

APPENDIX 15

Addendum Social Impact Assessment



TALLAWANG SOLAR FARM

Social Impact Assessment Addendum

FINAL

May 2024



TALLAWANG SOLAR FARM

Social Impact Assessment Addendum

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
RES

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Date: May 2024



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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Jessica Anagnostaras	17 May 2024	Malinda Facey	17 May 2024

Author Declaration

As outlined in the SIA Guideline (DPE, 2023), suitably qualified and experienced practitioner/s should be involved in the preparation of SIA. A suitably qualified person must have:

- Suitable qualifications in a relevant social science discipline.
- Proven experience over multiple years.
- Substantial competence in social science research methods and SIA practices.

This SIA Addendum Report has been led by Jessica Anagnostaras (SIA Project Director). The author declares that this report, completed on 17 May 2024:

- Was prepared by an author with suitable qualifications, proven experience and competence in SIA practice, and relevant professional memberships as outlined in **Table 1.1**.
- The author understands their legal and ethical obligations in the preparation of the SIA.
- None of the information included in the SIA is false or misleading.
- The SIA contains all relevant information.

Table 1.1 Author Qualifications

Requirement	Jessica Anagnostaras, SIA Project Director
Suitable qualifications	Master of Human Rights Bachelor of Arts (International Relations and Social Policy) Certificate in Social Impact Assessment Certificate in Social Risk and Resettlement Management
Proven experience in SIA practice and social science methods	12 years
Professional membership	International Association for Impact Assessment (IAIA) Society for Applied Anthropology
Signature	

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
AC	alternating current
AES	Accommodation and Employment Strategy
BDAR	Biodiversity Development Assessment Report
BESS	Battery Energy Storage System
BSAL	Biophysical Strategic Agricultural Land
CSEP	Community and Stakeholder Engagement Plan
CWO-REZ	Central West Orana Renewable Energy Zone
DC	direct current
DPHI	New South Wales Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EP&A Act	NSW Environmental Planning and Assessment Act 1979
GP	General Practitioner
GW	gigawatts
the Guideline	NSW Social Impact Assessment Guideline for State Significant Projects (2023)
IER	Index of Economic Resources
LGA	local government area
LVIA	Landscape and Visual Impact Assessment
MW	megawatts
MWRC	Mid-Western Regional Council
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
PV	photovoltaic
RES	Renewable Energy Systems Australia Pty Ltd
REZ	Renewable Energy Zone
SBS	Shared Benefit Strategy
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SIA	Social Impact Assessment
SSC	State Suburb
SSD	State Significant Development
TWA facility	Temporary Workers Accommodation facility
Umwelt	Umwelt (Australia) Pty Ltd
VPA	Voluntary Planning Agreement

Table of Contents

Author Declaration	4
Abbreviations	5
1.0 Introduction	1
1.1 Overview	1
1.2 Report Purpose and Scope	4
2.0 Methodology	5
2.1 Defining the Social Locality	6
2.2 Community Engagement	10
2.3 Social Impact Evaluation	11
3.0 Updated Social Baseline	15
3.1 Policy Update	15
3.2 Demographic and Social Profile and Trends	16
3.3 Economic Profile and Trends	20
3.4 Community Facilities and Services	24
3.5 Regional Development Context and Proximal Projects	27
4.0 Updated Social Impact Assessment	32
4.1 Population Change	32
4.1.1 Scenario Development and Analysis	33
4.2 Accessibility	35
4.2.1 Reduced Strain on Local Accommodation and Housing	35
4.2.2 Reduced Strain on Local Health Services	37
4.2.3 Increased Pressure on Police Services	38
4.2.4 Increased Pressure on Emergency Fire Services	40
4.3 Health and Wellbeing	41
4.3.1 Impacts on Mental Health	41
4.3.2 Impacts on Workforce Health and Wellbeing	42
4.4 Community and Way of Life	42
4.4.1 Cumulative Effect on Community Cohesion	43
4.5 Decision-Making Systems	44
4.5.1 Information Transparency and Communication across Multiple Projects	44
4.6 Livelihoods	46

4.6.1	Opportunities for Local Employment	49
4.6.2	Opportunities for Local Procurement	51
4.6.3	Cumulative Community Changes to Livelihoods	52
4.7	Surroundings	55
4.7.1	Reduced Visual Amenity, Scenic Value and Sense of Place	55
4.7.2	Social Amenity Disruption Associated with Noise	57
4.7.3	Impacts on Road Traffic and Safety	58
4.7.4	Impacts on Water Supply and Sewerage Management	59
4.7.5	Cumulative Impacts on Local Community Values	60
5.0	Updated Social Impact Evaluation	62
6.0	Conclusion	70
7.0	References	72

Figures

Figure 1.1	Amended Project Layout	2
Figure 1.2	Indicative TWA Facility Layout	3
Figure 2.1	Regional Geographical Scales	6
Figure 2.2	Social Locality	9
Figure 3.1	Overlapping Construction Timeframes of Proximal Projects with Potential Cumulative Workforce Impacts	30
Figure 3.2	Average Cumulative Workforce by Month	31
Figure 4.1	Construction Workforce Histogram (Q4 2026 to Q4 2029)	33
Figure 4.2	Stages of Psychological Response to Place Change	46
Figure 4.3	Large-scale Solar Farm Construction Occupational Composition	48
Figure 4.4	Local Employment and Procurement Catchment	50
Figure 5.1	Social Impact Evaluation Process	62

Tables

Table 1.1	Author Qualifications	4
Table 2.1	Methodology	5
Table 2.2	Key Components of the Social Locality	7
Table 2.3	Engagement Mechanisms	10
Table 2.4	Dimensions of Social Magnitude	12
Table 2.5	Social Impact Significance Matrix	13
Table 2.6	Defining Magnitude Levels for Social Impacts	13

Table 2.7	Defining Likelihood Levels for Social Impacts	14
Table 3.1	Regional Profile Overview (2021)	17
Table 3.2	Regional Economy by LGAs (2021)	21
Table 3.3	Community Facilities and Services by LGA	24
Table 3.4	Community Facilities and Services in proximal towns	25
Table 3.5	Availability of GPs and Specialist Practitioners across the Social Locality	26
Table 3.6	Other Projects with Potential Cumulative Workforce Impact	28
Table 4.1	Projected Population Change Due to Amended Project	34
Table 4.2	Projected Population Change Due to Amended Project and Cumulative Workforce	34
Table 4.3	Short-Term Accommodation Availability	36
Table 4.4	Airbnb Rooms Available as of December 2023	36
Table 4.5	Rental Housing Availability	36
Table 4.6	Project Phases and associated works	46
Table 4.7	Employment by Industry and Job Type Summary Table	49
Table 5.1	Social Impact Evaluation	63

1.0 Introduction

This report constitutes a Social Impact Assessment (SIA) Addendum, which forms part of the Tallawang Solar Farm Amendment Report (Umwelt, 2024).

1.1 Overview

RES Australia Pty Ltd (RES) is seeking to develop the proposed Tallawang Solar Farm (the Project) in the Central West region of New South Wales (NSW), approximately 8 km northwest of the town of Gulgong within the Mid-Western Local Government Area (LGA).

The Social Impact Assessment (SIA) as part of the Environmental Impact Statement (EIS) for the Project was prepared by Umwelt in 2022, in accordance with the NSW Social Impact Assessment Guideline for State Significant Developments (DPHI, 2023).

