460	S-64352459	N/A	Sections 4.1, 4.6
82	SE-64353207	S-64353206	N/A	Section 4.26
83	SE-64356736	S-64356735	N/A	Sections 4.4, 4.23, 4.1, 4.18, 4.15, 4.8
84	SE-64356739	S-64356738	N/A	Sections 4.7, 4.8, 4.18, 4.17, 4.15, 4.9, 4.12, 4.1
85	SE-64356742	S-64356741	N/A	Sections 4.16, 4.18, 4.19, 4.7, 4.5
86	SE-64356810	S-64356809	N/A	Section 4.26
87	SE-64359712	S-64359711	N/A	Sections 4.9, 4.23, 4.15
88	SE-64359738	S-64359737	N/A	Section 4.8
89	SE-64359742	S-64359741	N/A	Sections 4.1, 4.12
90	SE-64363719	S-64363718	N/A	Section 4.26
91	SE-64363722	S-64363721	N/A	Sections 4.5, 4.15, 4.6, 4.1, 4.7
92	SE-64363725	S-64363724	N/A	Sections 4.15, 4.12
93	SE-64364971	S-64364970	N/A	Section 4.26

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
94	SE-64365710	S-64365709	N/A	Sections 4.7, 4.15
95	SE-64365712	S-64365711	N/A	Sections 4.8, 4.5, 4.9, 4.15, 4.18, 4.16, 4.7
96	SE-64365748	S-64365747	N/A	Section 4.7
97	SE-64366472	S-64366471	N/A	Sections 4.12, 4.7, 4.18, 4.8, 4.13, 4.6, 4.9, 4.15, 4.16, 4.2, 4.4, 4.1
98	SE-64366477	S-64366476	N/A	Section 4.1
99	SE-64367208	S-64367207	N/A	Sections 4.8, 4.6, 4.7, 4.1
100	SE-64367458	S-64367457	N/A	Sections 4.8, 4.5, 4.1, 4.6, 4.12, 4.7, 4.15, 4.13, 4.23, 4.9
101	SE-64367481	S-64367480	N/A	Sections 4.4, 4.7, 4.1, 4.9, 4.23, 4.8, 4.14, 4.15, 4.12, 4.6, 4.10
102	SE-64367483	S-64367482	N/A	Sections 4.12, 4.8, 4.9, 4.23, 4.5, 4.1, 4.27, 4.4, 4.6, 4.7, 4.14, 4.15, 4.10, 4.18, 4.16, 4.13, 4.11
103	SE-64368207	S-64368206	N/A	Sections 4.27, 4.1
104	SE-64368475	S-64368474	N/A	Sections 4.18, 4.17
105	SE-64368707	S-64368706	N/A	Section 4.26
106	SE-64368711	S-64368710	N/A	Sections 4.15, 4.23
107	SE-64368749	S-64368748	N/A	Sections 4.8, 4.23, 4.9, 4.18
108	SE-64368764	S-64368763	N/A	Sections 4.8, 4.23, 4.9, 4.12
109	SE-64368780	S-64368779	N/A	Sections 4.18, 4.17, 4.8, 4.12, 4.6
110	SE-64368957	S-64183462	N/A	Sections 4.25, 4.22
111	SE-64370724	S-64370723	N/A	Section 4.23
112	SE-64370746	S-64370745	N/A	Sections 4.1, 4.7, 4.23, 4.6, 4.12
113	SE-64370984	S-64370983	N/A	Sections 4.6, 4.27, 4.23
114	SE-64371001	S-64371000	N/A	Sections 4.8, 4.15, 4.7
115	SE-64371709	S-64371708	N/A	Sections 4.1, 4.23
116	SE-64371732	S-64371731	N/A	Sections 4.6, 4.7, 4.14, 4.12, 4.18, 4.20, 4.8, 4.23, 4.13, 4.9, 4.15, 4.4, 4.17, 4.11, 4.5, 4.2, 4.1, 4.16
117	SE-64372211	S-64372210	N/A	Sections 4.12, 4.7, 4.23, 4.6, 4.15
118	SE-64372257	S-64372256	N/A	Sections 4.23, 4.15, 4.7, 4.8, 4.1
119	SE-64374709	S-64374708	N/A	Sections 4.1, 4.12, 4.23, 4.8, 4.15, 4.27
120	SE-64376486	S-64376485	N/A	Section 4.26
121	SE-64377207	S-64377206	N/A	Section 4.25
122	SE-64383962	S-64383961	N/A	Sections 4.23, 4.12, 4.15
123	SE-64386208	S-64386207	N/A	Sections 4.12, 4.7
124	SE-64386210	S-64386209	N/A	Sections 4.9, 4.23, 4.15, 4.1
125	SE-64386457	S-64386456	N/A	Sections 4.9, 4.7, 4.12
126	SE-64393711	S-64393710	N/A	Sections 4.8, 4.23, 4.9

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127	SE-64393963	S-64393962	N/A	Sections 4.18, 4.8, 4.15, 4.23, 4.1, 4.27, 4.6, 4.12
128	SE-64394221	S-64394220	N/A	Sections 4.12, 4.23, 4.9, 4.27
129	SE-64394234	S-64394233	N/A	Sections 4.18, 4.20, 4.8, 4.6, 4.15, 4.23
130	SE-64394460	S-64394459	N/A	Sections 4.1, 4.23, 4.27, 4.12, 4.5
131	SE-64400492	S-64400491	N/A	Sections 4.23, 4.27, 4.15, 4.7, 4.12
132	SE-64400960	S-64400959	N/A	Sections 4.23, 4.1
133	SE-64403211	S-64403210	N/A	Sections 4.27, 4.1, 4.7, 4.15, 4.5, 4.8
134	SE-64404720	S-64404719	N/A	Sections 4.8, 4.14
135	SE-64404722	S-64404721	N/A	Sections 4.8, 4.27, 4.1
136	SE-64412459	S-64412458	N/A	Sections 4.6, 4.16, 4.17, 4.7, 4.8, 4.14, 4.15, 4.4, 4.1, 4.5
137	SE-64414462	S-64414461	N/A	Sections 4.1, 4.27
138	SE-64414708	S-64414707	N/A	Sections 4.1, 4.23, 4.4, 4.5, 4.27, 4.15, 4.9, 4.18, 4.6, 4.24, 4.12
139	SE-64414962	S-64414961	N/A	Sections 4.5, 4.23
140	SE-64414991	S-64414990	N/A	Sections 4.23, 4.1
141	SE-64415462	S-64415461	N/A	Sections 4.18, 4.17
142	SE-64416470	S-64416469	N/A	Sections 4.23, 4.1
143	SE-64418240	S-64418239	N/A	Sections 4.25, 4.8, 4.7
144	SE-64419963	S-64419962	N/A	Sections 4.1, 4.25, 4.8, 4.6
145	SE-64423223	S-64423222	N/A	Section 4.1
146	SE-64423492	S-64423491	N/A	Sections 4.23, 4.12, 4.7, 4.5, 4.27, 4.15, 4.14
147	SE-64424969	S-64424968	N/A	Sections 4.5, 4.6, 4.7, 4.27, 4.4, 4.18, 4.17, 4.15, 4.16, 4.12
148	SE-64424971	S-64424970	N/A	Sections 4.16, 4.4, 4.5, 4.1, 4.7, 4.12
149	SE-64425711	S-64425710	N/A	Sections 4.5, 4.1
150	SE-64425972	S-64425971	N/A	Sections 4.16, 4.4, 4.12, 4.17, 4.15, 4.18, 4.6, 4.7
151	SE-64427958	S-64427957	N/A	Sections 4.8, 4.23
152	SE-64428489	S-64428488	N/A	Sections 4.16, 4.14, 4.12, 4.23
153	SE-64428506	S-64428505	N/A	Section 4.27
154	SE-64428507	S-64187457	N/A	Sections 4.22, 4.4
155	SE-64428531	S-64428530	N/A	Section 4.23
156	SE-64428567	S-64428566	N/A	Sections 4.7, 4.23, 4.1
157	SE-64428587	S-64428586	N/A	Sections 4.12, 4.8, 4.23, 4.16, 4.18, 4.6
158	SE-64429475	S-64429474	N/A	Sections 4.8, 4.27
159	SE-64429960	S-64429959	N/A	Section 4.27
160	SE-64430709	S-64430708	N/A	Sections 4.16, 4.5, 4.7, 4.15, 4.1

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161	SE-64430719	S-64430718	N/A	Sections 4.12, 4.23, 4.1
162	SE-64430722	S-64430721	N/A	Section 4.1
163	SE-64430765	S-64430764	N/A	Sections 4.8, 4.23
164	SE-64430784	S-64430783	N/A	Sections 4.7, 4.23
165	SE-64431707	S-64431706	N/A	Sections 4.23, 4.1, 4.3
166	SE-64431985	S-64431984	N/A	Sections 4.7, 4.6, 4.5, 4.12, 4.15, 4.9, 4.1, 4.4, 4.8, 4.25, 4.18, 4.20, 4.23
167	SE-64432211	S-64432210	N/A	Sections 4.12, 4.16
168	SE-64432213	S-64432212	N/A	Sections 4.7, 4.9, 4.8
169	SE-64432215	S-64432214	N/A	Sections 4.6, 4.7, 4.5, 4.12, 4.9, 4.1, 4.15, 4.8, 4.25, 4.23
170	SE-64432233	S-64432232	N/A	Section 4.26
171	SE-64432236	S-64432235	N/A	Sections 4.6, 4.12, 4.13, 4.16, 4.9, 4.18, 4.15, 4.23, 4.4
172	SE-64432739	S-64432738	N/A	Sections 4.1, 4.23
173	SE-64432768	S-64432767	N/A	Sections 4.1, 4.27, 4.15
174	SE-64432792	S-64432791	N/A	Sections 4.7, 4.9
175	SE-64433458	S-64433457	N/A	Sections 4.8, 4.23, 4.25
176	SE-64433475	S-64433474	N/A	Sections 4.23, 4.27, 4.8, 4.12
177	SE-64433710	S-64433709	N/A	Sections 4.12, 4.13, 4.1, 4.9, 4.8, 4.2, 4.7, 4.16, 4.23, 4.27, 4.5
178	SE-64433739	S-64433738	N/A	Sections 4.8, 4.23, 4.27, 4.1
179	SE-64434973	S-64434972	N/A	Sections 4.8, 4.7, 4.12, 4.15, 4.9, 4.23, 4.25, 4.1
180	SE-64435222	S-64435221	N/A	Section 4.23
181	SE-64435240	S-64435239	N/A	Sections 4.8, 4.23, 4.1
182	SE-64435734	S-64435733	N/A	Sections 4.8, 4.7, 4.6, 4.12
183	SE-64435739	S-64435738	N/A	Sections 4.7, 4.12, 4.1
184	SE-64435751	S-64435750	N/A	Sections 4.5, 4.4, 4.16, 4.23
185	SE-64435784	S-64435783	N/A	Sections 4.23, 4.25, 4.4, 4.1, 4.8, 4.12, 4.5
186	SE-64435965	S-64435964	N/A	Sections 4.1, 4.9, 4.7, 4.12
187	SE-64435973	S-64435972	N/A	Sections 4.1, 4.23, 4.5
188	SE-64435988	S-64435987	N/A	Sections 4.1, 4.7, 4.8, 4.12
189	SE-64442983	S-64442982	N/A	Sections 4.1, 4.7
190	SE-64443457	S-64443456	N/A	Sections 4.23, 4.1
191	SE-64445464	S-64445463	N/A	Sections 4.8, 4.7, 4.27, 4.23
192	SE-64445709	S-64445708	N/A	Section 4.23
193	SE-64450732	S-64450731	N/A	Sections 4.23, 4.5, 4.1
194	SE-64450958	S-64450957	N/A	Sections 4.15, 4.18, 4.7, 4.12, 4.27



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195	SE-64451212	S-64451211	N/A	Sections 4.12, 4.15, 4.18, 4.7, 4.27
196	SE-64451717	S-64451716	N/A	Sections 4.1, 4.23
197	SE-64451733	S-64451732	N/A	Sections 4.5, 4.8, 4.23
198	SE-64456460	S-64456459	N/A	Sections 4.1, 4.23, 4.27
199	SE-64457707	S-64457706	N/A	Sections 4.9, 4.12, 4.1
200	SE-64458463	S-64458462	N/A	Sections 4.16, 4.23
201	SE-64458711	S-64458710	N/A	Sections 4.1, 4.5
202	SE-64459457	S-64459456	N/A	Sections 4.27
203	SE-64461708	S-64461707	N/A	Section 4.15
204	SE-64462718	S-64462717	N/A	Sections 4.23, 4.5
205	SE-64462724	S-64462723	N/A	Sections 4.23, 4.14
206	SE-64462728	S-64462727	N/A	Sections 4.27, 4.1, 4.5, 4.4, 4.23, 4.12, 4.3, 4.9
207	SE-64464980	S-64464979	N/A	Section 4.9
208	SE-64466714	S-64466713	N/A	Sections 4.15, 4.14, 4.8, 4.6, 4.1, 4.12
209	SE-64470711	S-64470710	N/A	Section 4.27
210	SE-64470735	S-64470734	N/A	Sections 4.15, 4.13, 4.23
211	SE-64470742	S-64472970	N/A	Sections 4.1, 4.23, 4.15
212	SE-64470762	S-64470761	N/A	Sections 4.8, 4.23
213	SE-64471456	S-64471206	N/A	Sections 4.4, 4.12, 4.18, 4.6, 4.1, 4.23, 4.5, 4.16, 4.14, 4.17, 4.7, 4.9, 4.13, 4.27
214	SE-64471474	S-64471473	N/A	Section 4.27
215	SE-64473003	S-64473002	N/A	Sections 4.8, 4.23
216	SE-64474957	S-64474956	N/A	Sections 4.27, 4.12, 4.23, 4.1
217	SE-64477958	S-64477957	N/A	Sections 4.7, 4.18, 4.8, 4.23, 4.13, 4.14, 4.6, 4.9, 4.12, 4.15, 4.4, 4.17, 4.11, 4.2, 4.16
218	SE-64477960	S-64477959	N/A	Sections 4.9, 4.12, 4.8, 4.27
219	SE-64478457	S-64478456	N/A	Sections 4.9, 4.12, 4.8, 4.27
220	SE-64479471	S-64479470	N/A	Sections 4.8, 4.14, 4.7, 4.5, 4.23, 4.15, 4.12, 4.6, 4.9, 4.18, 4.11, 4.4
221	SE-64479478	S-64479477	N/A	Sections 4.5, 4.12, 4.16, 4.4, 4.8, 4.7, 4.23, 4.13, 4.6, 4.9, 4.15
222	SE-64482477	S-64482476	N/A	Section 4.27
223	SE-64482481	S-64482480	N/A	Section 4.27
224	SE-64482511	S-64482510	N/A	Section 4.27
225	SE-64483459	S-64483458	N/A	Sections 4.6, 4.23, 4.7, 4.16
226	SE-64483708	S-64483707	N/A	Sections 4.8, 4.23, 4.27
227	SE-64483715	S-64483714	N/A	Sections 4.23, 4.27, 4.1
228	SE-64483720	S-64483719	N/A	Sections 4.8, 4.12, 4.20, 4.13, 4.6, 4.9, 4.15

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229	SE-64483735	S-64483734	N/A	Sections 4.8, 4.23, 4.27, 4.12, 4.13
230	SE-64483743	S-64483742	N/A	Sections 4.4, 4.3, 4.14, 4.12, 4.21, 4.15, 4.6, 4.16, 4.7
231	SE-64485962	S-64485961	N/A	Section 4.26
232	SE-64486011	S-64486010	N/A	Sections 4.16, 4.23, 4.1
233	SE-64486015	S-64486014	N/A	Sections 4.1, 4.5, 4.3, 4.18
234	SE-64486019	S-64486018	N/A	Sections 4.12, 4.13, 4.9, 4.1, 4.5
235	SE-64486472	S-64486471	N/A	Sections 4.8, 4.23, 4.25
236	SE-64486492	S-64486491	N/A	Section 4.25
237	SE-64486509	S-64486508	N/A	Sections 4.25, 4.16, 4.18, 4.5
238	SE-64487973	S-64487972	N/A	Sections 4.7, 4.12
239	SE-64487977	S-64487976	N/A	Sections 4.23, 4.13, 4.1
240	SE-64489209	S-64489208	N/A	Sections 4.5, 4.7, 4.13, 4.12, 4.16, 4.15, 4.23
241	SE-64489213	S-64489212	N/A	Sections 4.23, 4.6, 4.1
242	SE-64489215	S-64489214	N/A	Sections 4.8, 4.12, 4.15, 4.7, 4.25
243	SE-64489458	S-64489457	N/A	Sections 4.25, 4.23
244	SE-64489475	S-64489474	N/A	Sections 4.7, 4.16, 4.14, 4.8, 4.6, 4.25
245	SE-64489486	S-64489485	N/A	Sections 4.8, 4.5, 4.15, 4.23, 4.16, 4.12, 4.25
246	SE-64489707	S-64489706	N/A	Sections 4.23, 4.25
247	SE-64489709	S-64489708	N/A	Sections 4.8, 4.23
248	SE-64489711	S-64489710	N/A	Sections 4.5, 4.23, 4.19
249	SE-64489725	S-64489724	N/A	Sections 4.23, 4.25
250	SE-64491208	S-64491207	N/A	Sections 4.25, 4.5, 4.1, 4.4, 4.16, 4.7, 4.6, 4.12, 4.23, 4.8, 4.9, 4.14, 4.15
251	SE-64491223	S-64491222	N/A	Sections 4.5, 4.12, 4.16, 4.8, 4.4, 4.23, 4.7, 4.13, 4.6, 4.9, 4.15
252	SE-64491253	S-64491252	N/A	Sections 4.1, 4.5, 4.6, 4.8, 4.23
253	SE-64491259	S-64489710	N/A	Sections 4.26, 4.27
254	SE-64491457	S-64491456	N/A	Sections 4.12, 4.7, 4.18, 4.5, 4.19, 4.17, 4.2, 4.8, 4.6
255	SE-64491459	S-64491458	N/A	Sections 4.6, 4.7, 4.23
256	SE-64491958	S-64491957	N/A	Sections 4.1, 4.18, 4.7, 4.8
257	SE-64491960	S-64491959	N/A	Sections 4.7, 4.12, 4.4, 4.5
258	SE-64491977	S-64491976	N/A	Sections 4.7, 4.16, 4.8, 4.4, 4.5, 4.12
259	SE-64491993	S-64491992	N/A	Sections 4.1, 4.9, 4.7, 4.8, 4.6, 4.17, 4.12
260	SE-64492014	S-64492013	N/A	Section 4.27
261	SE-64492207	S-64492206	N/A	Section 4.9
262	SE-64492457	S-64492456	N/A	Sections 4.1, 4.12, 4.7, 4.8, 4.9, 4.6, 4.27

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263	SE-64498717	S-64498716	N/A	Sections 4.5, 4.12, 4.8, 4.9, 4.18, 4.16
264	SE-64498724	S-64498723	N/A	Sections 4.5, 4.8, 4.2, 4.1, 4.7, 4.6
265	SE-64500457	S-64500456	N/A	Sections 4.7, 4.19, 4.18, 4.9, 4.6, 4.15, 4.4, 4.5, 4.12, 4.1
266	SE-64501460	S-64501459	N/A	Sections 4.8, 4.7, 4.9
267	SE-64501982	S-64501981	N/A	Sections 4.1, 4.7, 4.27, 4.25
268	SE-64502725	S-64504207	N/A	Sections 4.12, 4.27, 4.8, 4.6, 4.5
269	SE-64504472	S-64504471	N/A	Sections 4.4, 4.1, 4.5, 4.23, 4.9, 4.16, 4.15, 4.2, 4.6
270	SE-64504492	S-64504491	N/A	Section 4.6
271	SE-64506211	S-64506210	N/A	Sections 4.18, 4.6, 4.9, 4.8
272	SE-64506957	S-64506956	N/A	Sections 4.9, 4.18, 4.8, 4.6, 4.12
273	SE-64507207	S-64507206	N/A	Sections 4.6, 4.15, 4.9
274	SE-64507222	S-64507221	N/A	Sections 4.1, 4.12, 4.13, 4.16, 4.17, 4.18, 4.23, 4.9, 4.5, 4.27, 4.25
275	SE-64507258	S-64507257	N/A	Sections 4.27, 4.13
276	SE-64510970	S-64510969	N/A	Sections 4.8, 4.1
277	SE-64510979	S-64510978	N/A	Sections 4.1, 4.12, 4.6, 4.23, 4.15, 4.24, 4.7, 4.18, 4.27, 4.4
278	SE-64511964	S-64511963	N/A	Sections 4.5, 4.16, 4.15, 4.8, 4.1, 4.9
279	SE-64512957	S-64512956	N/A	Sections 4.1, 4.5, 4.6, 4.12, 4.23, 4.16, 4.18, 4.17, 4.15, 4.7, 4.9, 4.4, 4.8
280	SE-64514458	S-64514457	N/A	Sections 4.23, 4.1, 4.4, 4.6, 4.13
281	SE-64515461	S-64515460	N/A	Sections 4.6, 4.8, 4.5, 4.15, 4.16, 4.13, 4.12
282	SE-64516210	S-64516209	N/A	Sections 4.9, 4.6, 4.1, 4.7, 4.2
283	SE-64516235	S-64516234	N/A	Sections 4.5, 4.4, 4.23, 4.7, 4.12, 4.18, 4.2, 4.8, 4.9
284	SE-64516489	S-64516488	N/A	Sections 4.9, 4.8, 4.3, 4.12, 4.18
285	SE-64516506	S-64516505	N/A	Sections 4.9, 4.8, 4.3, 4.12, 4.18
286	SE-64516509	S-64516508	N/A	Sections 4.1, 4.4, 4.6, 4.7, 4.14, 4.15, 4.12, 4.13, 4.17, 4.18, 4.16, 4.23
287	SE-64516520	S-64516519	N/A	Sections 4.9, 4.8, 4.3, 4.15, 4.18
288	SE-64516963	S-64516962	N/A	Sections 4.8, 4.12, 4.9, 4.7, 4.16, 4.18, 4.17, 4.6
289	SE-64516970	S-64516969	N/A	Sections 4.1, 4.6, 4.12, 4.15, 4.8, 4.9, 4.7, 4.3, 4.16, 4.17, 4.18, 4.14, 4.11
290	SE-64517473	S-64517472	N/A	Sections 4.7, 4.8, 4.5, 4.6, 4.16, 4.18, 4.17
291	SE-64517493	S-64517492	N/A	Sections 4.8, 4.12, 4.16
292	SE-64517706	S-63225708	N/A	Sections 4.1, 4.4, 4.27, 4.25, 4.7, 4.9, 4.5, 4.2, 4.6, 4.15, 4.18, 4.23, 4.8, 4.12, 4.13
293	SE-64520218	S-64520217	N/A	Sections 4.16, 4.12, 4.14

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295	SE-64520232	S-64520231	N/A	Sections 4.5, 4.8, 4.16
296	SE-64520238	S-64520237	N/A	Section 4.1
297	SE-64522467	S-64522466	N/A	Sections 4.12, 4.9, 4.7, 4.6
298	SE-64523212	S-64523211	N/A	Sections 4.12, 4.8, 4.1, 4.6
299	SE-64523272	S-64523271	N/A	Sections 4.26, 4.4, 4.18, 4.23, 4.15, 4.17, 4.16, 4.12, 4.7, 4.19, 4.6, 4.1
300	SE-64523274	S-64523273	N/A	Sections 4.8, 4.6, 4.9
301	SE-64523297	S-64523296	N/A	Sections 4.1, 4.23, 4.27, 4.4, 4.6, 4.5, 4.9, 4.15, 4.18, 4.21, 4.12
302	SE-64523461	S-64523460	N/A	Sections 4.25, 4.9, 4.1
303	SE-64524963	S-64524962	N/A	Sections 4.16, 4.7, 4.18, 4.12, 4.6
304	SE-64524979	S-64524978	N/A	Sections 4.12, 4.7, 4.16
305	SE-64524982	S-64524981	N/A	Sections 4.7, 4.15, 4.18, 4.1, 4.16, 4.12
306	SE-64524984	S-64524983	N/A	Sections 4.7, 4.6, 4.23, 4.25, 4.8
307	SE-64525217	S-64525216	N/A	Sections 4.13, 4.12
308	SE-64525219	S-64525218	N/A	Sections 4.18, 4.27
309	SE-64525221	S-64525220	N/A	Sections 4.1, 4.27
310	SE-64525958	S-64525957	N/A	Sections 4.9, 4.15, 4.27, 4.16, 4.13, 4.1, 4.17
311	SE-64525965	S-64525964	N/A	Sections 4.7, 4.27, 4.16, 4.12, 4.13, 4.8, 4.1
312	SE-64525967	S-64525966	N/A	Sections 4.4, 4.14, 4.12, 4.21, 4.15, 4.6, 4.7, 4.16, 4.5
313	SE-64525969	S-64525968	N/A	Section 4.16
314	SE-64526457	S-64526456	N/A	Sections 4.9, 4.16
315	SE-64526462	S-64526461	N/A	Sections 4.12, 4.9
316	SE-64526707	S-64526706	N/A	Sections 4.9, 4.16, 4.12
317	SE-64526709	S-64526708	N/A	Sections 4.6, 4.15, 4.12, 4.27, 4.16, 4.17, 4.18, 4.14, 4.9
318	SE-64526712	S-64526711	N/A	Section 4.16
319	SE-64528711	S-64528710	N/A	Sections 4.23, 4.3, 4.12, 4.13, 4.16, 4.18, 4.17, 4.7, 4.1
320	SE-64528722	S-64528721	N/A	Section 4.27
321	SE-64531717	S-64531716	N/A	Sections 4.6, 4.16, 4.7, 4.18
322	SE-64531749	S-64531748	NSW Bird Atlassers	Section 5.15
323	SE-64531752	S-64531751	N/A	Sections 4.19, 4.6, 4.15, 4.7, 4.8, 4.27, 4.12, 4.16, 4.9, 4.17
324	SE-64531758	S-64531757	N/A	Sections 4.14, 4.18, 4.19, 4.16, 4.7, 4.21, 4.17, 4.15, 4.6, 4.13, 4.9, 4.27
325	SE-64533957	S-64533956	N/A	Sections 4.27, 4.23, 4.25, 4.12
326	SE-64534463	S-64534462	N/A	Sections 4.6, 4.7, 4.8, 4.16, 4.18, 4.15

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
327	SE-64534469	S-64534468	N/A	Sections 4.12, 4.7
328	SE-64535486	S-64535485	N/A	Sections 4.12, 4.8
329	SE-64535498	S-64535497	N/A	Section 4.26
330	SE-64535513	S-64535512	N/A	Section 4.27
331	SE-64535532	S-64535531	N/A	Sections 4.5, 4.1
332	SE-64535588	S-64535587	N/A	Sections 4.6, 4.11, 4.9, 4.8, 4.1
333	SE-64535623	S-64535622	N/A	Sections 4.8, 4.7
334	SE-64535627	S-64535626	N/A	Sections 4.23, 4.15, 4.4, 4.27, 4.9, 4.7, 4.10, 4.1
335	SE-64535630	S-64535629	N/A	Sections 4.7, 4.8, 4.12, 4.5, 4.23, 4.18, 4.17, 4.6, 4.16, 4.27
336	SE-64536715	S-64536714	N/A	Sections 4.13, 4.9
337	SE-64536740	S-64536739	N/A	Sections 4.1, 4.8, 4.9, 4.18, 4.15, 4.12, 4.6
338	SE-64536744	S-64536743	N/A	Sections 4.8, 4.7, 4.15, 4.18, 4.9, 4.5, 4.12
339	SE-64537207	S-64537206	N/A	Sections 4.8, 4.23, 4.27, 4.19
340	SE-64537719	S-64537718	N/A	Sections 4.27, 4.8
341	SE-64537752	S-64537751	N/A	Sections 4.7, 4.14, 4.8
342	SE-64538457	S-64538456	N/A	Section 4.26
343	SE-64538492	S-64414707	N/A	Sections 4.23, 4.18, 4.7, 4.12, 4.3, 4.16, 4.14
344	SE-64538509	S-64538508	N/A	Sections 4.1, 4.7, 4.27, 4.23, 4.9, 4.15, 4.5
345	SE-64538548	S-64538547	N/A	Sections 4.1, 4.23, 4.27, 4.6, 4.25, 4.5
346	SE-64538552	S-64538551	N/A	Sections 4.12, 4.1, 4.23
347	SE-64538574	S-64538573	N/A	Sections 4.17, 4.3, 4.7, 4.6, 4.8, 4.25, 4.27
348	SE-64538582	S-64538581	N/A	Sections 4.4, 4.1, 4.23, 4.5, 4.12, 4.25, 4.9, 4.6, 4.8, 4.10, 4.7, 4.15
349	SE-64540707	S-64540706	N/A	Sections 4.9, 4.12, 4.25
350	SE-64541974	S-64541973	N/A	Section 4.26
351	SE-64544484	S-64544483	N/A	Sections 4.27, 4.23
352	SE-64544491	S-64544490	N/A	Sections 4.12, 4.16, 4.14, 4.8, 4.7, 4.5, 4.6, 4.23, 4.15
353	SE-64544707	S-64544706	N/A	Sections 4.23, 4.6, 4.5, 4.12, 4.15, 4.16, 4.1
354	SE-64545458	S-64545457	N/A	Sections 4.12, 4.6
355	SE-64545709	S-64545708	N/A	Sections 4.27, 4.23, 4.12, 4.13, 4.16
356	SE-64545712	S-64545711	N/A	Sections 4.7, 4.27
357	SE-64545728	S-64545727	N/A	Section 4.8
358	SE-64546241	S-64538567	N/A	Sections 4.17, 4.8, 4.7
359	SE-64546254	S-64546253	N/A	Section 4.26
360	SE-64546257	S-64546256	N/A	Sections 4.6, 4.8, 4.4, 4.15, 4.1, 4.14, 4.12, 4.5, 4.7, 4.9, 4.16

Submissions report ID	DPE Assigned Submission ID	Submission ID	Organisation name (if applicable)	Section(s) where issues are addressed in the Submissions Report
361	SE-64546474	S-64546473	N/A	Sections 4.5, 4.12, 4.23, 4.4, 4.15, 4.18, 4.9, 4.8, 4.1, 4.27
362	SE-64546476	S-64546475	N/A	Sections 4.12, 4.1, 4.3, 4.16, 4.8, 4.7, 4.5
363	SE-64547208	S-64547207	N/A	Sections 4.8, 4.7, 4.5, 4.1, 4.4, 4.12, 4.16, 4.23, 4.18, 4.15, 4.14, 4.17, 4.9, 4.3, 4.13, 4.6, 4.25
364	SE-64547219	S-64367482	N/A	Sections 4.1, 4.4, 4.6
365	SE-64547232	S-64547231	N/A	Sections 4.1, 4.12, 4.23, 4.27, 4.25
366	SE-64547234	S-64547233	N/A	Sections 4.1, 4.8, 4.23, 4.15
367	SE-64547249	S-64547248	N/A	Sections 4.5, 4.7, 4.18, 4.1, 4.15, 4.12
368	SE-64547254	S-64547253	N/A	Sections 4.6, 4.5, 4.1, 4.9, 4.7, 4.19, 4.8, 4.23, 4.15
369	SE-64547256	S-64547255	N/A	Sections 4.23, 4.15, 4.18, 4.12, 4.6, 4.14
370	SE-64547716	S-64547715	N/A	Sections 4.9
371	SE-64547727	S-64547726	N/A	Sections 4.1, 4.23, 4.15, 4.18, 4.8, 4.16, 4.12
372	SE-64547743	S-64547742	N/A	Sections 4.9, 4.12
373	SE-64548222	S-64548221	N/A	Sections 4.4, 4.23, 4.6, 4.12, 4.13, 4.8, 4.25, 4.7, 4.16
374	SE-64548224	S-64428488	N/A	Sections 4.6, 4.15, 4.1, 4.8
375	SE-64548227	S-64548226	N/A	Sections 4.7, 4.13, 4.23, 4.4, 4.1, 4.12, 4.3, 4.21, 4.5
376	SE-64548233	S-64548232	N/A	Sections 4.27, 4.23, 4.25
377	SE-64548236	S-64548235	N/A	Sections 4.1, 4.8, 4.7, 4.9, 4.22, 4.27
378	SE-64548249	S-64548248	N/A	Sections 4.7, 4.15, 4.6, 4.8, 4.5
379	SE-64548265	S-64548264	N/A	Sections 4.23, 4.7, 4.9, 4.18, 4.15, 4.6, 4.8, 4.12, 4.16, 4.17, 4.2, 4.25, 4.1
380	SE-64549707	S-64549706	N/A	Sections 4.12, 4.9, 4.8, 4.23
381	SE-64549732	S-64549731	N/A	Sections 4.12, 4.1, 4.3, 4.7, 4.20, 4.25, 4.22, 4.16, 4.2
382	SE-64549739	S-64549738	N/A	Sections 4.23, 4.8, 4.12, 4.27, 4.1
383	SE-64549765	S-64549764	N/A	Sections 4.25, 4.8
384	SE-64550974	S-64550973	N/A	Sections 4.8, 4.12
385	SE-64550976	S-64550975	N/A	Sections 4.5, 4.7, 4.23, 4.15, 4.27, 4.6
386	SE-64550978	S-64550977	N/A	Sections 4.23, 4.6, 4.9, 4.25, 4.4, 4.5, 4.1
387	SE-64550980	S-64550979	N/A	Sections 4.6, 4.7, 4.17, 4.8
388	SE-64551209	S-64551208	N/A	Sections 4.25, 4.12, 4.7, 4.1
389	SE-64551978	S-64551977	N/A	Sections 4.1, 4.7, 4.9, 4.12
390	SE-64551981	S-64551980	N/A	Sections 4.6, 4.9, 4.18, 4.16, 4.5, 4.13, 4.15, 4.12, 4.8
391	SE-64557959	S-64557958	N/A	Sections 4.9, 4.8, 4.23