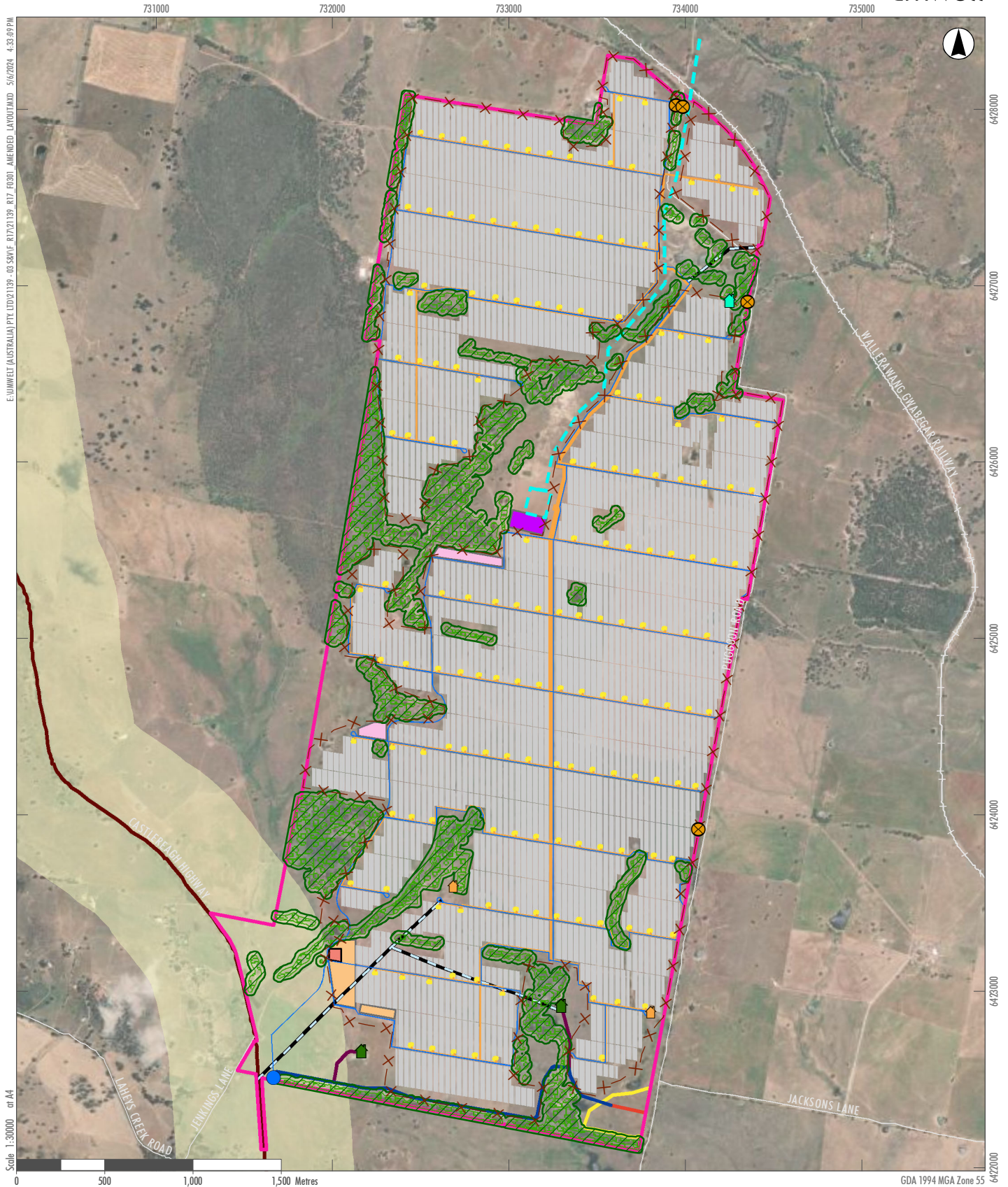
The Project's EIS was on public exhibition from 28 October to 24 November 2022, of which 70 submissions were received. These comprised 16 government agency submissions and 54 community / organisation submissions. A submission was received from Mid-Western Regional Council in relation to the SIA, of which responses and recommendations have been provided within this SIA Addendum. The review of submissions and feedback received led to RES undertaking refinements to the Project's design and layout. As a result, RES is proposing to amend the Project as presented in the EIS in response to the concerns raised and based on further consultation and detailed planning with government agencies, nearby landholders and other key stakeholders.

The proposed Project amendments include the introduction of a 400-person Temporary Workers Accommodation (TWA) facility, removal of the proposed overhead electricity transmission line (ETL), capacity increase to the Battery Energy Storage System (BESS) and an updated treatment design for the proposed intersection upgrade at the new site access on the Castlereagh Highway (the Amended Project). Some minor layout refinements and readjustment of the Tallawang Solar Farm Project Area boundary and development footprint are also proposed as part of the Amended Project.

The TWA is proposed to:

- Provide sufficient and purpose-built accommodation to meet the Project's workforce requirements.
- Establish an accommodation facility within 5 km of the Project site to meet workforce needs in a location proximal to development activities.
- Reduce or avoid any pressure on the existing local or regional housing and accommodation market and supply that may result from Project development activities.

Figure 1.1 below shows the Amended Project layout, with the proposed TWA facility situated in the south-east corner of the site. **Figure 1.2** shows an indicative layout of the TWA facility itself.



Legend

- | | | |
|--|---|--|
| Project Area Boundary | --- Grid Connection Infrastructure (proposed by EnergyCo) | Native Vegetation Buffer, 20m |
| Proposed Single Axis Tracker | ● Primary Project Access | Local Road |
| Temporary Workers Accommodation (TWA) | ● Secondary Access | State Road |
| BESS and DC-DC Coupled PCS with Hardstanding | X Security Fence | State Road (Highway) Buffer 500m |
| Proposed Medium Voltage Reticulation | --- Proposed Landowner Access Track | --- 22kV Distribution Line (to be rerouted where necessary) |
| Proposed Access | --- Temporary Workers Accommodation (TWA) Access | |
| Construction Compound | --- Proposed Post Construction Landowner Access Track | |
| Temporary Laydown | ■ Involved Dwelling | |
| Proposed O&M Facility | ■ Involved, Unoccupied Dwelling | |
| Proposed Substation | Native vegetation (Umwelt) | |

FIGURE 1.1

Amended Project Layout

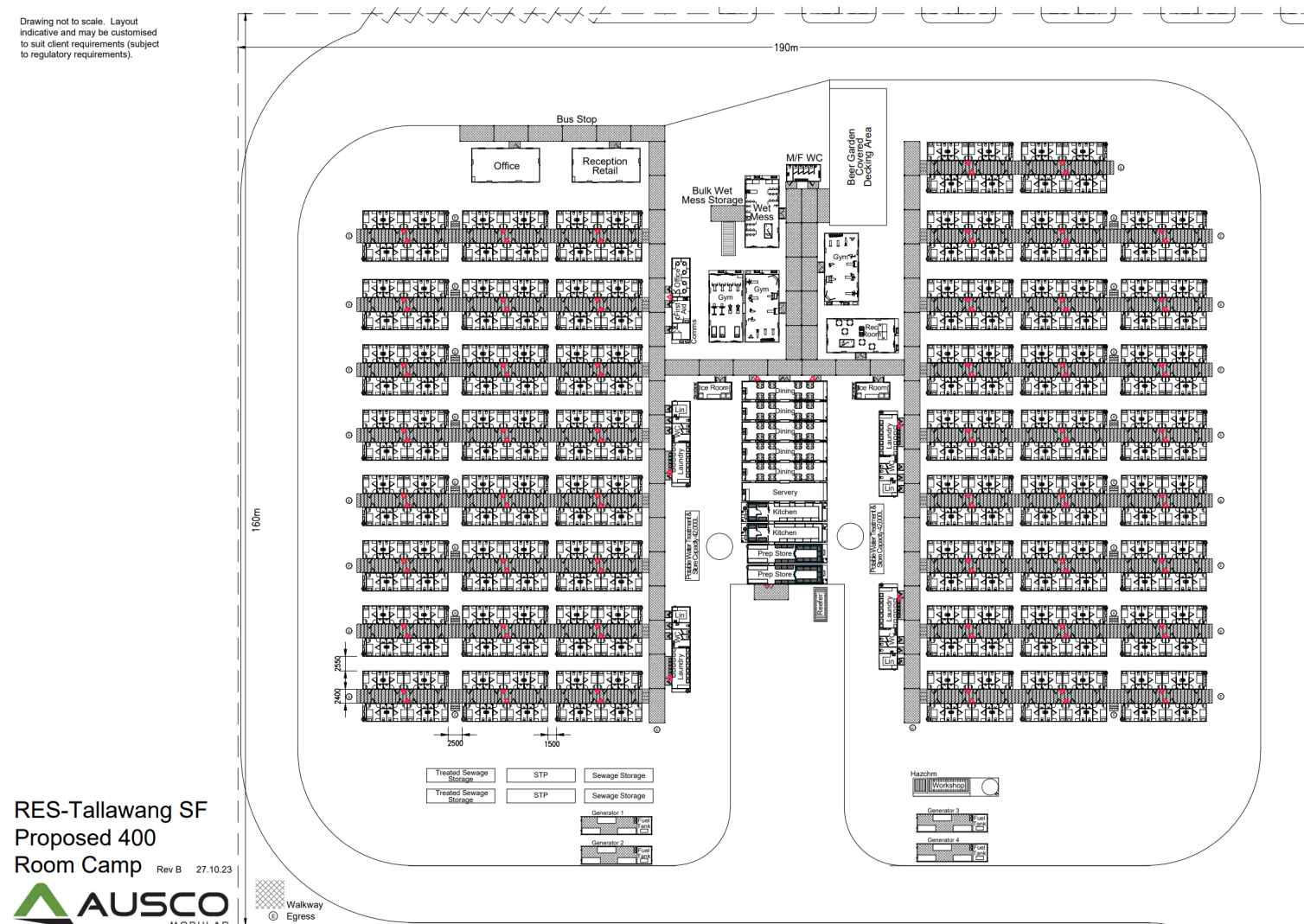


Figure 1.2 Indicative TWA Facility Layout

1.2 Report Purpose and Scope

The purpose of this Social Impact Assessment Addendum Report is:

- To provide an updated assessment of social impacts as a result of the Amended Project (see **Section 2.0**); and
- To respond to submissions raised in the public exhibition as they relate to social impacts.

In particular, this SIA Addendum Report responds to feedback from the Mid-Western Regional Council as follows:

- Integration of any community changes based on review of the 2021 census data from the Australian Bureau of Statistics (ABS) (updates in **Section 3.0**).
- Inclusion of Mudgee and Dubbo as key townships in the Project's social locality (updates in **Section 3.0**).
- Updated assessment on the Project's impact to social infrastructure and services, and in particular on medical and health services (see **Section 4.2.2**).
- Updated assessment on the Project's impact upon regional population change, employment, procurement and housing and accommodation (see **Sections 4.1, 4.2.1, 4.6.1, 4.6.2**).
- Updated review of information on nearby projects and assessment of potential cumulative social impacts on surrounding communities (updates in **Section 3.5** and through **Section 4.0**).
- Integration of relevant assumptions and outcomes from the Project's Accommodation and Employment Strategy (AES) as they relate to the above aspects. This SIA Addendum should be read in conjunction with the AES developed for the Amended Project, which outlines the Project's commitments and strategies associated with workforce accommodation, employment and procurement.

2.0 Methodology

Table 2.1 outlines the approach taken to develop this SIA Addendum.

Table 2.1 Methodology

Component	Purpose	Details / Sources
Social baseline update	<ul style="list-style-type: none"> To update and define the 'area of social influence' or 'social locality' to include townships of Mudgee and Dubbo To identify any changes to demographic and socio-economic trends and characteristics since the 2022 SIA through the integration of updated census data To update the social infrastructure audit to reflect currently available infrastructure, facilities, and services To identify any areas or populations with greater levels of socio-economic disadvantage To identify opportunities to enhance regional social or economic strengths 	<ul style="list-style-type: none"> Analysis of quantitative data derived from the Australian Bureau of Statistics (ABS) and Public Health Information Development Unit (PHIDU) Analysis of relevant policy documents, including Federal, State and local plans, local health, community and well-being strategies and local environmental policies Publicly available EIS and scoping reports for proximal State Significant Developments
Community engagement on Project changes	<ul style="list-style-type: none"> To inform stakeholders of the changes to the Project and invite feedback on the Amended Project To identify potential positive and negative social impacts of the proposed TWA and Amended Project from stakeholder perspectives To identify means to mitigate negative social impacts and opportunities to enhance positive social impacts through stakeholder input and feedback 	<ul style="list-style-type: none"> Community engagement records collated and analysed through surveys, neighbour interviews, the outcomes of recent community information sessions, and formal submissions (see Section 2.2)
Update to assessment of social impacts and associated mitigation and enhancement measures including cumulative considerations	<ul style="list-style-type: none"> To review changes to other major projects proximal to the Project To assess the likelihood and magnitude of potential social impacts associated with the Amended Project To identify and assess social impacts associated with the Amended Project including those of a cumulative nature due to the number of other proximal projects To update mitigation and enhancement measures or strategies arising from updated impact assessment and social baseline analysis 	<ul style="list-style-type: none"> EIS and Amendment Report technical assessments Secondary data sources for the social baseline Community engagement outcomes Publicly available documentation for proximal State Significant Developments Integration of outcomes from the Accommodation and Employment Strategy developed for this Project

2.1 Defining the Social Locality

In defining the social locality, key rural localities, towns and LGAs have been considered, including Mudgee and Dubbo¹ in response to feedback on the SIA from the EIS submissions. **Figure 2.1** illustrates the differing scales which comprise the social locality for the Amended Project, including the region, Local Government Areas (LGAs) and key towns.

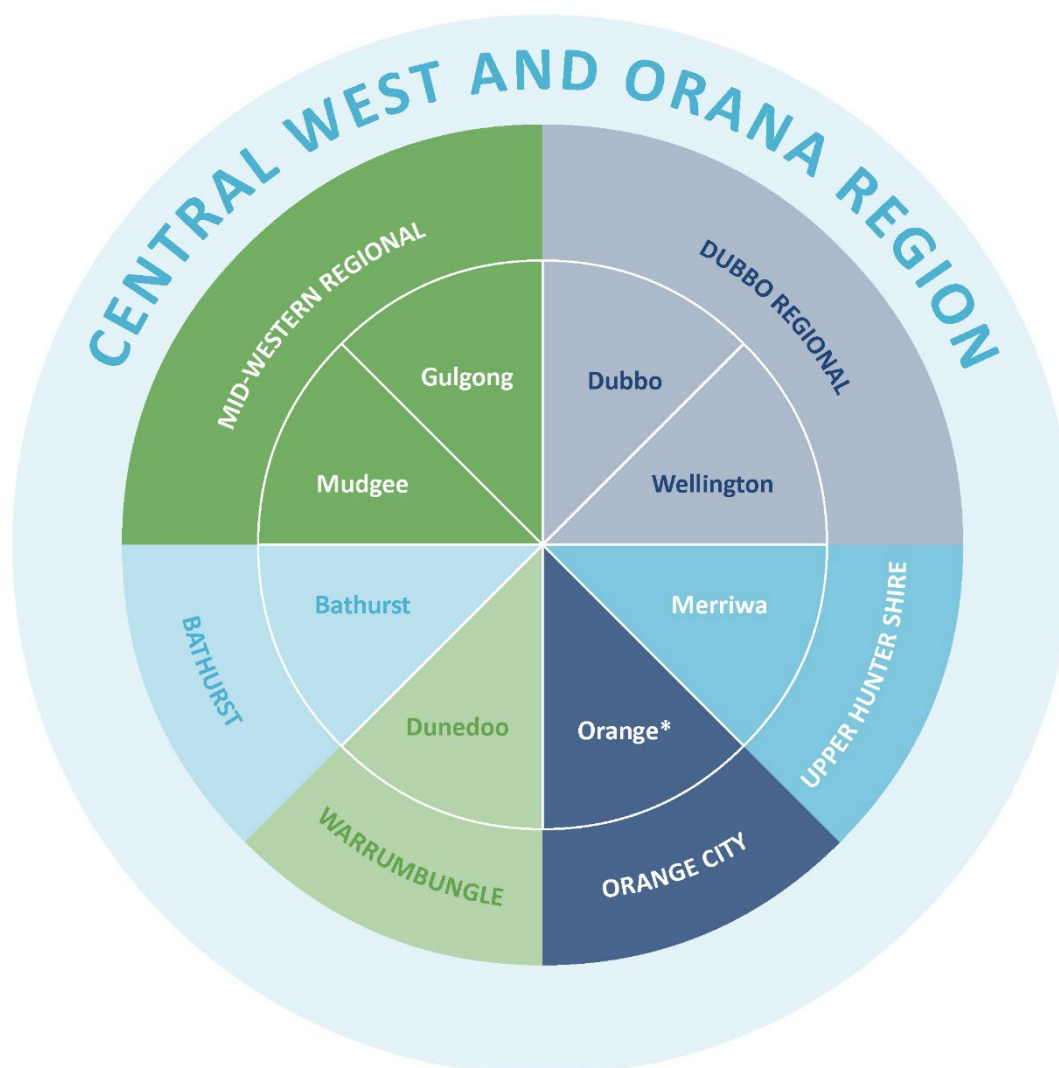


Figure 2.1 Regional Geographical Scales²

¹ Note that Dubbo Regional LGA was established in 2016 through the amalgamation of Wellington LGA and Dubbo LGA, though at the time it was named Western Plains LGA. However, after four months the name was changed to what it is referred to now as Dubbo Regional LGA. Please note, for consistency, this document refers to Dubbo Regional LGA when referring to data after 2016.

² * SAL – Suburb and Locality (SAL) Suburbs and Localities, formerly State Suburbs, are an ABS Mesh Block approximation of the officially recognised boundaries of suburbs (in cities and larger towns) and localities (outside cities and larger towns) as defined by the State and Territory governments of Australia.

Table 2.2 below includes a summary of the components of the social locality considered in this Report.