<b>Submissions report ID</b>	<b>DPE Assigned Submission ID</b>	<b>Submission ID</b>	<b>Organisation name (if applicable)</b>	<b>Section(s) where issues are addressed in the Submissions Report</b>
392	SE-64560958	S-64560957	N/A	Sections 4.25, 4.1, 4.27, 4.3
393	SE-64562207	S-64562206	N/A	Sections 4.1, 4.25
394	SE-64485986	S-64485985	N/A	Sections 4.8, 4.23, 4.6, 4.12, 4.7, 4.9, 4.1
395	SE-64568463	S-64568462	N/A	Sections 4.8, 4.25, 4.12, 4.9, 4.7, 4.19, 4.15, 4.27, 4.4, 4.1, 4.13, 4.22, 4.23
396	SE-64599981	S-64599980	N/A	Sections 4.7, 4.4, 4.12, 4.6, 4.23
397	SE-64621213	S-64621212	N/A	Sections 4.7, 4.9, 4.1, 4.8
398	N/A	N/A	NSW Farmers Association	Section 5.25

# Appendix B

Updated mitigation  
measures



# B1 Updated mitigation measures

This appendix provides the approach to environmental management of the amended project and a compiled list of all revised mitigation measures to address impacts of the amended project.

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## B1.1 Approach to environmental management

The Network Operator appointed by EnergyCo will design, build, finance, operate and maintain the amended project. The proposed Network Operator would be required to have an environmental management system that is ISO 14000 accredited.

Should the amended project be approved, the environmental performance of the amended project would be managed in accordance with:

- the Network Operator's environmental management system, including processes and procedures
- the amended project as described in Section 1.2 and Chapter 3 (Description of amendments, refinements and clarifications) of the Amendment Report
- the mitigation measures that have been identified to minimise environmental impacts (as summarised in Section B1.4)
- the conditions of approval and other licences, permits and consents granted for the amended project
- the Construction Environmental Management Plan (CEMP)
- an Operational Environmental Management Plan (OEMP) (or equivalent).

The approach to construction environmental management is outlined further in Section B1.2.

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## B1.2 Construction environmental management

A range of processes, procedures and actions would be implemented to ensure that construction activities are undertaken in accordance with the environmental, stakeholder and community management requirements identified in the EIS, Amendment Report and Submissions Report throughout the construction period. Specifically, this would include, but not be limited to the following:

- preparation and implementation of Environmental Work Method Statements for enabling works
- preparation and implementation of the CEMP, sub-plans and other supporting documentation for each specific environmental impact
- identification of roles and responsibilities including the relationship between EnergyCo, the Network Operator and the Environmental Representative (if required by the conditions of approval)
- implementing environmental management training and awareness for construction staff
- continuation of stakeholder and community engagement activities during construction.

These requirements are summarised in the following sections.

## B1.2.1 Enabling works

Enabling works are activities required to:

- facilitate the commencement of substantial construction works
- to manage specific feature or issues
- collect additional information required to finalise aspects of the design and construction methodology.

To be considered enabling works, these works must be considered to have minor or low impacts, and typically must not impact features of high environmental or heritage conservation significance, or involve substantial amenity impacts to nearby receivers. Enabling works are further described in Appendix A (Updated project description).

Enabling works would be managed under site-specific Environmental Work Method Statements or similar environmental management documents. All enabling works would be subject to the relevant mitigation measures, any relevant conditions of approval.

## B1.2.2 Construction environmental management plan

The management of environmental impacts during the main construction works would be documented in the CEMP and would be prepared by the Network Operator in collaboration with EnergyCo. The CEMP would provide the overall environmental management framework and procedures to ensure that environmental impacts are minimised and that legislative and approval requirements are fulfilled.

The CEMP would be prepared in accordance with *Environmental Management Plan Guidelines for Infrastructure Projects* (DPIE, 2020d) and *Independent Audit Post Approval Requirements* (DPIE, 2020e). It would include:

- the environmental policy, objectives and performance targets for construction
- reference to relevant statutory and other obligations, including approvals, licences, permits and consents
- issue-specific sub-plans that detail how construction activities would be managed and monitored to avoid or minimise impacts
- processes for managing non-conformances, including identifying and implementing corrective and preventative actions to rectify the non-conformance and prevent recurrence
- processes for demonstrating compliance with the commitments made in the EIS, Amendment Report, Submissions Report and relevant approval conditions
- responsibilities for planning, implementing, maintaining and monitoring environmental controls including the responsibilities of sub-contractors
- procedures for the control of environmental records
- a compliance tracking and auditing program
- environmental management training and awareness for construction staff.

The CEMP would be supported by issue-specific sub-plans, activity-specific procedures and strategies, and site-based control maps. An outline of the issue-specific sub-plans that would form part of the CEMP is provided in Figure B-1. Development of plans and strategies is based on managing medium and high environmental risks as identified in Chapter 22 (Environmental risk analysis) of the EIS and on best practice construction methods.

The CEMP and sub-plans would be reviewed and updated as required, including in response to audit findings, compliance monitoring results, and incidents and inspections that identify corrective and preventative actions. The Network Operator may choose to combine sub-plans.

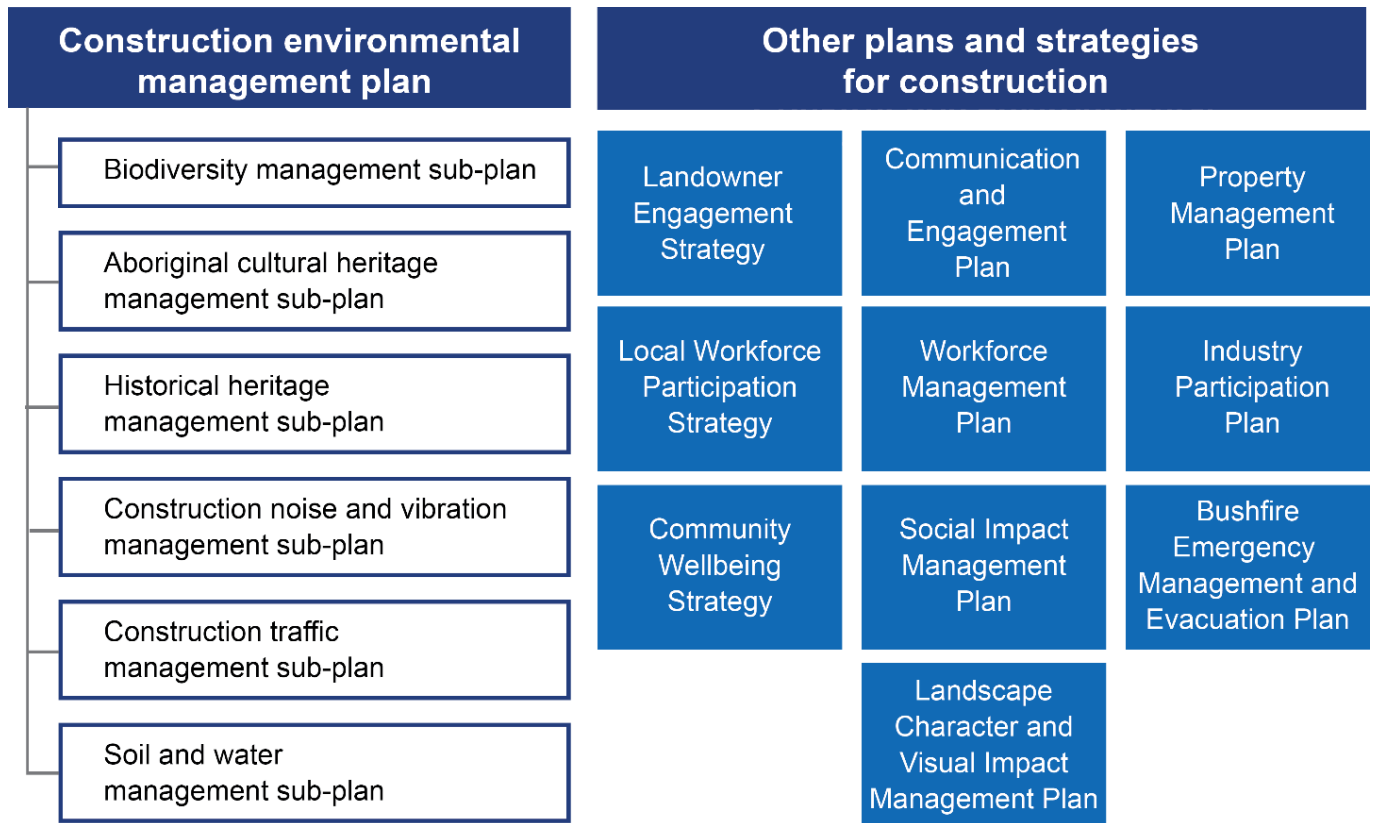


Figure B-1 Construction environmental management - indicative plans and strategies

### B1.2.3 Community and stakeholder engagement

A construction communication and engagement plan will be developed by the Network Operator. Throughout construction, the Network Operator will work closely with stakeholders and the community to ensure they are well informed regarding the construction works.

Stakeholders and the community will be informed of significant events or changes that affect or may affect individual properties, residences and businesses. These will include significant milestones, any proposed design changes, changes to traffic conditions and access arrangements, construction operations which will have a direct impact on stakeholders and the community including noisy works, interruptions to utility services or construction work outside of normal work hours.

Other plans and strategies in place during construction (refer to Figure B-1) would also specify targeted engagement with the community and stakeholders to address key issues.

## B1.3 Operational environmental management

Operation of the amended project would be undertaken in line with the Network Operator’s procedures and processes and the operational management measures identified in the EIS. An OEMP (or equivalent) would be developed prior to commissioning of the amended project. The OEMP would include:

- the performance outcomes, commitments and mitigation measures identified in the EIS, Amendment Report and Submissions Report
- environmental policies, standards and principles to be applied to operation
- ongoing environmental risk analysis to identify new or changing environmental risks
- the roles and responsibilities of all key personnel
- procedures and plans to address key issues such as vegetation management and emergency responses
- a communication strategy for updating and liaising with the local community
- review, audit and/or monitoring processes to measure environmental performance and identify opportunities for improvement.

## B1.4 Changes to mitigation measures

Changes proposed to the measures provided in the EIS to mitigate and manage the potential impacts of the amended project are presented in Table B-1. These measures have been revised in response to submissions raised during public exhibition of the EIS and the project amendments and refinements made following exhibition.

Table B-1 Updated mitigation measures

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
<b>Land use and property</b>				
LP1	Land use	The design will continue to be refined to minimise potential impacts on existing land uses and properties as far as practicable.	Detailed design	All locations
LP2	Land requirements	Prior to the commencement of construction, land for the energy hubs will be acquired in consultation with landowners and in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).	Detailed design	Energy hubs
LP3	Impacts to land use	Pre-condition assessments of the construction area will be undertaken to determine the existing condition of assets, infrastructure, utilities and the general condition of the land. This will inform requirements for rehabilitation within Property Management Plans established with landowners.	Pre-construction and construction	Construction area – transmission lines
LP4	Impacts to utilities and services	The location of all services and utilities within the construction area will be confirmed during detailed design, and any required protection or relocation will be designed in consultation with utility providers.	Detailed design	All locations
LP5	Indirect impacts on State forests	EnergyCo will consult with Forestry Corporation of NSW and any relevant stakeholders with regards to access limitations.	Pre-construction	Locations where the project intersects State Forests

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
LP6	Impacts to travelling stock reserves (TSRs)	Local Land Services will continue to be consulted during detailed design to confirm how impacts on travelling stock reserves will be managed during construction and operation. Alternative access arrangements will be made as required.	Detailed design	Barneys Reef TSR
LP7	Impacts to mine operations	To minimise disruption to mining activities, mine operators will be consulted on construction methodologies and activities as part of continued design development and prior to and during construction activities. This will include consultation relating to: <ul style="list-style-type: none"> <li>any adjustments to existing mining-related infrastructure (fences, tracks, mine roads, access tracks etc)</li> <li>the timing and location of construction works, especially where there are some restrictions on vehicle or construction equipment movements</li> <li>the timing and location of construction works which have the potential to impact mine operations, such as the stringing of transmission lines over existing mine infrastructure or active mining areas.</li> </ul>	Pre-construction and construction	Mining areas
LP8	Impacts to existing biodiversity offset sites	EnergyCo will, in consultation with applicable regulatory authorities, Glencore, YanCoal and Peabody, identify and secure biodiversity offsets for impacts to existing biodiversity offset sites (associated with the Wilpinjong, Moolarben and Ulan coal mines approvals).	Pre-construction and construction	Existing biodiversity offset areas
LP9	Land disturbance	Areas disturbed by construction will be stabilised and appropriately rehabilitated in consultation with the relevant landowner and as per any relevant requirements in Property Management Plans.	Construction	Construction area
LP10	Land requirements	The acquisition of land for the switching stations will be carried out by EnergyCo in consultation with landowners and in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW).	Detailed design	Switching stations
LP11	Land requirements	Easements will be established for transmission lines by EnergyCo in consultation with landowners and in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> (NSW) and <i>Crown Lands Management Act 2016</i> (NSW) (as relevant) at the completion of construction.	Detailed design	Transmission lines
<b>Agriculture</b>				
AG1	Access impacts – construction	The location of any additional access tracks (temporary and permanent) will be confirmed in consultation with landholders to minimise impacts on agricultural activities. Where permanent tracks are required, a single access track will be designed to serve both temporary and permanent purposes, where practicable.	Detailed design and construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AG2	Impact of structures	<p>Where the positioning of transmission line structures and other associated permanent structures will impact:</p> <ul style="list-style-type: none"> <li>• cropping land</li> <li>• areas used for set up and pack up of agricultural equipment, entry points and turning areas</li> <li>• farm dams, or</li> <li>• locations of high biosecurity risk;</li> </ul> <p>Consultation will be undertaken with the affected landowner to identify opportunities to avoid or minimise these impacts, where practicable, prior to the commencement of relevant works which will impact the applicable area, equipment and/or property infrastructure.</p>	Detailed design and construction	All locations
AG3	Disruption Impacts – Property Management Plans	<p>Individual Property Management Plans will be developed in consultation with each landowner directly affected by construction activities. The intent of the plans is to provide a flexible approach which balances the needs of existing agricultural operations and construction activities. The plans will address relevant matters including:</p> <ul style="list-style-type: none"> <li>• pre- and post-condition surveys</li> <li>• access arrangements and protocols</li> <li>• proposed timing and location of construction works, particularly where some restriction on vehicular, equipment, grazing or livestock movements will be necessary</li> <li>• grazing and cropping activities on and adjacent to the construction area during the construction period</li> <li>• farm infrastructure arrangements</li> <li>• any required adjustments to property infrastructure (fences, access tracks, etc)</li> <li>• noise intensive activities during sensitive periods of the livestock production cycle (e.g. lambing/calving)</li> <li>• vehicle movements and other activities within the vicinity of livestock</li> <li>• movement of stock away from potential stressors created by construction activities</li> <li>• details of any access tracks or other infrastructure provided for temporary construction activities that are to be retained and not restored to the pre-existing condition (where requested by the landholder prior to the completion of construction within the applicable area)</li> <li>• biosecurity requirements.</li> <li>• contact details for the person who will liaise with landowner to provide direct avenues of enquiry for information and issues management.</li> </ul> <p>Property Management Plans will be developed prior to the commencement of relevant works which will impact the applicable property, activity, equipment and/or property infrastructure. The requirements of the plans will be adhered to/implemented throughout the construction period.</p>	Detailed design, pre-construction and construction	All relevant properties within the construction area