Table 2.2 Key Components of the Social Locality

Component	Township (with population ³)	Reason for inclusion
the SA1 surrounding the Project	SA 10303107407 (322)	The host SA1 is the smallest geographical unit available to analyse demographic data surrounding the Amended Project. It provides indicative insights into the characteristics of the community likely to experience the highest impacts.
Immediately surrounding transport routes	Golden Highway Castlereagh Highway	These roads will see the largest amount of traffic increase due to project construction activities and operation of the TWA facility.
Proximal (within 60-minute drive) and primary order (population over 10,000 people)	Mudgee (11,547)	These settlements are included because their physical proximity means they are most likely to be impacted by the Amended Project and most likely to provide services or the workforce to support the Amended Project.
Proximal (within 60-minute drive) and secondary order (population between 1,000 and 10,000 people)	Gulgong (2,680) Dunedoo (1,097) Wellington (4,581)	
Neighbouring (between 60- and 120-minute drive) and primary order (population over 10,000 people) (UCL)	Dubbo (40,578) Orange (40,127) Bathurst (36,230)	These settlements are included because their population size means they are likely to serve as higher-order townships with a greater density of businesses, services, infrastructure and workforces likely to be impacted by, and with the potential to benefit from, the Amended Project.
Neighbouring (between 60- and 120-minute drive) and secondary order (population between 1,000 and 10,000 people)	Merriwa (1,040)	This settlement is included because it may provide services or accommodation to support the Amended Project.
Host Local Government Area (LGA)	Mid-Western Regional (25,713)	These LGAs are included as they will provide indications into the economic and social context of the communities affected by the Project.

SUA – Significant Urban Area (SUA) Significant Urban Areas (SUA) are used to output a broad range of ABS social and demographic statistics. They represent towns and cities of 10,000 people or more. SUAs are built of Statistical Areas Level 2 (SA2s). They are defined by Urban Centres from the Urban Centres and Localities (UCLs) geography i.e. a single SUA can represent either a single Urban Centre or a cluster of related Urban Centres.

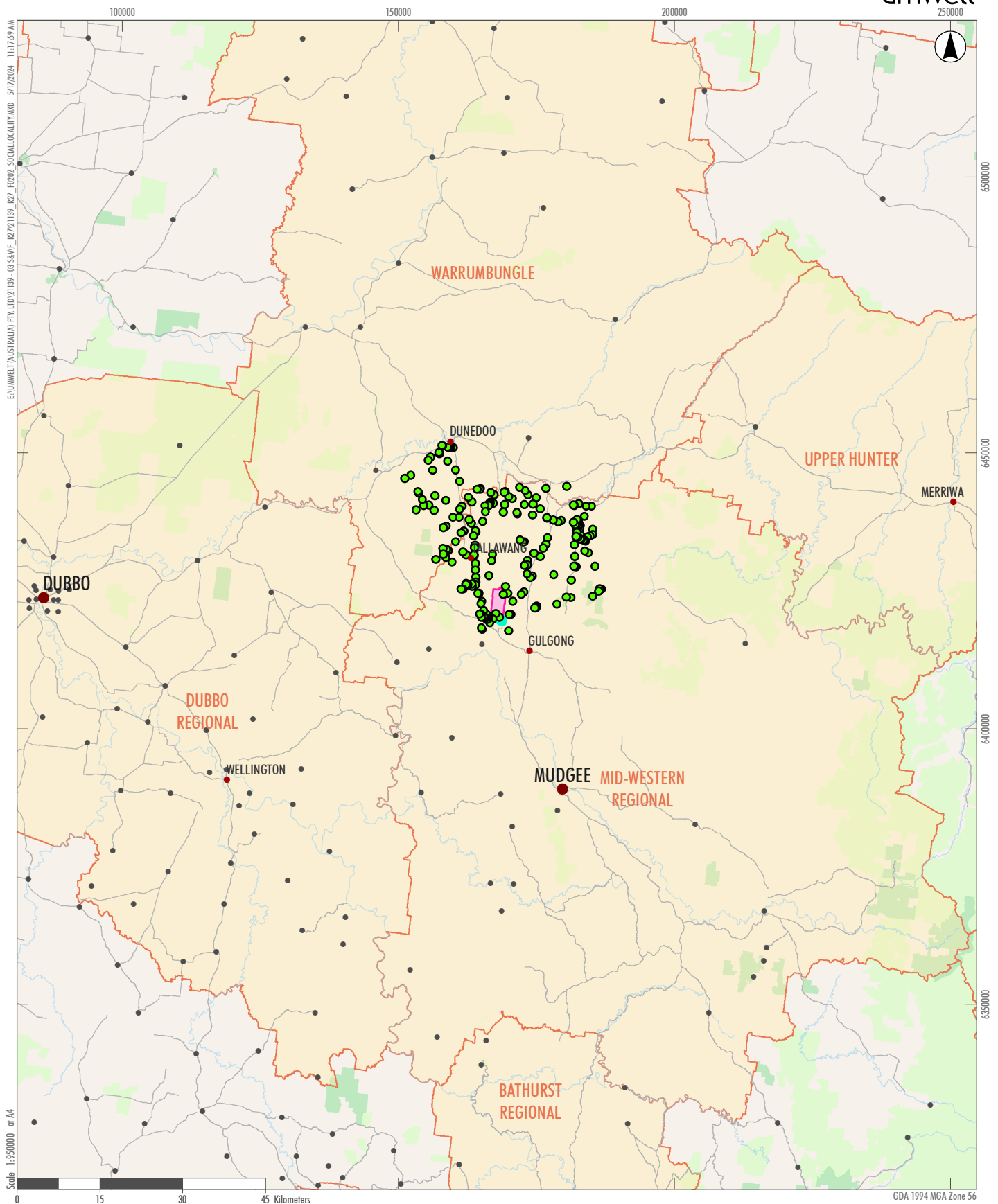
UCL – Urban Centre and Locality - Urban Centres and Localities (UCLs) represent areas of concentrated urban development with populations of 200 people or more. These areas of urban development are primarily identified using dwelling and population density criteria using data from the 2021 Census. UCLs are not an official definition of towns.

* This study considers the town of Orange but does not include the LGA due to its distance to the project sites.

³ ABS (2021)

Component	Township (with population ³)	Reason for inclusion
Neighbouring Local Government Areas	Dubbo Regional (54, 922) Warrumbungle Shire (9,225) Bathurst (43, 567) Upper Hunter Shire (14, 229) Orange (43, 512)	
Proximal projects with the capacity to generate cumulative impacts	Projects shown in Table 3.5 .	These projects are included as they generate cumulative impacts by exacerbating or enhancing the impact of the Amended Project. A broader assessment of cumulative impact is covered in Section 3.5 . There are a number of large renewable energy, mining and infrastructure projects in this locality.

Figure 2.2 represents the social locality visually.



- Legend**
- Tallawang Solar Farm Project Area
 - Local Government Area
 - State Forest
 - National Parks (NPWS Estate)
 - Road
 - Watercourse
 - Temporary Workers Accommodation (TWA)
 - Proximal Dwelling
 - Key Major Township
 - Key Minor Township
 - Village / Locality

FIGURE 2.2
Social Locality

2.2 Community Engagement

RES and Umwelt have facilitated a range of community engagement activities to inform the community and stakeholders of the Amended Project and to gather feedback. The adopted engagement mechanisms were considered to be the most appropriate based on feedback received during past consultation on the Project. Engagement outcomes have informed the updated assessment of social impacts contained within this SIA Addendum Report.

Table 2.3 outlines the community and stakeholder engagement undertaken on the Amended Project, and since the EIS was publicly on exhibition.

Table 2.3 Engagement Mechanisms

Mechanism	Description	Targeted Stakeholders	Timing/ Responsibility	No. of people or groups consulted
Consultation				
Neighbour phone calls	Phone calls to near neighbours to advise them of the TWA facility and to invite them to the community drop-in sessions.	Near neighbours	September 2023 – February 2024	23
Community drop-in sessions	Two community drop-in sessions were hosted by RES in Gulgong to engage with and gather feedback from the broader community. The two events were undertaken at different times each day to capture the availability of the community.	Broader community	15 th & 16 th November 2023	15 th Nov: 17 16 th Nov: 5 Total: 22
Council meetings	RES had a number of meetings with representatives of Mid-Western Regional Council, Warrumbungle Shire and Dubbo Shire Council to share updates on the Project, to gather feedback on the TWA and other project planning components, and to discuss the community drop-in sessions.	Local Council	February 2023 to May 2024	3
Neighbour letters	RES sent letters to eligible property owners inviting them to register for participation in the Neighbour Shared Benefit Scheme.	Neighbours	May 2023	34
Service provider meeting	RES met with a representative of the Mudgee police to discuss public safety and community impact issues associated with the Project.	Local Police	November 2023	1
Emails & phone calls	RES has responded to Project stakeholders on a range of topics including community sponsorships and benefits, partnership agreements, amenity and future procurement opportunities.	Broader community	December 2022 – May 2024	435 emails 42 phone calls

Mechanism	Description	Targeted Stakeholders	Timing/ Responsibility	No. of people or groups consulted
Information Provision				
Media release	Media release of the Project overview and advertisement of the Community Information Sessions in the Gulgong Gossip and Mid-Western Mail as well as radio on 2MG.	Broader community	November 2023 issues of the Gulgong Gossip and Mid-Western Mail 2 nd -15 th November: 2MG	N/A
Project newsletter	Project newsletter with key project updates distributed via mailout and provided to stakeholders at the Community Information Sessions, including invitations to complete an online feedback survey.	Broader Community	November 2023	Sent to 1,835 addresses across Gulgong, Tallawang and Dunedoo
Pop up event	RES hosted a stall at the Gulgong Show for attendees to meet the Project team and learn more about the Project and the changes.	Broader community	16 February 2024	40
Project update - website	RES updated the news page of the project website on the expected timing of the submission of the Amendment Report and Response to Submissions.	Broader community	April 2024	68 users visited the project website in April 2024
Project update - email and website	RES sent an email to the distribution list providing an update on the timing of the submission of the Amendment Report, Response to Submissions, and access changes to TWA facility to protect biodiversity. This update was also added to the news page of the project website.	Broader community	6 May 2024	Sent to 47 email recipients 38 users visited the project website in May (1 st -14 th)

2.3 Social Impact Evaluation

The assessment of social impacts has utilised data from a range of sources to identify and develop a layered picture of the potential impacts arising from the Project. Social impacts associated with the Project have been evaluated by providing a ranking of impacts according to impact characteristics, as defined in the SIA Guideline (DPHI, 2023). Dimensions of social magnitude used to conduct the impact evaluation are outlined in **Table 2.4**.

Table 2.4 Dimensions of Social Magnitude

Dimensions		Details needed to enable assessment
Magnitude	Extent	Who specifically is expected to be affected (directly, indirectly, and/or cumulatively), including any vulnerable people? Which location(s) and people are affected? (e.g. near neighbours, local, regional, future generations).
	Duration	When is the social impact expected to occur? Will it be time-limited (e.g. over particular project phases) or permanent?
	Severity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
	Intensity or importance	How sensitive/vulnerable (or how adaptable/resilient) are affected people to the impact, or (for positive impacts) how important is it to them? This might depend on the value they attach to the matter; whether it is rare/unique or replaceable; the extent to which it is tied to their identity; and their capacity to cope with or adapt to change.
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

Source: SIA Guideline (DPHI, 2023).

To prioritise the identified social impacts, a risk-based framework has been adopted. Traditionally, the technical risk assessment process has not been greatly amenable to the inclusion of social impacts. One key adaptation of the approach is that both technical ratings and stakeholder perceptions of impacts are assessed. This approach is consistent with Sandman's risk equation ($\text{Risk} = \text{Hazard} + \text{Outrage}$) (Sandman, 1993), which acknowledges often low correlations between a risk's technical 'hazard' (how much harm it's likely to do) and its 'outrage' (how upset it's likely to make people).

Stakeholder perception of impact is considered an independent and no less valid component of risk; with stakeholder perceptions often varying between individuals and groups, with no single perception more important than another. However, for the purpose of assessment the most common, or what is judged to be the general perception/sentiment of a stakeholder group has been used as a measure of perceived stakeholder risk or impact.

The integration of the outcomes of technical ranking (severity/scale) with stakeholder perceived ranking of impacts (intensity or importance), thus affords a true integration of expert and local knowledge in SIA and enables both types of risk to be addressed in the development of impact mitigation, amelioration, and enhancement strategies. Such an approach is acknowledged in the SIA Guideline (DPHI, 2023) in relation to estimating material effects.

Prioritising impacts in this integrated manner ensures that appropriate assessment and mitigation strategies can be developed that not only address impacts that may require more technical management, but also those impacts that are perceived by stakeholders as of high importance/concern. These perceived concerns are just as important to manage as they have the potential to result in elevated levels of community concerns, complaints and grievances if not addressed appropriately.

As outlined in **Section 4.0**, a range of social impacts have been identified in relation to the Project, that require prioritisation for assessment and appropriate management and/or enhancement. These impacts relate to several social impact categories and have been informed through community engagement and

consultation. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change, resulting in second order impacts such as impacts on sense of community and service provision.

Section 5.0 provides an evaluation of the significance of each potential negative and positive social impact. The assessment is undertaken using the impact characteristics noted above and through the application of a consequence and likelihood framework, as identified in the SIA Guideline (DPHI, 2023). The social significance matrix (refer to **Table 2.5**), that considers both the magnitude of the potential social impact (minimal, minor, moderate, major and transformational) and the likelihood of the impact occurring (very unlikely, unlikely, possible, likely and almost certain) is then used to determine an overall evaluation of the social impact as 'low', 'medium', 'high' or 'very high'. **Table 2.6** and **Table 2.7** contain further detail regarding magnitude and likelihood classifications.

Table 2.5 Social Impact Significance Matrix

		Magnitude level				
		1	2	3	4	5
Likelihood level		Minimal	Minor	Moderate	Major	Transformational
A	Almost certain	Low	Medium	High	Very High	Very High
B	Likely	Low	Medium	High	High	Very High
C	Possible	Low	Medium	Medium	High	High
D	Unlikely	Low	Low	Medium	Medium	High
E	Very unlikely	Low	Low	Low	Medium	Medium

Source: SIA Guideline (DPHI, 2023).

Table 2.6 Defining Magnitude Levels for Social Impacts

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community.
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area.
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people.
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable.
Minimal	Little noticeable change experienced by people in the locality.

Source: SIA Guideline (DPHI, 2023).

Table 2.7 Defining Likelihood Levels for Social Impacts

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Source: SIA Guideline (DPHI, 2023).

3.0 Updated Social Baseline

The following section documents the updated social baseline to support the assessment of social impacts associated with the Amended Project and in response to the submission by Mid-Western Regional Council. The updated social baseline focuses on key demographic and socio-economic changes which have occurred in the social locality between the 2016 and 2021 census.

3.1 Policy Update

In November 2020, the NSW Government announced its plans to invest \$32 billion into renewable energy over the next decade as part of its *NSW Electricity Infrastructure Roadmap*. The Amended Project is located within the Central-West Orana Renewable Energy Zone (REZ) under the NSW Government's Electricity Strategy (Department of Planning, Industry and Environment, 2019). The Central-West Orana REZ is the State's first pilot REZ and is one of five REZs planned by the NSW Government, with the Central-West Orana REZ attracting over 100 registrations of interest from renewable energy and storage developers, representing 27 GW of new energy generation and storage (Energy NSW, 2020). As such, there are a large number of renewable energy projects proposed within the REZ, at different stages of their development processes and within 100 km of the Amended Project Area.

Since the announcement, the importance of the Central-West Orana REZ has also been recognised in the Australian Energy Market Operator's (AEMO's) 2022 Integrated System Plan (ISP), which highlights the REZ's contribution to NSW's renewable energy targets (and those of the wider National Electricity Market; NEM).

The Department of Planning, Housing and Infrastructure (DPHI) also released the Temporary and Seasonal Workers Draft Guideline in August 2023 (the Guideline) (DPHI, 2023). This guideline acknowledges the importance of providing housing to support growth in regional and rural areas in NSW and aims to balance clarity with flexibility to respond to local housing and planning needs. According to the Guideline, temporary workers' accommodation (TWA) is defined as accommodation that provides "temporary housing for people employed or contracted in various sectors for the life of a project or on a seasonal basis" (DPHI, 2023). The Guideline lists a series of concerns that should be considered during the development of a TWA, one of which are social impacts. According to the Guideline, "the development application should address the potential effects a proposed development may have on the local community. This may include evaluating the impacts on housing affordability, access to essential services, community wellbeing, and social cohesion", and "the social, economic, and environmental impacts of a proposed development should be considered. This can be done using social impact assessments, which are designed to identify, predict, and evaluate the potential social impacts of a development" (DPHI, 2023).

The Guideline was exhibited between August and September 2023, and although still in draft, the proposed TWA facility which forms part of the Amended Project aligns with the new guidance, including:

- The TWA location being within appropriate zone (RU1 Primary Production Zone), providing an appropriate location and design.
- The TWA facility is appropriately sited to minimise land use conflict and impact on the locality as far as practicable.

- The TWA facility is temporary, and the TWA site will be rehabilitated following construction of the Amended Project allowing future and continued use of the land.

3.2 Demographic and Social Profile and Trends

Table 3.1 highlights key demographic factors in the social locality and indicates where the community's demographics or characteristics have changed between 2016 and 2021 census years. Cells coloured light yellow indicate a decrease since the 2016 ABS Census, whilst cells coloured dark yellow indicate an increase since the 2016 ABS Census.