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AG4	Disruption Impacts – General	<p>To minimise disruption to agricultural activities:</p> <ul style="list-style-type: none"> <li>property infrastructure (such as gates) will be managed in accordance with landowner requirements</li> <li>any damage to property infrastructure caused by construction will be repaired in a timely manner in consultation with the landowner</li> <li>use of existing roads, tracks and other existing disturbed areas will be prioritised over the construction of new access tracks where practicable</li> <li>where access is required across open spaces, either within the easement or to the easement, care will be exercised to ensure that surface disturbance is minimised by confining vehicular and plant movements, as far as possible, to a single route.</li> </ul>	Detailed design and construction	All relevant properties within the construction area
AG5	Biosecurity - construction	<p>Biosecurity controls will be implemented during construction to minimise the risk of transport or spread of disease, pests or weeds. A Biosecurity Management Plan will be developed addressing the following protocols/matters including:</p> <ul style="list-style-type: none"> <li>review of the latest publicly available weed data including relevant Regional Strategic Weed Management Plans</li> <li>consideration of information on weeds identified in biodiversity studies undertaken for the project</li> <li>weed management controls, including inspection and cleaning of plant and equipment, and management of earthworks and clearing activities</li> <li>development of specific controls where high biosecurity risks are identified. For example appropriate measures will be implemented with respect to foot and mouth disease to control any risk of introduction of the pathogen as a result of project activities</li> <li>a monitoring program to track the effectiveness of the controls identified in the Biosecurity Management Plan</li> <li>consultation with the owners of organic certified properties will be carried out to identify the specific risks and controls required to be implemented</li> <li>notification of relevant councils of new infestations of priority weeds listed in the relevant Regional Strategic Weed Management Plans if identified.</li> </ul> <p>The specific controls applicable to a property will be consistent with approved Property Biosecurity Plans where they are in place. Property-specific protocols will be documented in the relevant Property Management Plans.</p> <p>The Biosecurity Management Plan will be prepared in consultation with relevant local council biosecurity officers in relation to the distribution of important weeds and the location of high biosecurity risk areas.</p>	Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AG6	New weed infestations	In the event of new infestations of State priority weeds as a result of construction activities, the relevant control authority will be notified in accordance with the requirements of the <i>Biosecurity Act 2015</i> and <i>Biosecurity Regulation 2017</i> .	Construction	All locations
AG7	Access impacts – operation	Fencing and access arrangements, such as locked gates and requirements for opening and closing of gates, will be determined in consultation with landowners. Any damage caused by maintenance activities will be repaired promptly.	Operation	Transmission line
AG8	GPS impacts	In the event that nuisance impacts on agricultural precision farming GPS signals arises due to operation of the project, the cause of any such interference will be investigated. Any disruption due to operation of the project will be addressed in consultation with the affected landowner and may include measures such as signal boosting equipment or antenna enhancements (where applicable).	Operation	Transmission line
AG9	Biosecurity – Operation	The Biosecurity Management Plan will be updated for the operational phase and implemented during operation to minimise the risk of transport or spread of disease, pests or weeds during operation and maintenance activities.	Operation	All locations
AG10	Weed management	Where present within the transmission line easement and associated areas for permanent infrastructure, weeds will be managed in accordance with the <i>Biosecurity Act 2015</i> .	Operation	All locations

#### Landscape character and visual amenity

LV1	Vegetation retention	Vegetation clearance for the project will be limited to the minimum extent necessary for construction and operation to maximise existing visual screening and retention of the existing landscape character. Retained vegetation will be clearly demarcated on site as 'no-go zones' prior to the commencement of construction. Construction personnel will be made aware of no-go zones as part of environmental site induction(s).	Pre-construction, Construction, Operation	Whole of project
LV2	Lighting control	Lighting at construction compounds and workforce accommodation camp(s) will be designed and operated in accordance with Australian and New Zealand Standard AS/NZS 4282:2019 <i>Control of the obtrusive effects of outdoor lighting</i> .	Pre-construction and construction	Construction compound and workforce accommodation camp(s)
LV3	Private dwellings with a moderate or high visual impact	For private dwellings on non-host properties where the project is predicted to have a moderate or high visual impact, reasonable and feasible opportunities to reduce the visual impact (including the provision of screening vegetation) will be investigated. Appropriate visual screening or other options will be confirmed in consultation with the affected landowner (supported by detailed landscape plans where appropriate) and implemented either before or during construction. Maintenance of vegetative screening provided on privately owned land outside of the operation area will be the responsibility of the landowner.	Pre-construction, Construction	Private dwellings on non-host properties with a moderate or high visual impact



Reference	Impact	Mitigation measures	Timing	Applicable location(s)
LV4	Lighting control	<p>Lighting at the Energy Hubs and switching stations will be designed and operated in accordance with:</p> <ul style="list-style-type: none"> <li>• Australian and New Zealand Standard AS/NZS 4282:2019 <i>Control of the obtrusive effects of outdoor lighting</i></li> <li>• the design guidelines contained in the Siding Springs Dark Sky Planning Guideline (DPE 2016). This will include: <ul style="list-style-type: none"> <li>– eliminating upward spill light</li> <li>– ensuring lighting is directed downwards</li> <li>– using shielded fittings</li> <li>– avoiding overlighting</li> <li>– switching lights off when not required, such as with the use of sensor lights</li> <li>– using energy efficient bulbs</li> <li>– using asymmetric beams if floodlighting is required</li> <li>– ensuring lights are not directed towards reflective surfaces</li> <li>– using warm white colours.</li> </ul> </li> </ul>	Pre-construction, Construction, Operation	Merotherie Energy Hub, Elong Elong Energy Hub, and switching stations
<b>Biodiversity</b>				
B1	Avoidance of threatened species and threatened ecological communities	<p>The locations of threatened ecological communities and habitat for threatened species will be considered and potential impacts avoided or minimised to the greatest extent practicable during finalisation of the detailed design and construction methodology. This will include:</p> <ul style="list-style-type: none"> <li>• micro siting of transmission line infrastructure within the biodiversity study area</li> <li>• prioritising disturbance in areas with a Vegetation Integrity score &lt;17 as per section 9 of the Biodiversity Assessment Method (2020).</li> </ul> <p>Sensitive areas to be avoided during detailed design and sensitive areas (including species polygons, buffered threatened species locations and areas of Threatened Ecological Communities) will be identified on sensitive area plans using spatial data.</p>	Detailed design Pre-construction	Identified sensitive areas
B2	Avoidance of threatened species and threatened ecological communities	<p>Prior to construction activities taking place within the Little Eagle nest buffer and during the breeding season (from Spring until after young and fledged in early Summer), an ecologist will be engaged to determine if the species is present. If present, an impact assessment of proposed activities will be completed to determine what, if any, activities can take place within the buffer area, and what mitigation measures need to be implemented. Measures may include cessation of certain activities, amending the construction methodology including selecting alternative plant or equipment.</p>	Detailed design Pre-construction	Within Little Eagle tree nest buffer area(s)

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
B3	Avoidance of threatened species and threatened ecological communities	Prior to construction activities taking place within 100 m of rocky areas containing caves, overhangs or crevices, cliffs or escarpments and during the breeding season for the Large-eared Pied Bat, Eastern Cave Bat, Large Bent-winged Bat (November to February), an ecologist will be engaged to determine if the species are present. If present, an impact assessment of proposed activities will be completed to determine what, if any, activities can take place within the 100 m and what mitigation measures need to be implemented. Measures may include cessation of certain activities, amending the construction methodology including selecting alternative plant or equipment.	Detailed design Pre-construction	Within 100 metres of rocky areas containing caves, or overhangs or crevices, cliffs or escarpments as mapped by Technical paper 4 – Biodiversity Development Assessment Report
B4	Micro-siting of associated works and access tracks	Micro-siting of temporary construction infrastructure (including site offices, compounds and access tracks) will be undertaken to minimise vegetation clearing and disturbance of watercourses. This will include: <ul style="list-style-type: none"> <li>• prioritising areas of low biodiversity value</li> <li>• utilising existing access tracks, where feasible</li> <li>• locating waterway crossings at narrow width locations</li> <li>• minimising the quantity of cut and fill activities.</li> </ul>	Pre-construction Construction	All locations
B5	Connectivity corridors	Connectivity corridors, in the form of installation of under-transmission line glider poles (in accordance with clearance requirements for transmission lines and infrastructure) where the construction area will impact habitat connectivity for arboreal species (see Appendix J of Technical paper 4 – Biodiversity Development Assessment Report for an examination of regional and terrestrial habitat connectivity and target species for mitigation), are to be investigated and installed in appropriate locations. The exact location and design of under-transmission line glider poles and/or rope bridges will be nominated as part of a Connectivity Strategy guided by the locations of habitat connectivity outlined in Figure 14-14 and 14-15 of Technical paper 4 – Biodiversity Development Assessment Report. Where poles are proposed to be installed on land adjacent to the easement, they will be subject to landowner agreement and captured in the property management plan.  This strategy will require ongoing management of connectivity corridors.	Pre-construction (Connectivity Strategy) Construction Operation (Corridor Management)	Relevant locations
B6	Impacts on availability of nesting hollows	A Supplementary Hollow and Nest Strategy will be developed and implemented for the creation of nest boxes or other hollow creation method to provide alternative roosting and/or nesting habitat for threatened fauna displaced during clearing.  Nest box/hollows are to be installed prior to commencement of clearing works where practicable in each construction area.  Where supplementary hollows are proposed to be established on land adjacent to the easement, these will be subject to landowner agreement and captured in any property management plan.	Pre-construction Construction	Relevant locations
B7	Biosecurity impacts	A Biosecurity Management Plan will be prepared in accordance with mitigation measure AG5.	Pre-construction Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
B8	Biodiversity impacts	<p>A Biodiversity Management Plan will be prepared and implemented for the duration of construction. The plan is to include (as a minimum):</p> <ul style="list-style-type: none"> <li>• a protocol for identifying and demarcating, prior to clearing commencement at each location, the location and extent of areas of vegetation clearance and habitat disturbance, and how these will be suitably demarcated on site</li> <li>• a protocol for identifying and demarcating, prior to clearing commencement at each location, the location and extent of areas to be protected (e.g. retained vegetation, hollow-bearing trees, nests, burrows and other habitat features), including applicable buffers to habitat features</li> <li>• measures to be implemented on site to clearly demarcate areas to be retained as 'no go areas'.</li> </ul>	Pre-construction Construction	All locations
B9	Tree protection measures	<p>Tree protection measures are to be installed and maintained as necessary for trees to be retained within and in the vicinity of energy hubs, construction compounds and accommodation camps, in accordance with AS 4970-2009 – <i>Protection of Trees in Development Sites</i> throughout construction.</p>	Pre-construction	Applicable trees within and in the vicinity of the energy hubs, construction compounds and accommodation camps
B10	Pre-clearing surveys	<p>Pre-clearing surveys are to be completed prior to clearing at each location by a suitability qualified ecologist.</p> <p>The proposed clearing extents will be marked out on site prior to the pre-clearing surveys. Pre-clearing surveys are to be carried out prior to the commencement of clearing works in each construction area.</p> <p>During the surveys, the ecologist will:</p> <ul style="list-style-type: none"> <li>• survey areas of 'Assumed Habitat' for SAI entities and confirm clearing extent of habitat</li> <li>• survey the proposed clearing extent</li> <li>• within 48 hours prior to clearing, identify any fauna that will require relocation prior to clearing, including inspection of any built structures and wooden fence posts to be demolished</li> <li>• confirm that biodiversity exclusion zones are physically demarcated</li> <li>• confirm that hollow-bearing trees within and adjacent to the clearing extents are prominently marked/tagged; and</li> <li>• confirm that nest boxes are in place (where required) in suitable locations adjacent to areas to be cleared, or suitable locations for installation have been identified.</li> </ul>	Pre-construction Construction	All locations
B11	Ecology inductions, toolbox talks, targeted training	<p>All relevant project personnel, including relevant sub-contractors are to be trained on biodiversity management protocols and requirements for the project, through inductions, toolbox talks and targeted training, and provided with sensitive area maps (showing clearing boundaries and exclusion zones) and updates as required.</p> <p>Inductions and training must be completed prior to commencement of work for all relevant personnel.</p>	Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
B12	Retention of understorey vegetation in riparian areas	Understorey vegetation is to be protected within vegetated riparian zones where reasonable and feasible (within the definition of <i>Water Management Act 2000</i> ). Vegetation clearing will be limited to the tree stratum and shrubs above two metres in height only, with root systems and trunk bases being retained in-situ.	Construction	Riparian environments disturbed as part of construction
B13	Rehabilitation of riparian areas	<p>A Riparian Vegetation Management Plan (RVMP) will be developed and implemented for the project to manage activities within vegetated riparian zones to minimise impacts to aquatic environments. The plan will be prepared prior to and implemented during any disturbance to a riparian area.</p> <p>The plan will identify the measures to be implemented to minimise impacts from construction activities (such as temporary and permanent waterway crossings) within riparian and aquatic environments. Riparian areas subject to disturbance will be progressively stabilised and rehabilitated.</p>	Pre-construction Construction	Riparian environments disturbed as part of construction
B14	Installation of bird diverters	<p>Bird diverters will be installed on transmission lines within one kilometre (at a minimum) of wetland/riverine habitats to reduce impacts on aerial fauna species from collision with transmission lines and infrastructure. The exact position and diverter model will be finalised during detailed design.</p> <p>Installation of the bird diverters will occur within two weeks of transmission line installation or as soon as practical, and will remain in place and/or replaced as required.</p>	Construction	Relevant locations
B15	Vegetation offsets requirements	The predicted clearing of native vegetation by the project identified in Chapter 8 of the updated Biodiversity Development Assessment Report (in Appendix G of the Amendment Report) will be monitored against the recorded clearing. A revised Biodiversity Assessment Method (BAM-C) calculation on the project's final disturbance to biodiversity post construction will be completed. Any additional credit liability identified will be met as part of the biodiversity offset requirements within the biodiversity offset package.	Construction Operation	Construction area
B16	Unexpected finds	A species unexpected finds protocol will be implemented if threatened ecological communities or flora and fauna species, not assessed in the biodiversity assessment, are identified in the disturbance area.	Construction	Construction area
B17	Water quality, watercourse geomorphology and aquatic habitat	<p>Watercourse crossings will be designed to minimise disturbance and harm within riparian corridors and rehabilitate aquatic habitat to achieve a 'no net loss' of habitat within the affected area and catchment as a whole, in accordance with the following guidelines:</p> <ul style="list-style-type: none"> <li>• <i>Guidelines for controlled activities on waterfront land</i> (DPE, 2018)</li> <li>• <i>Why do fish need to cross the road? Fish passage requirements for waterway crossings</i> (Fairfull &amp; Witheridge, 2003)</li> <li>• <i>Policy and guidelines for fish habitat conservation and management</i> (DPI, 2013).</li> </ul>	Pre-construction and construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
B18	Operational guidelines and procedures	<p>Develop and implement guidelines and procedures for maintenance of the project during operation as part of the OEMP or equivalent.</p> <p>These guidelines and procedures will cover the following:</p> <ul style="list-style-type: none"> <li>• vegetation clearing and maintenance commitments in the Biodiversity Development Assessment Report and Environmental Impact Statement</li> <li>• avoiding access and disturbance in areas of high biodiversity conservation significance; outside of the areas required for construction and</li> <li>• avoiding maintenance of vegetation that does not need to be maintained during operation.</li> </ul>	Prior to operation Operation	Operation area
B19	Minimise indirect impacts from light spill	Lighting designs to be in accordance with the <i>National Light Pollution Guidelines for Wildlife</i> (DCCEEW, 2023).	Detailed design	Operation area
<b>Aboriginal heritage</b>				
AH1	Impact avoidance and minimisation	<p>The project will avoid impacts to the following identified Aboriginal objects and/or sites within the construction area:</p> <ul style="list-style-type: none"> <li>• the proposed workforce accommodation camps and construction activities at the Merotherie Energy Hub will establish a heritage protection zone to avoid SNI-GG02 to SNI-GG09 inclusive</li> <li>• the proposed workforce accommodation camps and construction activities at Neeleys Lane will establish a heritage protection zone to avoid SNI-AS65</li> <li>• the proposed construction activities at brake and winch sites near the Talbragar River will establish a heritage protection zone to avoid direct impacts to Argyll No.3 (#36-3-0111)</li> <li>• a protection zone will also be implemented at the Elong Elong energy hub to protect cultural material within 150 m of Laheys Creek (excluding the unavoidable impacts associated with the crossing of Laheys Creek by the transmission corridor, which will be minimised and ground disturbance associated with upgrades and maintenance along Spring Ridge Road and Dapper Road).</li> </ul> <p>Some guiding principles for consideration of avoidance are presented in Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (ACHAR) (Appendix H of the Amendment Report); Any site-specific avoidance measures developed to address this commitment would be integrated into AH4.</p>	Pre-construction Construction	SNI-GG02 – GG09 inclusive, SNI-AS65; Argyll No.3 (#36-3-0111), and 150 m of Laheys Creek