Key implications of the demographic and socio-economic analysis include:

- Mid-Western, Warrumbungle Shire and Upper Hunter LGAs feature older median population ages and substantially higher proportions of the population older than 65, indicating an ageing population. This has implications for labour force participation and access to employees and will impact on need for health and social service infrastructure in the region.
- **All LGAs have lower than NSW-average proportions of people of working age (15 to 64)**, reflective of older populations in some LGAs and higher proportions of children in Dubbo and Mid-Western Regional Council. This has implications for labour force participation.
- IRSD scores indicate that **most LGAs have average levels of low-income, low-qualification and low-skilled households**. Warrumbungle Shire is an exception, exhibiting substantially higher rates of socio-economic disadvantage than other LGAs in the region.
- IEO scores indicate that **Mid-Western Regional, Upper Hunter and Bathurst LGAs have relatively high levels of Economic Resources**, with higher proportions of households earning high incomes and owning their own homes. Warrumbungle Shire has substantially lower IEO scores, indicating higher proportions of households with few economic resources and higher levels of vulnerability to economic shocks.
- **The population of all LGAs grew at rates below the NSW average between 2011 and 2021**, with Warrumbungle Shire's population falling and Upper Hunter stagnating. Similarly, all LGAs except Bathurst are projected to grow at rates below NSW average between 2021 and 2031 with Warrumbungle Shire and Upper Hunter Shire projected to lose population in the next 10 years.
- **Mid-Western and Upper Hunter LGAs feature lower than average IEO scores**, indicating higher proportions of people who have no qualifications, are unemployed or are employed in low-skilled occupations. In contrast, Bathurst has higher than average levels of Education and Occupation outcomes. This has implications for sourcing local employment, with access to highly skilled workers likely to be constrained in Mid-Western and Upper Hunter Shires.
- **All LGAs in the study area have lower levels of university degrees compared to the state average (27.8%)**. All the study areas bar Warrumbungle (24.3%) have over a quarter of their population having a certificate three VET qualification or above. This suggests that the region has a larger proportion of tradespeople, helping to source local workers for the project.
- All LGAs feature higher than average proportions of Indigenous residents, particularly in Dubbo Regional LGA, which has implications for opportunities for Aboriginal participation and employment.

Table 3.1 Regional Profile Overview (2021)

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
Population Demographics						
Population	25,713	54,922	9,225	14,229	43,567	8,072,163
Key townships	Mudgee, Gulgong	Dubbo, Wellington,	Coonabarabran, Dunedoo	Merriwa	Bathurst	-
Median Age	42	36	50	42	38	39
Percentage of population older than 65 years	20.7%	17.3%	28.5%	21.2%	18.4%	17.7%
Percentage of population younger than 15 years	19.8%	21%	16.7%	18.6%	18.7%	18.2%
Percentage of population of working age (15 to 65)	52.5%	61.9%	54.4%	60.4%	62.7%	64.2%
Population growth 2011 to 2021	+3,395 15.21% increase	+7,624 16.11% increase	-363 3.78% decrease	+475 3.45% increase	+5,048 13.10% increase	+ 1,154,505 16.68% increase
Projected population growth 2021 to 2031	+1,842 7.16% increase	+4,045 7.36% increase	-866 9.38% decrease	-475 3.33% decrease	+6,846 15.71% increase	861,477 10.67% increase
Educational Attainment	Bachelor's degree level and above: 2,747 (13.3%)	Bachelor's degree level and above: 7,401 (17%) Advanced Diploma and Diploma level: 3,264 (7.5%)	Bachelor's degree level and above: 785 (10.2%)	Bachelor's degree level and above: 1,387 (12.0%)	Bachelor's degree level and above: 6,717 (19.0%) Advanced Diploma and Diploma level: 2,961 (8.4%)	Bachelor's degree level and above: 1,838,502 (27.8%)

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
	<p>Advanced Diploma and Diploma level: 1,595 (7.7%)</p> <p>Certificate level IV: 973 (24.6%)</p> <p>Year 12/11: 2,916 (14.1%)</p> <p>Year 10 or below: 5,350 (26%)</p> <p>Other: 2,909 (14.2%)</p>	<p>Certificate level IV: 1,849 (20.1%)</p> <p>Year 12/11: 6,609 (15.3%)</p> <p>Year 10 or below: 10,346 (23.8%)</p> <p>Other: 7,082 (20.9%)</p>	<p>Advanced Diploma and Diploma level: 506 (6.6%)</p> <p>Certificate level IV: 247 (17.7%)</p> <p>Year 12/11: 1,098 (14.3%)</p> <p>Year 10 or below: 2,339 (30.5%)</p> <p>Other: 1,586 (20.7%)</p>	<p>Advanced Diploma and Diploma level: 831 (7.2%)</p> <p>Certificate level IV: 502 (23.1%)</p> <p>Year 12/11: 1,824 (15.7%)</p> <p>Year 10 or below: 3,276 (28.3%)</p> <p>Other: 1,589 (13.8%)</p>	<p>Certificate level IV: 1,603 (21.1%)</p> <p>Year 12/11: 4,574 (16.8%)</p> <p>Year 10 or below: 7,543 (21.3%)</p> <p>Other: 4,737 (13.4%)</p>	<p>Advanced Diploma and Diploma level: 616,322 (9.3%)</p> <p>Certificate level IV: 216,768 (15.1%)</p> <p>Year 12/11: 116,7525 (17.7%)</p> <p>Year 10 or below: 1,186,245 (18%)</p> <p>Other: 799,044 (12.1%)</p>
Percentage Aboriginal and Torres Strait Islander (ATSI) population	6.8%	16.6%	10.7%	7.0%	7.2%	3.4%
Traditional Owners	The traditional owners are recognised as the Wiradjuri people.	The traditional owners are recognised as the Wiradjuri people.	The northern part of the shire is home to the Gamilaraay people while the southern part of the shire is home to the Wiradjuri people. The nations of the Weilwan and Kawambarai (Werriri) are within the Shire in the west.	The Wonnarua / Wanaruah people are the traditional owners of lands throughout the Hunter Valley.	The traditional owners are recognised as the Wiradjuri people.	-

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
Index of Education and Occupation ⁴	919 (4 th decile)	944 (6 th decile)	929 (5 th decile)	912 (3 rd decile)	959 (7 th decile)	-
Index of Relative Socio-Economic Disadvantage (IRSD) ⁵	979 (5 th decile)	985 (6 th decile)	927 (2 nd decile)	975 (5 th decile)	991 (7 th decile)	-
Index of Economic Resources (IEO) ⁶	1002 (7 th decile)	988 (6 th decile)	952 (3 rd decile)	999 (7 th decile)	999 (7 th decile)	-

⁴ The Index of Education and Occupation (IEO) is designed to reflect the educational and occupational level of communities. The education variables in this index show either the level of qualification achieved or whether further education is being undertaken. The occupation variables classify the workforce into the major groups and skill levels of the Australian and New Zealand Standard Classification of Occupations (ANZSCO) and the unemployed. A low score indicates relatively lower education and occupation status of people in the area in general. For example, an area could have a low score if there are: many people without qualifications, or many people in low skilled occupations or many people unemployed, AND; few people with a high level of qualifications or in highly skilled occupations.

⁵ The Index of Relative Socio-economic Disadvantage (IRSD) is a general socio-economic index that summarises a range of information about the economic and social conditions of people and households within an area. Unlike the other indexes, this index includes only measures of relative disadvantage. A **low** score indicates relatively greater disadvantage in general. For example, an area could have a low score if there are: many households with low income, many households with no qualifications, many people in low skill occupations

⁶ The Index of Economic Resources (IER) focuses on the financial aspects of relative socio-economic advantage and disadvantage, by summarising variables related to income and wealth. This index excludes education and occupation variables because they are not direct measures of economic resources. A low score indicates a relative lack of access to economic resources in general. For example, an area may have a low score if there are: many households with low income, or many households paying low rent, AND; few households with high income, or few owned homes

3.3 Economic Profile and Trends

Table 3.2 below provides an overview of the regional economy, which highlights low levels of unemployment across the social locality and strong regional specialisations in coal mining and farming. As above, cells coloured light yellow indicate a decrease since the 2016 ABS Census, whilst cells coloured dark yellow indicate an increase since the 2016 ABS Census.

Key implications include:

- Unemployment rates across the LGAs have dropped since 2016.
- Labour force participation rates are higher than the NSW average in Upper Hunter, Mid-Western Regional and Bathurst LGAs.
- Both Mid-Western and Upper Hunter LGAs feature strong employment reliance on mining, indicating a likely familiarity with the energy industry and its impacts including FIFO work.
- Warrumbungle Shire and Upper Hunter LGAs feature largely agrarian industries of employment, in line with sparse populations and emphasis on farming in these areas.
- Dubbo and Bathurst feature industries that most closely reflect NSW average industries, indicative of more diverse economies and higher order service delivery.
- Businesses are generally small, in Bathurst only 0.62% of businesses employ more than five people, while Warrumbungle Shire, Upper Hunter and Mid-Western Regional LGAs are more reflective of the state average (11.3%) at 7.3, 11.1 and 12% respectively. The largest LGA by employment size is by far Dubbo Regional with 30.15% of businesses in the LGA employing more than five people. This has implications for employment and procurement opportunities as large-scale projects often require supply chain partners with sufficient scale to meet project delivery and WH&S and reporting requirements.

Table 3.2 Regional Economy by LGAs (2021)

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
Unemployment rate ⁷	4%	3.6%	6.1%	3.2%	4.0%	4.9%
Top 5 industries by employment	Coal Mining – 17.5% Primary Education – 2.8% Supermarket and grocery Store – 2.6% Aged Care Residential Services – 2.5% Other Social Assistance services – 2.5%	Hospitals (except psychiatric hospitals) - 5.4% Other Social Assistance Services - 3.8% Aged Care Residential Services – 3% Primary Education – 2.8% State Government Administration – 2.4%	Beef Cattle Farming (specialised) - 8.6% Local Government Administration – 4.1% Grain-Sheep or Grain Beef Cattle Farming – 4.0% Combined Primary and Secondary Education – 3.9% Hospitals (except psychiatric hospitals) - 3.7%	Coal Mining – 10.6% Horse farming – 6.3% Beef Cattle Farming (specialised) - 6% Meat Processing – 4% Aged Care Residential Services – 2.8%	Hospitals (except psychiatric hospitals) - 4.2% Other Social Assistance Services – 4% State Government Administration – 3.3% Aged Care Residential Services – 3% Supermarket and Grocery Stores – 2.6%	Hospitals (except psychiatric hospitals) - 4.2% Supermarket and Grocery Stores – 2.5% Other Social assistance Services – 2.45 Computer System design and related Services – 2.3% Aged Care Residential Services – 2.2%

⁷ 2021 ABS Census data

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
Main job types	Technicians and trades workers: 1,998 (17.5%) Professionals: 1,607 (14.1%) Managers: 1,591 (13.9%) Machinery operators and drivers: 1,473 (12.9%) Labourers: 1,298 (11.4%) Community and personal service workers: 1,261 (11%) Clerical and administrative workers: 1,110 (9.7%) Sales workers: 893 (7.8%)	Professionals: 4,648 (18.3%) Community and personal service workers: 3,822 (15.1%) Technicians and trades workers: 3,556 (14%) Clerical and administrative workers: 3,158 (12.4%) Managers: 3,133 (12.3%) Labourers: 2,692 (10.6%) Sales workers: 2,320 (9.1%) Machinery operators and drivers: 1,580 (6.2%)	Managers: 882 (25.9%) Labourers: 526 (15.5%) Professionals: 463 (13.6%) Community and personal service workers: 394 (11.6%) Technicians and trades workers: 353 (10.4%) Clerical and administrative workers: 277 (8.1%) Machinery operators and drivers: 238 (7%) Sales workers: 199 (5.9%)	Technicians and trades workers: 1,152 (17%) Labourers: 1,136 (16.7%) Managers: 1,037 (15.3%) Machinery operators and drivers: 892 (13.1%) Professionals: 825 (12.2%) Community and personal service workers: 631 (9.3%) Clerical and administrative workers: 575 (8.5%) Sales workers: 403 (5.9%)	Professionals: 3,898 (19.1%) Community and Personal service workers: 3,068 (15%) Technicians and trades workers: 2,903 (14.2%) Managers: 2,471 (12.1%) Clerical and administrative workers: 2,426 (11.9%) Labourers: 2,211 (10.8%) Sales workers: 1,755 (8.6%) Machinery operators and drivers: 1,376 (6.7%)	Professionals: 952,131 (25.8%) Managers: 536,820 (14.6%) Clerical and administrative workers: 480,612 (13.0%) Technicians and trades workers: 436,589 (11.9%) Community and personal service workers: 390,779 (10.6%) Labourers: 300,966 (8.2%) Sales workers: 294,889 (8%) Machinery operators and drivers: 222,186 (6%)
Labour force participation rate ⁸	57.8%	60.7%	47.2%	60.5%	60.2%	58.7%

⁸ Labour force participation rates are not available for 2016

	Mid-Western Regional Council	Dubbo Regional Council	Warrumbungle Shire Council	Upper Hunter Shire Council	Bathurst Regional Council	NSW
Number of businesses by business size	Non-employing:1,602 (59.55%) 1-4 Employees: 761 (28.28%) 5-19 Employees: 275 (10.22%) 20 or more: 48 (1.78%) Total: 2,690	Non-employing: 3,006 (58.45%) 1-4 Employees: 1,431 (27.82%) 5-19 Employees: 580 (27.82%) 20 or more: 120 (2.33%) Total: 5,142	Non-employing – 767 (64.89%) 1-4 Employees – 320 (27.07%) 5-19 Employees – 86 (7.27%) 20 or more – 6 (0.5%) Total: 1,182	Non-employing – 1,110 (63.53%) 1-4 Employees – 446 (25.52%) 5-19 Employees- 159 (9.10%) 20 or more – 35 (2.00%) Total: 1,747	Non-employing – 1,981 (54.48%) 1-4 Employees – 1,042 (29.71%) 5-19 Employees- 19 (0.54%) 20 or more - 3 (0.08%) Total: 3,507	Non-employing – 457, 437 (55.94%) 1-4 Employees –267, 701 (32.74%) 5-19 Employees – 72,818 (8.90%) 20 or more – 19,692 (2.40%) Total: 817,648

3.4 Community Facilities and Services

Table 3.3 provides an overview of the facilities and services currently available in the social locality. Dubbo is a significant service centre for the region with communities in neighbouring LGAs often relying on Dubbo for higher-order services and access to facilities.

Table 3.3 Community Facilities and Services by LGA

Infrastructure Type	Dubbo Regional Council	Warrumbungle Shire Council	Mid-Western Shire Council	Upper Hunter Shire Council
Health services	Dubbo Community Health Centre, Dubbo Health Service, Dubbo Aboriginal Medical Service, Dubbo Base Hospital, Dubbo Private Hospital and Lourdes Hospital.	Baradine Health Services, Coolah Health Services Multipurpose Service, Dunedoo Health Services Multi Purpose Service, Coonabarabran health Service, Warrumbungle Medical Centre, Warrumbungle Community Care	Mudgee Health service, Gulgong Multi-Purpose Service, Mudgee hospital	Scott Memorial Hospital, Murrurundi Hospital, Merriwa Multi-Purpose Service
Educational options	Charles Sturt University, University of Sydney School of Rural Health, TAFE Western Dubbo College, Western College, 6 secondary schools, and 16 primary schools.	Warrumbungle Shire has Warrumbungle National Park Environmental Education Centre, 4 central schools servicing grades K-12, 1 high school and 5 primary schools with a mixture of state and catholic schools.	Fifteen primary and secondary schools as well as a TAFE campus	Thirteen primary and secondary schools across the LGA as well as a TAFE campus in Scone.
Key transport Infrastructure	Dubbo City Regional Airport, bus services to major shops and tourist attractions, future Inland Rail freight line, rail line from Sydney.	Trainlink services from Sydney stop at Dunedoo, Coolah, Mendooran, Binnaway, Coonabarabran and Baradine. There are regular bus services running between towns but no services for around the towns.	Mudgee Airport, daily train and bus services	Scone Memorial Airport. Aberdeen is the last stop on the citylink and gets direct rail services from Newcastle daily, buses running between Scone, Aberdeen, Muswellbrook and Denman

Infrastructure Type	Dubbo Regional Council	Warrumbungle Shire Council	Mid-Western Shire Council	Upper Hunter Shire Council
Employment services	Regional Enterprise Development Institute, Sureway Dubbo, REDI.E, Joblink Plus and Job Centre Australia.	APM, Joblink Plus	Sureway Employment and Training, Skillset, APM, Verto	Joblink Plus, APM, Workskill
Cultural and Entertainment facilities	Dubbo Wiradjuri Tourism Centre, 2 theatres, 3 galleries, a museum and Taronga Western Plains Zoo.	6 library branches and swimming pools, tennis courts, 4 CWA branches, various lions and lioness clubs	2 art galleries, 5 museums, 4 library branches	2 art galleries, 5 Museums, 5 library branches, 3 pools
Housing services	Compass Housing, Housing First, Dubbo Community Service Centre, St Vincent's de Paul Housing.	Warrumbungle homelessness and Housing Support Service	Mudgee DCJ Office, Housing Plus	Upper Hunter Homeless Support & Upper Hunter Community Services are both located outside of the LGA in Muswellbrook

Source: (RDA Orana , n.d.; my choice schools, 2023; Warrumbungle Shire Council, 2020; Mid-Western Regional Council, 2022; Upper Hunter Shire Council, n.d.; Dubbo Region, n.d.)

As Gulgong, Dunedoo, and Mudgee are the closest towns to the Project, **Table 3.4** below outlines the key facilities and services available in these three towns.