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AH2	Impact avoidance and minimisation	<p>The project will investigate the micro-siting of project infrastructure and construction activities in consultation with an Aboriginal heritage specialist to avoid or minimise impacts to:</p> <ul style="list-style-type: none"> <li>rockshelters (#36-3-3794, #36-3-0449, #36-3-0570, #36-3-3790, SNI-RS01 – RS04 inclusive)</li> <li>grinding groove sites (SNI-GG01, SNI-GG15 and SNI-GG16-17 inclusive)</li> <li>a culturally modified tree (SNI-CMT02) following validation (AH7)</li> <li>high-density and/or significant stone artefact sites (#36 3 1140, #36 3 1141, SNI-FA02, SNI-FA05/SNI-AS80, SNI-FA12, SNI-IF104)</li> <li>within 150 m of Deadmans Creek, Bora Creek, Cumbo Creek, Wilpinjong Creek, Tallawang Creek (north crossing), Copes Creek and Laheys Creek.</li> </ul> <p>Some guiding principles for consideration of avoidance and/or impact minimisation are presented in Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (ACHAR) (Appendix H of the Amendment Report). Management and any site-specific mitigation measures developed to address this commitment would be integrated into AH4.</p>	Pre-construction Construction	#36-3-3794, #36-3-0449, #36-3-0570, #36-3-3790, SNI-RS01 – RS04 inclusive, SNI-GG01, SNI-GG15, SNI-GG16-17 inclusive, SNI-CMT02, SNI-AS101 (#36-3-1140, #36-3-1141), SNI-FA02, SNI-FA05/SNI-AS80, SNI-FA12, SNI-IF104, and areas within 150 m of Deadmans Creek, Bora Creek, Cumbo Creek, Wilpinjong Creek, Tallawang Creek (north crossing), Copes Creek and Laheys Creek.
AH3	Impact avoidance and minimisation	<p>On-Country meetings will be undertaken with participating Elders and key knowledge-holders of the project to discuss efforts to conserve and communicate appropriate important information about places of cultural value intersected by the project.</p> <p>If identified, feasible and reasonable measures would be developed in consultation with the Elders and key-knowledge-holders and integrated into AH4.</p>	Pre-construction Construction	SNI-CS4 – CS6 inclusive, and travelling routes #1 and #5 where they intersect the construction area.

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AH4	Cultural heritage management	<p>An Aboriginal Cultural Heritage Management Plan (ACHMP) will be jointly prepared by the proponent and a suitably qualified heritage professional, with the latter providing archaeological and cultural heritage inputs and requirements, and final endorsement of the document. The ACHMP would be developed in consultation with the Registered Aboriginal Parties (RAPs) and Heritage NSW.</p> <p>The contents and guiding principles for the management of identified site types for the ACHMP are presented in Appendix E of Technical paper 5 (Aboriginal cultural heritage assessment report), and include:</p> <ul style="list-style-type: none"> <li>• processes, timing, communication methods and project involvement for maintaining Aboriginal community consultation and participation through the remainder of the project</li> <li>• inputs and content of a cultural heritage induction package for all construction personnel and subcontractors</li> <li>• descriptions and methods for archaeological test/salvage excavations of rockshelters, stone artefact scatters, potential archaeological deposits, and cultural deposits that will be adversely affected by the project</li> <li>• descriptions and methods for surface collection of identified isolated objects and stone artefact scatters that will be adversely affected by the project</li> <li>• descriptions and method for mitigation and/or recovery of grinding grooves and culturally modified trees that will be adversely affected by the project</li> <li>• delineating and protecting Aboriginal and cultural sites within or in close proximity to the construction area, including clear marking, appropriate screen for any gender-specific areas, surface protection, etc</li> <li>• procedures for managing the unexpected discovery of Aboriginal objects, sites and/or human remains during the project</li> <li>• procedures for the curation and long-term management of recovered cultural materials</li> <li>• methods of post-excavation analysis and reporting of the archaeological investigations, including suitable collection and processing of stone artefacts, palaeo-environmental, chronological and other soils from archaeological activities; and</li> <li>• a monitoring regime for implementing the above measures.</li> </ul>	Pre-construction Construction	Construction area, and all identified Aboriginal objects, sites and deposits in Chapter 5 of the Addendum ACHAR that will be adversely impacted by the project.
AH5	Cultural heritage management	<p>An inspection will be undertaken by a qualified arboriculturist of all tentatively identified culturally modified trees to confirm whether they have formed through anthropogenic or natural processes.</p> <p>The findings from this inspection and subsequent management of the trees confirmed as being culturally modified will be integrated into the ACHMP (AH04) as required.</p>	Pre-construction	#36-3-3918, SNI-CMT02, SNI-CMT04, SNI-CMT16, SNI-CMT19

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AH6	Cultural heritage management	<p>Archival recording will be undertaken of all rockshelters, grinding grooves, and culturally modified trees that may be adversely impacted by the project.</p> <p>Archival recording will be undertaken in accordance with relevant Heritage NSW guidelines and submitted to the Heritage NSW AHIMS database.</p>	Pre-construction	<p>#36-3-3794, #36-3-0449, #36-3-0570, #36-3-3790, SNI-RS01 – RS04 inclusive, SNI-RS-06, SNI-GG01-GG09 inclusive, SNI-GG15 -GG17 inclusive, Argyll No.3 (#36-3-0111) SNI-AS65; and as required for the following: AH05: #36-3-3918, SNI-CMT02, SNI-CMT04, SNI-CMT16, SNI-CMT19</p>
AH7	Heritage interpretation	<p>An Aboriginal heritage-interpretation strategy and plan will be developed by an Aboriginal heritage specialist, in consultation with Registered Aboriginal Parties, which will identify the interpretive values of the construction area (and specifically Aboriginal heritage values) and provide direction for interpretive installations and devices.</p> <p>The contents and guiding principles for the management of the strategy and plan are presented in Appendix E of Technical paper 5 and include the need to incorporate Registered Aboriginal Parties' views on traditional and contemporary values, local ethnographic and post-Contact information, and archaeological data developed for the project.</p>	<p>Construction</p> <p>Post-construction</p>	Construction area
AH8	Aboriginal engagement	Consultation will be maintained with the Registered Aboriginal Parties where cultural heritage requires management.	<p>Pre-construction</p> <p>Construction</p>	All Aboriginal objects, sites and places
AH9	Administrative	A copy of the Aboriginal cultural heritage assessment report (and Addendum ACHAR) and all relevant AHIMS site recording forms and information for the project will be lodged with Heritage NSW and provided to each of the RAPs.	<p>Pre-construction</p> <p>Construction</p>	All Aboriginal objects, sites and places described in Chapter 5 of the Addendum ACHAR.



Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AH10	Cultural heritage management	<p>Where ground disturbance activities are unable to avoid areas within 150 m of Deadmans Creek, Bora Creek, Cumbo Creek, Wilpinjong Creek, Tallawang Creek (north crossing), Copes Creek and Laheys Creek (excluding areas already disturbed during construction of existing access tracks and access roads), archaeological excavations will be undertaken.</p> <p>Where sub-surface artefacts or cultural materials are uncovered, archaeological excavations will be followed immediately by salvage mitigation requirements in locations where ground disturbance activities would occur, following the methods outlined in Appendix E of the Addendum Aboriginal Cultural Heritage Assessment Report (ACHAR) (Appendix H of the Amendment Report) and described in the ACHMP (AH4).</p>	Construction	The construction area, where it is located within 150 m of Deadmans Creek, Bora Creek, Cumbo Creek, Wilpinjong Creek, Tallawang Creek (north crossing), Copes Creek and Laheys Creek
<b>Non-Aboriginal heritage</b>				
HH1	Avoidance of direct impacts to Tallawang Creek Archaeological Site 02	Prior to construction, an exclusion barrier (e.g. fencing or suitable alternative) will be installed to prevent construction activities or access into the portion of CWO-22-HH11 which extends into the construction area. The barrier would be maintained for the duration of construction.	Pre-construction Construction	CWO-22-HH011
HH2	Minimisation of direct impacts	Construction methodologies will be refined to avoid and/or minimise direct impacts to listed and potential historic heritage items where reasonable and feasible.	Pre-construction Construction	CWO-22-HH03 CWO-22-HH05a CWO-22-HH05b CWO-22-HH08 CWO-22-HH09a CWO-22-HH09b <sup>†</sup> CWO-22-HH09c <sup>†</sup> CWO-22-HH10 CWO-22-HH13 CWO-22-HH16 CWO-22-HH18 CWO-22-HH19 CWO-22-HH20 CWO-22-HH21 CWO-22-HH14 CWO-23-H01 CWO-23-H02
HH3	Minimisation and management of indirect impacts	Construction methodologies will be refined to avoid and/or minimise indirect impacts to listed and potential historic heritage items where reasonable and feasible.	Pre-construction Construction	CWO-22-HH06 CWO-22-HH22 CWO-22-HH23
HH4	Cultural heritage management	<p>Cultural Heritage Sensitivity Assessment</p> <p>If sites CWO-23-HH01 and CWO-23-HH02 cannot be avoided through detailed design, a site inspection assessment will be completed in accordance with NSW guidelines for items to determine their cultural heritage sensitivity.</p>	Pre-construction	CWO-23-HH01 CWO-23-HH02

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
HH5	Cultural heritage management	<p>Archival recording</p> <p>If avoidance of sensitive sites cannot be established during the detailed design stage, where determined to have state or local significance in accordance with HH4, an archival recording will be completed in accordance with NSW guidelines and be lodged with the Heritage NSW and local councils for access to researchers.</p>	Pre-construction	<p>CWO-22-HH08</p> <p>CWO-22-HH10</p> <p>CWO-22-HH18</p> <p>CWO-22-HH19</p> <p>CWO-22-HH14</p>
HH6	Cultural heritage management	<p>Archaeological test excavation</p> <p>If direct impacts to a heritage item cannot be reasonably and feasibly avoided during the detailed design stage, a program of archaeological test excavation will be undertaken (where the extent of the archaeological deposit is not known). This will include development of:</p> <ul style="list-style-type: none"> <li>• a detailed archaeological research design</li> <li>• consultation with Heritage NSW</li> <li>• systematic test excavation of historical archaeological sites that meet the 'relics' threshold identified for impact</li> <li>• where archaeological deposits are uncovered, sampled recovery of historic heritage relics will occur prior to disturbance. Once recorded and analysed artefacts will be offered to local heritage society/museum.</li> </ul> <p>A detailed excavation method and research design for this process will be included in the Historic Heritage Management Plan (HHMP).</p>	<p>Pre-construction</p> <p>Construction</p>	<p>CWO-22-HH03</p> <p>CWO-22-HH05a</p> <p>CWO-22-HH13</p> <p>CWO-22-HH16</p>
HH7	Cultural heritage management	<p>Archaeological salvage excavation</p> <p>Salvage excavation will be undertaken on archaeological sites subject to direct impacts where the extent of the archaeological deposit is known. This will include development of:</p> <ul style="list-style-type: none"> <li>• a detailed archaeological research design</li> <li>• consultation with Heritage NSW</li> <li>• systematic salvage excavation of historical archaeological sites. Once recorded and analysed, salvaged artefacts will be offered to local heritage society/museum.</li> </ul> <p>A detailed excavation method and research design for this process will be included in the HHMP.</p>	Pre-construction	<p>CWO-22-HH03</p> <p>CWO-22-HH05a</p> <p>CWO-22-HH09a</p> <p>CWO-22-HH09b</p> <p>CWO-22-HH09c</p> <p>CWO-22-HH13</p> <p>CWO-22-HH16</p>

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
HH8	Cultural heritage management	<p>Unexpected finds procedure</p> <p>Any items of potential heritage conservation significance or human remains discovered during construction and operation will be managed in accordance with an Unexpected Finds Procedure. A description of the types of finds that will stop works within the vicinity of the finds will be determined prior to construction as part of the HHMP and staff involved in excavation work will be informed about how to apply it. Finds would include objects such as bonded bricks, timber or stones appearing in formation indicating a wall or floor for instance are found or excavated soil with artefact concentrations.</p> <p>The unexpected finds procedure will include actions such as:</p> <ul style="list-style-type: none"> <li>• stop work procedures and exclusion buffers</li> <li>• utilising the advice of a technical specialist</li> <li>• consultation with Heritage NSW</li> <li>• protocols for continuing work in the area after assessment.</li> </ul>	Pre-construction Construction	Construction area
HH9	Avoidance of impacts to Laheys Creek Cemetery	<p>A structural assessment of the standing headstones will be undertaken to determine if additional conservation works may be required to mitigate nearby construction works.</p> <p>Prior to and during any activities with the potential to generate vibration levels that exceed tolerance levels identified by the structural assessment, a vibration monitor will be installed within the cemetery at the closest point to construction works to confirm that vibration levels are compliant with applicable criteria.</p> <p>Vibration monitoring would be discontinued if it indicates that the risk exceeding the tolerance levels is negligible.</p>	Pre-construction Construction	CWO-22-HH06
HH10	Avoidance of impacts to Laheys Creek Cemetery	<p>Prior to construction in the vicinity of CWO-22-HH06 (Laheys Creek Cemetery), an exclusion area of a suitable minimum width, as confirmed by a vibration assessment, will be installed to ensure impacts to the cemetery are avoided.</p> <p>The initial nominated exclusion buffer for CWO-22-HH06 will be determined on the following basis:</p> <ul style="list-style-type: none"> <li>• a report from a structural engineer assesses the stability of the headstones in the cemetery and identify vibration tolerance levels to avoid damage; and</li> <li>• the report must certify that the proposed exclusion buffer is sufficient to avoid damage to the items.</li> </ul> <p>If a reduction in the initial exclusion area is required:</p> <ul style="list-style-type: none"> <li>• a structural engineer must certify that the proposed revised exclusion buffer is sufficient to avoid damage to the items.</li> <li>• if vibration-generating works are unavoidable within the exclusion buffer, headstones identified as being at risk of collapse will be stabilised and conserved.</li> <li>• the report can provide and certify vibration criteria, vibration monitoring equipment is installed and vibration criteria are not exceeded; and</li> <li>• any damage sustained to the cemetery during construction or in the succeeding 12-month period will be repaired and rectified by the proponent.</li> </ul>	Pre-construction Construction	CWO-22-HH06

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
HH11	Avoidance of impacts to Upper Tallawang Catholic Church and Union Church Cemeteries	<p>To avoid harm to any relics present, Restricted Zones will be established around the suspected graves and buried architecture within specific areas of the Tallawang Catholic Church lots. To implement this recommendation:</p> <ul style="list-style-type: none"> <li>The detailed design and construction methodology will be developed to avoid excavation and ground disturbance within the Restricted Zones to the greatest extent practicable.</li> <li>Subsurface anomaly confidence locations identified in the Ground Penetrating Radar Interpretation Report (EMM 2024) will be marked out within the construction area using non-intrusive (i.e. non-ground-penetrating) methods prior to project-related activities commencing in the vicinity.</li> <li>Heavy vehicle access within the Restricted Zones will be limited to only essential movements to support other construction activities required within the zones.</li> <li>A clearing approach will be developed and implemented within the Restricted Zones to avoid accessing the subsurface anomaly confidence locations and minimise ground/subsurface disturbance generally during the clearing process, where feasible and reasonable.</li> <li>If surface activities in the immediate vicinity of the subsurface anomaly confidence locations are unavoidable, implementing protective measures (for example using road plates) to prevent ground disturbance and minimise potential compaction.</li> <li>Heritage specialist surveillance of any excavations required in the immediate vicinity of the Moderate High subsurface anomaly confidence locations.</li> </ul>	Pre-construction Construction	CWO-22-HH09b CWO-22-HH09c

### Social

SI1	Property acquisition	<p>A Landowner Engagement Strategy will be developed and implemented for the project which will include the following:</p> <ul style="list-style-type: none"> <li>appointment of a dedicated Land Acquisition Manager to oversee the implementation of the strategy</li> <li>ensure personnel appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues.</li> </ul>	Pre-construction, Construction	Properties hosting infrastructure
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Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SI2	Workforce management	<p>A Workforce Management Plan will include:</p> <ul style="list-style-type: none"> <li>• a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour</li> <li>• cultural awareness training for the workforce</li> <li>• measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc. The plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others.</li> </ul> <p>The plan will be reviewed every six months to identify and manage any unanticipated impacts.</p>	Pre-construction/ Construction	Regional social locality
SI3	Local workforce participation	<p>A Local Workforce Participation Strategy will be prepared in accordance with the Renewable Energy Sector Board Plan (Office of Energy and Climate Change, 2022) and implemented. It will include the following initiatives:</p> <ul style="list-style-type: none"> <li>• identification of local skills gaps and potential workforce skills and training requirements</li> <li>• investigate opportunities for the delivery of training and upskilling programs for local labour force</li> <li>• strategies for maximising local training and employment opportunities for residents, especially for First Nations People</li> <li>• initiatives to promote local employment, such as early engagement with local employment agencies and council, communication of employment opportunity via relevant local mediums of information, contract workers through existing local businesses, etc.</li> </ul>	Pre-construction	Regional social locality
SI4	Industry participation	<p>An Industry Participation Plan will be prepared in accordance with the Renewable Energy Sector Board Plan (Office of Energy and Climate Change, 2022) and implemented which will:</p> <ul style="list-style-type: none"> <li>• identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery)</li> <li>• identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand</li> <li>• provide local and Indigenous procurement targets</li> <li>• identify tailored 'meet-the-contractor' events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project</li> <li>• monitor the availability of key goods and services to the local community when procured locally.</li> </ul>	Pre-construction/ Construction	Regional social locality

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SI5	Community engagement	<p>A pre-construction and construction Communication and Engagement Plan will be prepared to ensure:</p> <ul style="list-style-type: none"> <li>landowners, businesses and local residents with the potential to be affected by construction activities are notified in a timely manner about the timing of activities and potential for impacts, and the measures that will be implemented to minimise the potential for impacts on individual properties</li> <li>include proactive methods of communication with affected parties and strategies to reach vulnerable members of the community such as doorknocking, text messages, newsletters and or phone calls</li> <li>ensure receivers identified as eligible for noise mitigation treatments in Appendix I (Noise and Vibration Impact Assessment) of the Amendment Report are supported and engaged through the delivery process</li> <li>provide further information in the local social locality about the regional energy strategy, including about community energy schemes, power purchasing agreements and other initiatives</li> <li>enquiries and complaints are managed, and a timely response is provided for concerns raised and information about how solutions are being investigated is provided to the community</li> <li>consultation with local health and emergency services to establish processes for managing potential increased demands due to non-resident workforce.</li> </ul>	Pre-construction/ Construction	Local social locality
SI6	First Nations liaison	<p>A First Nations liaison group will be established. It will focus on identifying and implementing strategies to enhance and maximise opportunities for employment, procurement, education and other potential project related benefits. Members of the First Nations liaison group will be identified through collaboration with the existing Central-West Orana REZ Aboriginal Working Group, and will include local and regional members including:</p> <ul style="list-style-type: none"> <li>Local Aboriginal Land Councils</li> <li>Aboriginal Representative Organisations</li> <li>relevant Aboriginal social, health and support services</li> <li>educational organisations and services</li> <li>employment agencies</li> <li>Aboriginal business organisations/groups.</li> </ul>	Pre-construction/ Construction	Regional social locality

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SI7	Complaints management	<p>A complaints management system will be maintained throughout the construction period and for a minimum of 12 months after the completion of construction.</p> <p>The complaints management system will include the following (at a minimum):</p> <ul style="list-style-type: none"> <li>• contact details for a 24-hour response line and email address for ongoing stakeholder contact throughout the project</li> <li>• details of all complaints received will be recorded</li> <li>• target timeframe for responding to complaints</li> <li>• verbal and written responses describing what action will be taken will be provided to the complainant (or as otherwise agreed by the complainant)</li> <li>• an avenue for escalating unresolved complaints.</li> </ul>	Construction Initial 12 months of operation	Regional social locality
SI8	Social impact	<p>A Social Impact Management Plan (SIMP) will be prepared that will:</p> <ul style="list-style-type: none"> <li>• describe the social impact mitigation measures to be implemented and the impacts that they are intended to address</li> <li>• set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation.</li> </ul> <p>Monitoring findings will be presented to the project's Community Reference Groups meetings (if active) and to the broader local community. Feedback will be sought on the monitoring program and whether actions or targets require revision.</p> <p>EnergyCo will track implementation of the SIMP and review performance measures quarterly, to facilitate continual improvement. The SIMP will be reviewed annually and updated based on monitoring data and community and stakeholder feedback.</p> <p>In addition to the monitoring review, proposed mitigation measures will also be reviewed to assess whether they are still applicable and on track to meet the residual risk rating applied in the EIS. Any new issues or initiatives that have emerged and that should be included in ongoing mitigations and/or monitoring will be addressed.</p> <p>The results of SIMP reviews will be published on the EnergyCo website.</p>	Pre-construction/ Construction	Regional social locality
SI9	Operational communications	<p>An Operational Communication Plan will be developed and implemented, which will address the following:</p> <ul style="list-style-type: none"> <li>• maintaining communications with those located in close proximity to the transmission line to provide updated information and monitor experience and concerns.</li> </ul> <p>The Operational Communication Plan will be reviewed and updated on an annual basis.</p>	Operation	Local social locality

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SI10	Mental Health Strategy	A mental health support telephone service as already established by EnergyCo will be maintained to assist landowners whose properties are subject to acquisition for the transmission line. A broader mental health strategy will be developed and implemented by the EnergyCo to identify other initiatives that could be implemented to provide additional mental health support.	Pre-construction Construction Operation	Local social locality

### Noise and vibration

NV1	Construction noise (source controls)	<p>As part of development of the detailed design and construction methodology, all reasonable and feasible mitigation measures will be considered, confirmed and implemented to minimise construction noise impacts and to avoid exceedances of the applicable noise goals at adjacent sensitive receivers where practicable. Measures that may achieve this outcome may include, but are not limited to the following:</p> <ul style="list-style-type: none"> <li>portable temporary noise screens will be erected adjacent to stationary or long-term static noise sources, or noise generating items, where reasonable and feasible</li> <li>spotters, “smart” reversing alarms, or broadband reversing alarms will be used in place of traditional tonal beeper reversing alarms, particularly on equipment where reversing alarms are frequently in use such as rollers, loaders or compactors</li> <li>noise source controls, such as the use of residential class mufflers, will be used reduce noise from all plant including cranes, excavators and trucks</li> <li>the offset distance between noisy plant items and sensitive receivers will be maximised, where reasonable and feasible</li> <li>machinery will be operated in a manner which reduces maximum noise level events such as reduce shaking of excavator buckets, dropping materials into trucks from height or steel on steel contact</li> <li>construction plant and equipment will be turned off when not in use</li> <li>helicopters will not be operated during evening and night-time periods. Where the use of drones is proposed during evening and/or night-time periods, an additional assessment(s) will be undertaken to identify appropriate operational limits to ensure that noise impacts to nearby sensitive receivers are acceptable.</li> </ul>	Detailed design Pre-construction Construction	All locations where exceedances of the applicable construction noise criteria are predicted at sensitive receivers
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Reference	Impact	Mitigation measures	Timing	Applicable location(s)
NV2	Construction noise (administrative controls)	<p>Opportunities to reduce exceedances of the applicable construction noise goals through the implementation of administrative controls will be examined, confirmed and implemented where reasonable and feasible. Controls to be considered will include, but not limited to the following:</p> <ul style="list-style-type: none"> <li>environmental awareness training and inductions for site personnel will include noise mitigation techniques/measures to be implemented when on site and accessing the site</li> <li>the avoidance of simultaneous construction activities during transmission line construction in the vicinity of the Energy Hubs will be investigated to minimise potential cumulative noise impacts</li> <li>plant and equipment will be selected with noise emission levels being a consideration for selection. This will include the consideration of alternative stringing methods, such as the use of drones instead of helicopters</li> <li>noise-intensive works will be limited to less sensitive construction hours (i.e. away from early morning and late afternoon periods) as far as practicable, when working in the vicinity of sensitive receivers</li> <li>plant and equipment will be well maintained to ensure that excessive noise is not generated</li> <li>the provision of respite periods for helicopter take off/landing will be considered at the construction compounds</li> <li>a blasting vibration and overpressure assessment will be required as part of any potential blast design. This assessment will determine the Maximum Instantaneous Charge to achieve the recommended ground vibration and overpressure limits. In addition, a Blast Management Strategy will be prepared in accordance with Section 4 of AS 2187.2-2006 for inclusion in the CNVMP</li> <li>any works undertaken outside standard working hours will be further assessed in accordance with the ICNG and the CNVG during detailed design and an Out of hours works protocol will be developed and implemented to mitigate any identified impacts.</li> </ul>	Detailed design Pre-construction Construction	All locations where exceedances of the applicable construction noise criteria are predicted at sensitive receivers.

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
NV3	Construction noise	<p>Opportunities to reduce the impacts associated with construction noise levels through the implementation of proactive community consultation will be examined, confirmed and implemented where reasonable and feasible. Controls to be considered will include, but not limited to the following:</p> <ul style="list-style-type: none"> <li>• sensitive receivers potentially affected by the works will be notified of the commencement of construction activities at least five days prior to works starting. The notification will inform potentially impacted sensitive receivers of the nature of and duration of works, expected noise levels and contact details of where sensitive receivers can contact project representatives</li> <li>• the community will be kept regularly informed of noise intensive activities in the immediate area</li> <li>• if noise complaints are received, the complainant will be offered the opportunity for noise monitoring to be carried out to confirm the noise level at the receiver. Where the noise monitoring confirms that the applicable noise predictions are being exceeded, the construction methodology will be reviewed and changes implemented to reduce construction noise levels to be compliant with noise predictions where reasonable and feasible. Additional mitigation measures such as respite periods have been outlined in Table 15-29 of Chapter 15 (Noise and Vibration) of the EIS.</li> </ul>	Pre-construction	All locations where exceedances of the applicable construction noise criteria are predicted at sensitive receivers.
NV4	Construction vibration	<p>Where construction is likely to result in vibration levels that exceed relevant criteria at sensitive receivers, mitigation and management will be implemented where practicable and appropriate. Measures that will be considered and implemented where feasible and reasonable include (but are not limited to):</p> <ul style="list-style-type: none"> <li>• avoid the use of vibration-intensive plant at distances where human discomfort will result</li> <li>• substitute lower vibration-intensive plant and methods (for example use a smaller machine, lower power settings or alternative equipment)</li> <li>• sequence operations to avoid or minimise concurrent vibration intensive activities</li> <li>• schedule the use of vibration-sensitive equipment during the least sensitive times of the day</li> <li>• confirm any vibration-sensitive heritage structures that could be impacted by the proposal works</li> <li>• inform and consult with potentially affected receivers about upcoming vibration-intensive activities</li> <li>• pre and post condition surveys.</li> </ul>	Detailed design Pre-construction	All locations where exceedances of the applicable construction vibration criteria are predicted at sensitive receivers.

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
NV5	Heritage vibration impacts	<p>Vibration sensitive Aboriginal and non-Aboriginal heritage items which have potential to be impacted by the project works will be confirmed prior to the commencement of vibration generating works in proximity to relevant structures.</p> <p>Suitable, item specific criteria will be developed for heritage items and vibration impacts at these locations will be managed before commencement of construction. This may include the use of alternative construction methods which generate lower levels of ground vibration and the installation of vibration monitors while vibration intensive activities are conducted.</p>	Detailed design	All heritage items where exceedances of the applicable construction vibration criteria are predicted.
NV6	Operational noise	<p>An Operational Noise Review will be prepared to confirm the predicted noise impacts from the project (based on the final infrastructure locations). Where necessary, the operational mitigation measures to be implemented below will be revised so operational noise impacts are compliant with the project noise trigger levels, where feasible and reasonable.</p> <p>Where exceedances of the project specific noise trigger levels are predicted (i.e. transmission lines audible noise), feasible and reasonable operational noise mitigation measures will be further investigated, in consultation with the affected receivers. This will include:</p> <ul style="list-style-type: none"> <li>• Transmission lines <ul style="list-style-type: none"> <li>— Scheduling of maintenance activities during less sensitive times of day.</li> <li>— Noise control at the receiver, such as ‘at property’ treatment to upgrade aspects of the dwellings including the façade or ventilation systems.</li> <li>— Monitoring after the commissioning of the project to be conducted at each residence where potential operational noise levels are predicted to exceed project trigger levels.</li> <li>— If additional measures are found to be required during the compliance monitoring, these will be implemented as soon as practicable.</li> </ul> </li> <li>• Energy hubs and switching stations <ul style="list-style-type: none"> <li>— Adoption of lower generating noise equipment (where practicable).</li> <li>— Site layout designed to minimise noise impacts.</li> <li>— Restriction of operational parameters such as cooling fans where meteorological conditions are favourable.</li> <li>— Noise control at the receiver, such as ‘at property’ treatment to upgrade aspects of the dwellings including the façade or ventilation systems.</li> </ul> </li> </ul> <p>Identified measures will be implemented prior to operation of the relevant infrastructure.</p>	Pre-construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
		<p>In addition, the following will be undertaken:</p> <ul style="list-style-type: none"> <li>— Monitoring after the commissioning of the project to be conducted at each residence where potential operational noise levels are predicted to exceed project trigger levels to compare operational noise levels to predictions.</li> <li>— If additional measures are found to be required during the compliance monitoring, these will be implemented as soon as practicable.</li> </ul>		
<b>Hazard and risk</b>				
BF1	Exposure of energy assets to radiant heat beyond the design tolerance of the asset	Asset Protection Zones (APZs) for appropriate components of switching stations, energy hubs (including the maintenance facility), construction compounds and workforce accommodation camps will be established in accordance with the requirements of the NSW Rural Fire Service's documents Planning for Bushfire Protection 2019 (Appendix 4) and Standards for asset protection zones. The final design and associated APZs of appropriate components of switching stations and energy hubs (including the maintenance facility), will be developed in consultation with RFS.	Pre-construction Construction	Key project assets in the operational area that require protection from the impact of radiant heat and direct flame contact associated with a bushfire
BF2	Exposure of energy assets to radiant heat beyond the design tolerance of the asset	Energy hubs, and switching stations, will be designed and constructed in accordance with bushfire attack level 29 in accordance with <i>AS3959-2018 Construction of Buildings in Bushfire Prone Areas</i> .	Pre-construction Construction	Operation area
BF3	Insufficient access to the construction and operation area for fire fighting	Access for firefighting appliances will be provided in accordance with Section 2 of the <i>NSW Rural Fire Service Fire Trails Standards</i> .	Pre-construction Construction Operation	All locations
BF4	Bushfire risk from construction	Hot work (activities involving high temperatures) and fire risk work (activities involving heat or with the potential to generate sparks) will be undertaken with appropriate safeguards to minimise the risk of ignition and spread of fire from construction activities. This may include suspension of hot work and fire risk work or implementation of additional controls for such work on days of elevated fire danger.	Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
BF5	Bushfire risk from construction	<p>Firefighting equipment will be maintained and made available for use during the construction phase in accordance with Planning for Bushfire Protection 2019 (NSW RFS 2019) including the following:</p> <ul style="list-style-type: none"> <li>static water supply tanks with a minimum volume of 20,000 litres (each) will be provided at the construction compounds and workforce accommodation camps for firefighting purposes</li> <li>38 millimetre metal Storz outlets with a gate or ball valve will be provided as an outlet on each of the tanks</li> <li>non-combustible water tanks and fittings will be used</li> <li>firefighting equipment (inclusive of a slip on unit) will be maintained at and/or accessible to all active construction site personnel during the declared bushfire danger season and site personnel trained in its use.</li> </ul>	Construction	All locations
BF6	Bushfire risk during operation	The APZs will be established at construction sites and managed during operation in accordance with Appendix 4 of <i>Planning for Bushfire Protection 2019</i> and the NSW Rural Fire Service's document <i>Standards for asset protection zones</i> .	Operation	Energy hubs, switching stations and maintenance facility
HR1	Mine subsidence risk	Detailed design for areas of the transmission alignment that traverse the Mudgee Mine Subsidence District will be undertaken in accordance with approvals issued by Subsidence Advisory NSW.	Detailed design Pre-construction	Mining areas
HR2	Impacts on underground utilities	The location of all services and utilities within the construction area will be confirmed prior to the commencement of construction (using Before-You-Dig searches, non-destructive digging and/or other appropriate methods). Any required protection or relocation will be designed in consultation with utility providers.	Detailed design Pre-construction	Construction area
AS1	Safety of aircraft movements	<p>The final design of the project with transmission line and tower coordinates and elevations will be provided to the following stakeholders prior to construction:</p> <ul style="list-style-type: none"> <li>Air Services Australia</li> <li>Commonwealth Department of Defence</li> <li>owners of Dalkeith, Tongy and Merotherie aircraft landing areas</li> <li>NSW National Parks and Wildlife Service</li> <li>property owners/occupiers within 5.5 km the transmission easement.</li> </ul> <p>Additional notification(s) will be undertaken if the final detailed design of the project alters the details previously supplied to these stakeholders, prior to the construction of the modified design elements.</p>	Detailed design	Operation area
AS2	Aerial farming operations	At locations where the transmission lines will impact existing aerial farming operations, consultation will be undertaken with relevant landowners to identify appropriate mitigation arrangements such as the installation of aerial warning markers on the transmission lines (where feasible).	Detailed design	Operation area

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
AS3	Safety of aircraft movements	<p>The following stakeholders will be notified of the scheduling of the use of cranes (for transmission tower erection only), drones and helicopters for the construction of the project, prior to the commencement of relevant works:</p> <ul style="list-style-type: none"> <li>• Air Services Australia</li> <li>• Commonwealth Department of Defence</li> <li>• property owners/occupiers within 5.5 km the transmission easement</li> <li>• owners at Dalkeith, Tongy and Merotherie aircraft landing areas</li> <li>• NSW Parks and Wildlife Service.</li> </ul>	Pre-construction	Operation area
HA1	Storage and use of Dangerous Goods	<p>Dangerous goods will be stored in accordance with suppliers' instructions and relevant legislation, Australian Standards, and applicable guidelines; and may include bulk storage tanks, chemical storage cabinets/containers or impervious bunds. Any storage areas will be designed in accordance with Australian Standard AS1940: <i>The storage and handling of flammable and combustible liquids</i> where applicable.</p> <p>All personnel required to work with Dangerous Goods and other hazardous material will be trained in their safe use and handling.</p>	Construction Operation	All locations
HA2	Management of hazardous materials (design)	<p>Further assessment of hazardous materials and dangerous goods will be undertaken during detailed design, when detailed information on material quantities and types, transport movements are known, to ensure the thresholds in Applying SEPP 33 are not exceeded.</p> <p>Safety in design will be considered and implemented in operational design in accordance with a Safety Management System (SMS) based on applicable Australian Standard and guidelines for the Lithium-ion packed batteries and Class 9 Dangerous Goods.</p>	Detailed design	Energy hubs and switching stations

## Traffic and transport

T1	Intersection upgrades	<p>As part of the detailed design process, an evaluation of the potential need for upgrades to the following intersections will be undertaken as detailed below:</p> <ul style="list-style-type: none"> <li>• intersection of Ulan Road/Neeleys Lane: Investigate and confirm if short channelised right and/or auxiliary left turn treatments (or suitable alternative) are required for safe access to the workforce accommodation camp</li> <li>• intersection of Golden Highway/Ulan Road: Investigate and confirm if a new short channelised right turn treatment (or suitable alternative) is required to provide safer intersection operation and to accommodate additional increases in traffic demand during construction.</li> <li>• Intersection of Golden Highway / Blue Springs Road: Investigate option to restrict construction vehicle volumes to levels which avoid the need for implementation of intersection upgrades. Where construction vehicle volumes cannot be limited to provide safe intersection operation, the required turning treatment upgrades (new short channelised right turn treatment or suitable alternative) will be implemented.</li> </ul>	Detailed design	<p>Intersection of Ulan Road/Neeleys Lane</p> <p>Intersection of Golden Highway/Ulan Road</p> <p>Intersection of Golden Highway / Blue Springs Road</p> <p>Typical access gate locations off Ulan Road (near Ulan township)</p> <p>Typical access gate locations off Ulan Road (north of Ulan-Wollar Road)</p>
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Reference	Impact	Mitigation measures	Timing	Applicable location(s)
		<ul style="list-style-type: none"> <li>• Typical access gates off Cope Road: Construction vehicle movements turning right into access gates on the northern side of Cope Road will be limited to vehicles 25 per hour during the AM peak hour period to ensure safe and efficient traffic movements compatible with a Basic right turn (BAR) treatment. If higher construction vehicle movements are required and are incompatible with a BAR treatment, the required turning treatment upgrades will be implemented.</li> <li>• Typical access gate locations off Ulan Road (near Ulan township): Construction vehicle movements turning into the northwest and southeast access gates will be limited to the following during the AM peak hour period: <ul style="list-style-type: none"> <li>— left turning vehicles <ul style="list-style-type: none"> <li>— 18 vehicles per hour (southeast access gates)</li> <li>— 5 vehicles per hour (northwest access gates)</li> </ul> </li> <li>— Right turning vehicles – 5 vehicles per hour (all access gates)</li> </ul> <p>Turn warrant assessments will be conducted for each hour outside of the AM peak period to determine the maximum number of vehicle movements allowed to ensure safe and efficient traffic movements compatible with a Basic right turn (BAR) and Basic left turn (BAL) treatments. If higher construction vehicle movements are required and are incompatible with BAR / BAL treatments, the required turning treatment upgrades will be implemented.</p> </li> <li>• Typical access gate locations off Ulan Road (north of Ulan-Wollar Road): Construction vehicle movements turning into the northwest and southeast access gates will be limited to during the AM peak hour period: <ul style="list-style-type: none"> <li>— left turning vehicles - 25 vehicles per hour</li> <li>— right turning vehicles - 5 vehicles per hour</li> </ul> <p>Turn warrant assessments will be conducted for each hour outside of the AM peak period to determine the maximum number of vehicle movements allowed to ensure safe and efficient traffic movements compatible with a Basic right turn (BAR) and Basic left turn (BAL) treatments. If higher construction vehicle movement volumes are required and are incompatible with BAR / BAL treatments, the required turning treatment upgrades will be implemented.</p> </li> </ul> <p>Where the intersection upgrades are required, these will be designed and constructed in accordance with Austroads Guidelines, relevant applicable standards and consider the appropriate design vehicles.</p>		

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
T2	Road and traffic management	<p>Traffic control plans will be prepared in for locations where construction-related traffic enters and leaves the public road network for project construction related purposes. The plans will be implemented by licensed traffic management contractors.</p> <p>Necessary road occupancy licences and road related work approvals will be obtained prior to the commencement of relevant works (including site access and access tracks).</p>	Construction	Construction routes, access tracks, construction compound and workforce accommodation camp accesses
T3	Road safety – design related	<p>All accesses will be designed to accommodate the required construction vehicle(s) requiring access, and in accordance with relevant Austroads guidelines (where applicable) in consultation with the relevant roads authority.</p> <p>Appropriate traffic management and controls may be adopted to facilitate safe site access and egress for vehicles prior to access point installation and upgrading.</p> <p>Routine inspections will be completed on a regular basis.</p>	Construction Operation	Construction routes, access tracks, construction compound and workforce accommodation camp accesses
T4	Road safety – driver related	<p>The following road safety measures will be implemented with regard to driver management during construction:</p> <ul style="list-style-type: none"> <li>• a Driver Code of Conduct will be developed and implemented for the entire workforce. The code will define acceptable driver behaviour for proposal personnel to promote road safety and ensure that the impacts of construction-related vehicle movements on local roads and the local community are minimised</li> <li>• a Driver Fatigue Management Plan will be developed and implemented as part of the Construction Environmental Management Plan, and will incorporate appropriate measures to manage driver fatigue risks, including, but not limited to: <ul style="list-style-type: none"> <li>– planning of regular breaks</li> <li>– mapping locations of driver rest areas along the proposed construction routes.</li> </ul> </li> </ul>	Construction	Construction routes, access tracks, construction compound and workforce accommodation camp accesses
T5	Rail safety	<p>Early and ongoing consultation with the ARTC will be undertaken for works which will cross over existing rail lines. Relevant works will only proceed following receipt of applicable approvals/permits, including accreditations for workers requiring access within the rail corridor to undertake construction activities.</p>	Construction	Where the transmission line requires access to rail corridor over railway tracks on select railway lines
T6	Access track condition	<p>Access tracks used for construction sites, construction compounds and workforce accommodation camps will be maintained to safe standard.</p>	Construction	All areas affected by construction including construction routes, access tracks, construction compounds and workforce accommodation camp accesses



Reference	Impact	Mitigation measures	Timing	Applicable location(s)
T7	Road condition	Pre-construction road dilapidation surveys and routine inspections will be completed along all nominated construction routes on local roads. Where rectification works are required due to project impacts, consultation with the appropriate road authority will be undertaken to confirm the scope of the work required.	Pre-construction Construction	Local roads
T8	Temporary lane closures or temporary road closures	Road Occupancy Licence(s) will be sought for all temporary lane closures (as required by the relevant roads authority).  Where road closures are likely to result in a significant traffic impact (e.g. short-term full road closure and long-term temporary lane/ road closures), prior consultation will be undertaken with potentially affected stakeholders (e.g. landowners, emergency services, transport services) and relevant approval(s) obtained from the relevant roads authority.  Where feasible, temporary road closures will be planned to occur outside of the traffic peak periods to minimise impacts to the road network.	Construction	All locations where project works will occur within the public road network
T9	Access to properties	Access to properties will be maintained throughout construction where feasible. Where this is not feasible, temporary alternative access arrangements will be provided following consultation with affected landowners and in accordance with the requirements of the pre-construction and construction Communication and Engagement Plan (as detailed in mitigation measure SI5).  Disruptions to property access and traffic will be notified to landowners at least five days prior and in accordance with the relevant community consultation processes outlined in the Construction Environmental Management Plan.	Construction	All areas affected by construction
T10	Pedestrian and cyclist access	The project will actively consult with local bicycle groups, such as Central West Cycle (CWC) during construction, particularly regarding construction routes proposed on CWC's cycling route between Gulgong to Dunedoo.  Safe pedestrian and cyclist access will be maintained where the project interacts with existing pedestrian or bicycle facilities. Where this is not feasible, temporary alternative access arrangements will be provided following consultation with affected stakeholders and the relevant roads authority.	Construction	All areas affected by construction.
T11	Heavy vehicles using road network	A Vehicle Movement Plan will be prepared which identifies the construction vehicle route(s) (including OSOM routes) to be used during construction.  The Vehicle Movement Plan will also include details of activities of adjoining land uses and awareness of public safety measures (e.g. entering urban areas from the highways) to provide guidance to drivers of construction vehicles travelling to and from project locations.  Ongoing consultation will be undertaken with Transport for NSW regarding the use of State roads for OSOM vehicle routes.	Pre-construction Construction	Construction routes.

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
T12	Access tracks maintenance and safety	<p>The following maintenance and safety measures will be implemented at relevant locations along each of the access tracks, construction compounds and workforce accommodation camp accesses:</p> <ul style="list-style-type: none"> <li>• appropriate line marking and signage at access points</li> <li>• wheel cleaning facility as required at access points/intersections</li> <li>• signage to indicate trucks turning</li> <li>• potential use of road plates, propping (or similar) over culverts where required</li> <li>• improvements to existing roads at new access points which may include importing or stabilising material if required.</li> </ul>	Construction	Access tracks, construction compound and workforce accommodation camp accesses
T13	Access points	<p>Access points on the public road network will be confirmed and implemented in consultation with the relevant roads authority. Establishment of access points will occur in accordance with road occupancy licences (or similar) where issued by the relevant roads authority.</p> <p>For access points that are deficient in Safe Intersection Sight Distance, temporary speed limits would be implemented at these intersections and access gates. This is to ensure sufficient sight distance for road users during construction. Temporary speed limits will be agreed with the relevant road authorities.</p>	Pre-construction Construction	Access point on the public road network
<b>Waste</b>				
WM1	Waste generation	Measures to minimise spoil generation, off-site disposal and reuse of material on-site will be investigated and adopted as part of the continued development of the project's design and construction methodology.	Pre-construction	All locations
WM2	Waste disposal	EnergyCo will explore further opportunities with Mid-Western Regional, Dubbo Regional, Warrumbungle Shire and Upper Hunter Shire councils to reduce landfill demand placed on local waste management facilities as a result of the project.	Pre-construction	All locations
WM3	Waste generation	Where practicable, opportunities to re-use or recycle waste and wastewater generated during construction and operation will be investigated and adopted during continued development of the project's design and construction methodology, as well as during operation, subject to meeting water reuse quality requirements.	Pre-construction Construction Operation	All locations
WM4	Waste generation	All waste generated by the project will be assessed, classified, managed and disposed of in accordance with the <i>Waste Classification Guidelines</i> (NSW EPA, 2014a) and the relevant requirements of the Protection of the Environment Operations (Waste) Regulation 2014.	Construction and operation	All locations
WM5	Waste generation	Waste streams will be segregated to avoid cross contamination of materials and maximise reuse and recycling opportunities.	Construction and operation	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
WM6	Waste generation	All waste generated and surplus spoil to be removed from the construction and operation of the project will be transported to appropriately licensed waste disposal or transfer facilities or other facilities lawfully able to accept materials.	Construction and operation	All locations
WM7	Waste water generation	Wastewater volumes and management processes would be confirmed prior to construction and the relevant council will be consulted if transfer to a local wastewater treatment facility is proposed.	Pre-construction Construction Operation	All locations
<b>Hydrology, flooding and water quality</b>				
WA1	Construction water supply	Construction water supply arrangements will be confirmed during continued design development and detailed construction planning, based on further investigations that include ongoing consultation with water suppliers to access the local reticulated network, use of treated mine water, and use of water tanks within construction compounds.	Detailed design and pre-construction	All locations
WA2	Construction water supply	<p>Opportunities to minimise water demand will be further explored during detailed design and construction planning and adopted where practicable, including:</p> <ul style="list-style-type: none"> <li>capture and use rainwater at construction compounds and/or workforce accommodation camps</li> <li>use of treated mine water, subject to any onsite reuse requirements</li> <li>reuse/recycling of construction water (for example, water could be reused onsite for dust suppression, to assist with compaction)</li> <li>treated wastewater and/or groundwater inflows</li> <li>the use of additives in concrete mixtures to reduce the amount of water required</li> <li>identification of alternative construction techniques which will reduce water use (where practicable).</li> </ul>	Detailed design and pre-construction	All locations
WA3	Watercourse geomorphology	Where relevant, permanent surface water control measures will be designed and implemented at relevant energy hubs, switching stations and transmission line towers to minimise potential scour and erosion risks associated with surface water runoff during operation.	Detailed design, construction and Operation	Energy hubs, switching stations and transmission line towers
WA4	Dispersion of sediment into the environment	<p>Areas disturbed as a result of construction activities will be managed in accordance with the requirements of <i>Managing Urban Stormwater Soils and Construction</i> (4<sup>th</sup> Edition) (Landcom, 2004).</p> <p>This will include the implementation of a range of erosion and sediment control measures which may include:</p> <ul style="list-style-type: none"> <li>drainage control measures, e.g. flow diversion banks, straw bale berms and rock-lined chutes</li> <li>sediment control measures, e.g. sediment fences, traps and basins and impervious covers</li> <li>erosion control measures, e.g. covering of stockpiles, erosion control blankets, dust suppression measures (e.g. water trucks) and revegetation</li> <li>progressive and timely stabilisation of disturbed surfaces with the potential to generate sediment.</li> </ul>	Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
WA5	Water quality	<p>A water quality monitoring program for construction will be prepared and implemented to monitor water quality conditions at perennial watercourses that the transmission lines will cross, and to facilitate monitoring of any changes in water quality that could be attributable to the project during construction. The program will detail:</p> <ul style="list-style-type: none"> <li>• water quality objectives and criteria for the project, in accordance with the <i>Murray–Darling Basin Plan 2012</i> (Murray–Darling Basin Authority, 2012) and <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i> (ANZECC/ARMCANZ, 2000)</li> <li>• frequency, location and duration of sampling, as minimum will include at least two monitoring locations located downstream and upstream of the project on the Talbragar River at Elong Elong (412042), Cudgegong River at Yamble Bridge (421019) and Wollar Creek</li> <li>• monitoring for total dissolved solids, dissolved oxygen, electrical conductivity, total suspended solids, total nitrogen and total phosphorus.</li> </ul> <p>In the event of exceedances of the project water quality criteria, soil and water management measures adopted as part of the Construction Environmental Management Plan will be reviewed and revised accordingly.</p>	Pre-construction and construction	Talbragar River at Elong Elong (412042), Cudgegong River at Yamble Bridge (421019) and Wollar Creek
FL1	Flooding	<p>Detailed construction planning will consider flood risk at construction sites and support facilities, including:</p> <ul style="list-style-type: none"> <li>• reviewing construction work area layouts and staging construction activities in order to avoid or minimise obstruction of overland flow paths and limiting the extent of flow diversion required</li> <li>• designing the layout of construction facilities and implementing stormwater management controls during their establishment in order to manage the impact of flooding on construction personnel, equipment and materials</li> <li>• identifying and applying measures to not worsen flood impacts on the community and on other property and infrastructure during construction up to and including the 1% AEP flood event where practicable. Where warranted by the scale and nature of the proposed works this will include flood modelling and assessment to assess the extent of potential impacts and therefore the scope of mitigation measures that may be required</li> <li>• measures to mitigate alterations to local runoff conditions due to construction activities.</li> </ul>	Detailed design	All locations
FL2	Flood behaviour (construction)	<p>Stockpiles will be located in areas which are not subject to frequent inundation by floodwater, ideally outside the 10% AEP flood extent. The exact level of flood risk accepted at stockpile sites will depend on the duration of stockpiling operations, the type of material stored, the nature of the receiving drainage lines and also the extent to which it will impact flooding conditions in adjacent development.</p>	Construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
FL3	Flood safety	Construction compounds and workforce accommodation will be located outside high flood hazard areas based on a 1% AEP flood event.	Detailed design	Construction compounds and workforce accommodation camps
FL4	Emergency management	Flood emergency management measures for construction of the project will be prepared and incorporated into relevant environmental and/or safety management documentation. This will include: <ul style="list-style-type: none"> <li>contingency planning for construction facilities that are located in areas that are inundated by mainstream flooding during a 1% AEP event</li> <li>for construction facilities located within the floodplain the identification of how flood related risks to personal safety and damage to construction facilities and equipment will be managed</li> <li>procedures to monitor accurate and timely weather data, and disseminate warnings to construction personnel of impending flood producing rain.</li> </ul>	Pre-construction	All locations
FL5	Climate change adaptation	The impact of the project on flood behaviour will be confirmed during detailed design. This will include consideration of future climate change.	Detailed design	All locations
FL6	Impacts to existing flooding regime	The project will be designed to minimise adverse flood related impacts on: <ul style="list-style-type: none"> <li>surrounding development for storms up to 1% AEP in intensity</li> <li>critical infrastructure, vulnerable development or increases in risk to life due to a significant increase in flood hazard for floods up to the PMF.</li> </ul>	Detailed design	All locations
FL7	Flood impacts	The energy hubs and switching stations will be designed to manage adverse impacts on the receiving drainage lines as a result of changes in the depth, velocity, extent and duration of flow during storms up to 1% AEP in intensity.	Detailed design	Energy hubs and switching stations
FL8	Flood impacts	The energy hubs and switching stations, including their access road connections to existing roads, will be designed to ensure that the existing level of flood immunity of the road network is maintained and increases in flood depths and hazards along the road network are minimised.	Detailed design	Energy hubs and switching stations
FL9	Waterway impacts	Localised increases in flow velocities at drainage outlets and waterway crossings will be mitigated through the provision of scour protection and energy dissipation measures.	Detailed design and construction	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
FL10	Flood impacts	<p>Detailed construction planning would consider flood risk associated with the construction of the new bridges over the Talbragar River and Laheys Creek, including the following:</p> <ul style="list-style-type: none"> <li>Flood emergency management procedures for the construction of the new bridges would be prepared and incorporated into the relevant environmental and/or safety management documentation that would include: <ul style="list-style-type: none"> <li>procedures to monitor accurate and timely weather data, and disseminate warnings to construction personnel of impending flood producing rain, and</li> <li>procedures for the safe evacuation of construction personnel and machinery following the dissemination of flood warnings.</li> </ul> </li> <li>Temporary working platforms that would be required to construct the new bridges would be constructed using clean rock fill and installed in a manner that minimises their impact on the inbank area of the watercourses.</li> <li>The layout of temporary access roads, working platforms and other temporary works required to construct the bridges will be designed and staged in order to manage their impact on flood behaviour.</li> </ul>	Detailed design and construction	Upgrade of local roads that service the Merotherie and Elong Elong Energy Hubs
FL11	Waterway impacts	Localised increases in flow velocities at the new bridges over the Talbragar River and Laheys Creek would be mitigated through the provision of scour protection measures.	Detailed design and construction	Upgrade of local roads that service the Merotherie and Elong Elong Energy Hubs
FL12	Flood impacts	<p>The upgrades to the local roads that service the Merotherie and Elong Elong Energy Hubs would be designed such that:</p> <ul style="list-style-type: none"> <li>the existing level of flood immunity of the road is maintained or improved, and</li> <li>during storm events that result in overtopping of the road, there is no significant increase in the depth and hazardous nature of flooding.</li> </ul>	Detailed design	Upgrade of local roads that service the Merotherie and Elong Elong Energy Hubs
FL13	Flood impacts	A detailed flood assessment would be carried out of the upgrades to the local roads that service the Merotherie and Elong Elong Energy Hubs to inform the scope of drainage measures to be incorporated into their design in order to manage any adverse impacts on the depth, velocity and duration of inundation external to the road corridors.	Detailed design	Upgrade of local roads that service the Merotherie and Elong Elong Energy Hubs

### Soils and contamination

SC1	Mobilisation of saline soils	<p>Prior to ground disturbance, a visual inspection will be undertaken in areas identified as potentially containing saline soils will be undertaken to look for the presence of saline soils. Areas where evidence of salting has been observed or recorded will be subject to further testing as required. If salinity is confirmed, excavated soils will be managed in accordance with <i>Book 4 Dryland Salinity: Productive use of Saline Land and Water</i> (NSW DECC 2008) to prevent impacts from salinity.</p>	Construction	All locations
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Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SC2	Impacts due to spontaneous combustion	Disturbance of areas of active (and previously active) surface mining, underground mine access and process routes will be avoided where practicable. Where this cannot be avoided, testing of the material(s) will be undertaken to confirm if High Carbon Material will be disturbed and/or exposed, and appropriate safeguards implemented to ensure the risk of spontaneous combustion is adequately controlled (in accordance with the <i>MDG Spontaneous Combustion Management Guideline</i> (Industry and Investment NSW, 2011)).	Detailed design, pre-construction and construction	Wilpinjong Coal Mine
SC3	Contamination exposure to human health and/or the environment	Disturbance to areas of medium to high risk of contamination will be avoided or minimised where practicable during construction. Management of contamination and any resulting remediation will be carried out in accordance with the relevant legislation, standards and guidelines, including but not limited to the National Environment Protection (Assessment of Contamination) Measure 1999, as amended 2013, and all relevant guidelines made or approved under the <i>Contaminated Land Management Act 1997</i> and the <i>Protection of the Environment Operations Act 1997</i> .	Detailed design and pre-construction	Areas of medium to high contamination risk
SC4	Contamination exposure to human health and/or the environment	Prior to construction activities within the Wilpinjong Coal Mine lease, areas subject to disturbance will be tested to confirm the presence/absence of contaminants of concern identified in Technical paper 16 – Contamination.	Detailed design and pre-construction	Wilpinjong Coal Mine site
SC5	Contamination exposure to human health and/or the environment	Additional intrusive investigations will be undertaken to confirm the presence/absence of the contaminants of concern prior to commencing ground disturbance within 50 metres of farm structures or farm dams (if applicable).	Detailed design and pre-construction	All locations
SC6	Impacts due to spontaneous combustion	Remediation areas disturbed during construction of the project will be capped in accordance with the Peabody Energy Wilpinjong Capping of Tailings Storage Facilities TD5 Procedure (WI-MIN-PRO-0119).	Construction	Wilpinjong Coal Mine site
SC7	Contamination impact to human health and/or the environment	An unexpected finds protocol will be developed and implemented to manage the discovery of previously unidentified contaminated material (including the discovery of high carbon material within mining lease areas outside of areas indicated by mine operators where this occurs).	Construction	All locations
SC8	Soil and/or water pollution	Construction materials, spoil and waste will be stored/ managed in accordance with applicable EPA requirements to minimise the potential for the project to result in the contamination of soil, groundwater, and/or surface water quality.	Construction	All locations
SC9	Soil and/or water pollution	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards, and applicable guidelines. The capacity of any bunded area will be at least 130 per cent of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s will be shown on site plans.	Construction Operation	All locations

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
SC10	Soil and/or water pollution	<p>Incident response procedures will be implemented to avoid and manage accidental spillages of fuels, chemicals or fluids during operation and maintenance activities.</p> <p>Environmental spill kits will be provided at strategic, accessible locations, and staff will be trained in spill response procedures (as a minimum, spill kits will be located at the energy hubs and New Wollar Switching Station).</p>	Operation	All
<b>Groundwater</b>				
GW1	Lowering of groundwater levels due to interception and take of water	In the event that groundwater is encountered during excavations and dewatering is required, any dewatering volumes will be recorded and managed in accordance with the <i>Water Management Act 2000</i> .	Construction	Areas of intercepted groundwater
GW2	Lowering of groundwater levels due to water extraction	Monitoring and recording of extraction volumes from water supply bores will be undertaken and regular analysis of extracted volumes will be completed against predicted volumes in Technical paper 17 (refer to Table 6-5), applicable water access licence and approval requirements.	Construction	Water supply bores at energy hubs
GW3	Impacts due to blasting	Control measures will be identified prior to blasting activities in relevant areas to avoid adverse impacts to sensitive groundwater receivers.	Construction	Finalised blasting locations if within 50 metres of high potential groundwater dependent ecosystems or existing bores
GW4	Damage to bore infrastructure	<p>Direct impacts to registered bores will be avoided, where practicable. If the bores are not required to be removed during construction, then they will be clearly demarcated to protect the infrastructure.</p> <p>Where impact is unavoidable and a bore will require decommissioning, it will be replaced in a similar nearby location in consultation with landowner.</p>	Construction	All locations
<b>Air quality</b>				
AQ1	Dust generation – general	<p>Management measures to prevent or minimise dust generation and impacts to the local community and environment will include (but not be limited to):</p> <ul style="list-style-type: none"> <li>• use of water sprays or dust suppression surfactants as required for dust suppression where required and appropriate</li> <li>• adjusting the intensity of activities based on observed dust levels and weather forecasts</li> <li>• minimising the amount of material stockpiled and position stockpiles away from surrounding receivers</li> <li>• project construction vehicle movements are to adhere to designated entry/exit routes and parking areas</li> <li>• implementation of measures to minimise the tracking of material onto sealed roads (e.g., wheel wash)</li> <li>• covering of loads</li> </ul>	Construction	All locations



Reference	Impact	Mitigation measures	Timing	Applicable location(s)
		<ul style="list-style-type: none"> <li>stabilising disturbed areas as soon as practicable, including new access routes</li> <li>minimising the extent of disturbance as far as practicable</li> <li>regularly conducting visual inspections of dust emissions and applying additional controls as required</li> <li>where practicable minimise concurrent construction activities near sensitive receivers that have a greater potential of the risk of dust impact.</li> </ul>		
AQ2	Vehicle and plant emissions	Where feasible, construction vehicles and machinery will be fitted with appropriate emission control equipment and maintained in a proper and efficient manner.	Construction	All locations
AQ3	Dust emissions from concrete batching plants	<p>Measures will be implemented at concrete batching plants to minimise emissions to air as far as practicable. The measures will be regularly inspected with additional controls implemented as required. Measures to minimise emissions to air from concrete batching plants may include:</p> <ul style="list-style-type: none"> <li>all aggregate and sand will be stored appropriately in storage bins or bays to minimise dust generation, and material will not exceed the height of the bay</li> <li>cement silos and hoppers will be fitted with dust filters</li> <li>all inspection points and hatches will be fully sealed</li> <li>all dry raw materials to be transferred into the bowl of an agitator via front end loaders by maintaining adequate moisture levels and/or an enclosed conveyor</li> <li>cement silos will be fitted with fitted with an emergency pressure alert and automatic cut off protection to prevent overflow</li> <li>transfer of cement from storage to batching will occur via sealed steel augers.</li> </ul>	Construction	Concrete batching plant(s)
AQ4	Dust emissions from crushing and screening plant	<p>To minimise dust emissions associated with the proposed crushing and screening activities, the following measures will be implemented:</p> <ul style="list-style-type: none"> <li>ensure screen covers are fitted to the screening operations</li> <li>control dust emissions from screening operations using water sprinklers, where required and appropriate</li> <li>inspect the water sprinklers on a regular basis to ensure operational efficiency</li> <li>where practicable, install wind breaks in appropriate locations adjacent to the dust generating equipment and processes</li> <li>prior to screening, dampen the rocks during dry weather conditions.</li> </ul>	Construction	Crushing and screening
AQ5	Dust emissions along construction routes	During high wind conditions (wind speeds greater than 8 metres per second), reduced speed limits for project heavy vehicles on unsealed roads will be implemented in the vicinity of sensitive receivers.	Construction	Construction routes

Reference	Impact	Mitigation measures	Timing	Applicable location(s)
<b>Climate change and greenhouse gas</b>				
GHG1	Greenhouse gas emissions	<p>A greenhouse gas (GHG) assessment and design refinement will be carried out during detailed design to identify opportunities to minimise GHG emissions during construction.</p> <p>Opportunities for consideration will include:</p> <ul style="list-style-type: none"> <li>• using low carbon concrete and steel in transmission line towers and civil infrastructure</li> <li>• giving preference to environmentally labelled products and materials, such as those with Environmental Product Declarations</li> <li>• implementing product stewardship schemes to take back, reuse or recycle materials/products used during construction to minimise waste and associated emissions</li> <li>• minimising vegetation clearing during construction to preserve carbon sinks</li> <li>• implementing efficient construction practices, such as modular construction and off-site fabrication to minimise construction time and associated emissions.</li> </ul>	Detailed design	All locations
GHG2	Greenhouse gas emissions	<p>A GHG assessment and design refinement will be carried out during detailed design to identify opportunities to minimise GHG emissions during operation. Opportunities for consideration will include:</p> <ul style="list-style-type: none"> <li>• designing and implementing energy-efficient transmission infrastructure to minimise energy losses during operation and lower GHG emissions</li> <li>• investigating the use of non-SF6 technologies for transformers and switchgear. If SF6 is required, leak detection systems will be considered, and regular inspections and maintenance undertaken to reduce the risk of SF6 leaks</li> <li>• incorporating solar energy technologies, such as installing solar panels, at energy hubs and switching stations to reduce energy consumption within the National Electricity Market which still includes fossil fuel generated electricity</li> <li>• transitioning to zero-emission vehicles for operation and maintenance equipment, such as battery electric vehicles or hydrogen fuel cell vehicles</li> <li>• implementing advanced monitoring and control systems for transmission infrastructure to optimise energy efficiency and reduce energy losses</li> <li>• implementing project demand-side management strategies to actively manage electricity consumption, reduce energy demand and associated GHG emissions.</li> </ul>	Detailed design, operation	All locations
CC1	Climate change	A detailed climate change risk assessment will be carried out during detailed design in accordance with AS5334-2013.	Detailed design	All locations
CC2	Climate change	Following the detailed climate change risk assessment under mitigation measure CC1, adaptation measures will be developed to address climate change risks associated with bushfire, extreme heat, drought and increased rainfall intensity.	Detailed design	All locations

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