Table 3.4 Community Facilities and Services in proximal towns

Infrastructure Type	Gulgong	Dunedoo	Mudgee
Health services	Gulgong Multi Purpose Service Gulgong Medical Centre Gulgong Dispensary	Dunedoo Health Services Multi-Purpose Service Dunedoo Memorial Health Service Family Medical Service Dunedoo Pharmacy Dentist	Mudgee Hospital Mudgee Medical Centre Mudgee Multi-Purpose Health Service 2 mental health clinics 7 dentists 5 pharmacies
Educational options	1 pre-school 2 primary schools 1 high school	1 pre-school 2 primary schools 1 high school 1 TAFE	1 pre-school 3 primary schools 1 high school 1 TAFE
Key transport Infrastructure	Gulgong Train Station	Dunedoo Train Station	Mudgee Airport, daily train and bus services from Sydney

Infrastructure Type	Gulgong	Dunedoo	Mudgee
Employment services	-	APM	Sureway APM Joblink Plus
Cultural and Entertainment facilities	1 library 1 museum 2 galleries	1 library	2 libraries 1 museum 2 theatres 3 galleries
Housing services	-	-	Housing Plus
Supermarkets	1 Supa-IGA	1 SPAR	1 Woolworths 1 Coles 1 ALDI
Pubs/Bars	2	1	14

Most notable is the known shortfall of health services across the social locality. **Table 3.5** illustrates the low numbers of GPs and Specialist Practitioners compared to the Australian average.

Table 3.5 Availability of GPs and Specialist Practitioners across the Social Locality

	Mid-Western Regional	Dubbo Regional Council	Warrumbungle Shire	Upper Hunter Shire	Bathurst Regional	Australia
GPs (per 100,000 population)	97.3 (↓23.6%)*	124.3 (↓2.4%)*	64.8 (↓49.1%)*	98.2 (↓22.9%)*	93.9 (↓26.3%)*	127.4
Specialist Practitioners (per 100,000 population)	15.6 (↓89.9%)*	156.7 (↑1.4%)*	0 (↓100%)*	21.0 (↓86.4%)*	87.1 (↓43.7%)*	154.6

Source: PHIDU (2021)

*compared to Australian average

This issue has also been raised by stakeholders throughout community engagement on the Project and, is noted as a concern highlighted in submissions by local councils, and is reflected in data published by the Western NSW Primary Health Network (Primary Health Network Western NSW, 2022).

“It takes a month to get the doctor here and ambulance works on an on-call basis.” – Local police

Further, key implications of the review of health facilities and services include:

- Across the LGAs of Dubbo, Mid-Western Regional, Upper Hunter Shire and Warrumbungle Shire there are a total of 289 hospital beds across seven hospitals. Dubbo Hospital is the largest hospital across the four LGAs, with a significantly higher number of beds. The significance of Dubbo Hospital in the hospital network reflects Dubbo's role as a strategic centre in the region. Mid-Western Regional and Warrumbungle Shire LGAs have hospital services located in their LGAs, however these facilities are small with relatively low number of beds.
- The Western Public Health Network 2022 needs assessment together with the NSW Primary Health District has documented deficits in mental health care, limited access to services, a constrained health workforce and issues with health system coordination and improvement as key concerns in the region. The reports also identify limited access to specialists, after-hours GP services, issues with health professional retention and issues with large travel distances and transport availability to services and unequal distribution of GPs across the region as key concerns for the region (NSW Health, 2022). All areas of the WNSW PHN are experiencing a GP District Workforce Shortage, with the exception of Dubbo (Western NSW Public Health Network, 2022).

3.5 Regional Development Context and Proximal Projects

The Amended Project is located in the CWO-REZ as outlined in **Section 3.1**. While the REZ establishment is a sizable investment with many potential benefits likely to flow to the region, this scale of development will also require large influxes of construction workers which needs consideration from a cumulative social impact perspective. For instance, since the Project's EIS exhibition in late 2022, an additional 17 renewable energy projects have been proposed within the CWO REZ and within a 100km radius of the Project. In addition, the CWO-REZ Transmission Project proposed by EnergyCo is also planned directly to the north.

Table 3.6 summarises the proximal projects, both renewable energy and other, which based on current publicly available information, will have likely overlapping construction timeframes and therefore potential cumulative social effects across the LGA and potentially region wide. The Bowdens Silver Mine Project, while approximately 80 km from the Amended Project, would also likely draw on the town of Mudgee and other township's within the LGA for employment, procurement, and services for its workforce. However, the construction timeframes currently known indicate that there will be no overlap with the Amended Project. Should the construction and/or operations of the Bowdens Silver Mine be delayed, it is probable that there will be overlap in the cumulative workforce impacts on the town of Mudgee as a result.

Based on this information, the assessment of cumulative social matters is contained throughout **Section 4.0**.

Table 3.6 Other Projects with Potential Cumulative Workforce Impact

Project	Description	Potential overlapping workforce (Peak)	Status	Proximity to Project	Likelihood of Cumulative Impact
Barneys Reef Wind Farm – RES	440MW wind farm, up to 65 wind turbines. Construction is expected to commence in Q1 2028, with an anticipated construction phase of approximately 28 months and peak construction during months 7 – 14.	340	In planning – prepare EIS	Adjacent; directly north	<ul style="list-style-type: none"> Impact likely due to proximity to project and construction period overlap
Mavis Solar Farm – Metka - EGN	250MW solar farm with a capacity of 100MW/ 200MWh BESS. Construction expected to commence late 2025, with an 18-month construction period.	200- 250	Request for SEARs	Adjacent directly south	<ul style="list-style-type: none"> Impact likely due to proximity to project and potential for construction period overlap
Bellambi Heights BESS – Vena Energy	204 MW per stage or up to 408 MW in one stage. Revised in 2023 to remove the solar farm and only retain the BESS. Construction may be undertaken in either one or two stages. Construction in a single stage will take 13 – 20 months. If constructed in two stages, the first stage construction period will be 13 – 18 months, followed by a second construction period of 12 – 15 months (commencing approximately 6 – 12 months later). Employment generation would include approximately 80-100 people for battery per stage, over approx. 9-14 months. Construction expected to commence in 2025.	100	Planning Approved	Adjacent; directly south	<ul style="list-style-type: none"> Impact likely due to close proximity and likelihood of some construction timing overlap. Construction timing not known. Assumed that there will be some overlap due to proximity.
Central West Orana REZ Transmission Project – EnergyCo	Study corridor runs to the north of the Project, where the connection to the REZ infrastructure is planned. Peak workforce of 650, with a construction period of 36 months in late 2024. Project will take approximately 3 years to construct, with initial operations commencing as early as mid-2027.	650	Currently under assessment Amendment Report submitted March 2024	Directly north	<ul style="list-style-type: none"> Impact likely due to proximity of the project, overlapping construction timelines
Valley of the Winds Wind Farm – UPC\AC Renewables	800 MW wind farm, up to 175 wind turbines with up to 400 workers during peak construction. Peak workforce of 400, construction period expected to be between 24-42 months. Construction expected to commence in late 2024.	400	In Planning – Under Assessment Amendment report lodged October 2023	39 km north-northeast	<ul style="list-style-type: none"> Impact likely due to the proximity of the project and potential overlapping construction timelines.
Birriwa Solar Farm and Battery Project - ACEN Australia	600 MW solar farm with 1000MW BESS. Peak workforce of 800, with a construction timeframe of 28 months. Construction expected to commence in late 2024.	800	Currently in the further assessment required stage, post Response to Submissions	15 km northeast	<ul style="list-style-type: none"> Impact likely due to the proximity to the project and potential overlapping construction timelines.
Spicers Creek Wind Farm - Squadron Energy	Up to 117 wind turbines with a capacity of 700MW. Construction timeframe of 40 months, with construction to commence within 1 – 5 years of development consent. Construction is not expected to commence until at least Q1 2025.	840	Currently in the further assessment required stage, post Response to Submissions	38 km west	<ul style="list-style-type: none"> Impact likely due to proximity to the project and potential overlapping construction timelines.

Source: Umwelt, 2024

The total potentially overlapping workforce from other projects is 3,380 workers.

Figure 3.1 below illustrates the degree to which the construction periods of the above projects overlap with the construction period of Tallawang Solar Farm. Where a project has an estimated time range for its construction period in **Table 3.6**, the upper limit of that range is used to present a ‘worst case’ scenario. It can be seen then that there are between two and five other projects with construction periods overlapping with the Amended Project at any one time.

Figure 3.2 illustrates the average cumulative workforces for all projects in **Table 3.6** by month. Adding the peak workforces for all potentially overlapping projects together with the workforce of the Amended Project (including the construction workforce and TWA Facility operational workforce) results in a total cumulative workforce of 3,820 workers. For the purposes of the chart, each project’s ‘average’ workforce is calculated by dividing their peak construction workforce by the number of months in their construction period. Given that projects’ workforces would not be evenly distributed across their construction period, this figure is only indicative of the time periods in which the region around the Amended Project would expect to see peak cumulative workforces. There is potentially a peak cumulative workforce period during the first four months of the Tallawang Solar Farm’s construction period (from October 2026 to January 2027), and a secondary peak from January to March 2028.

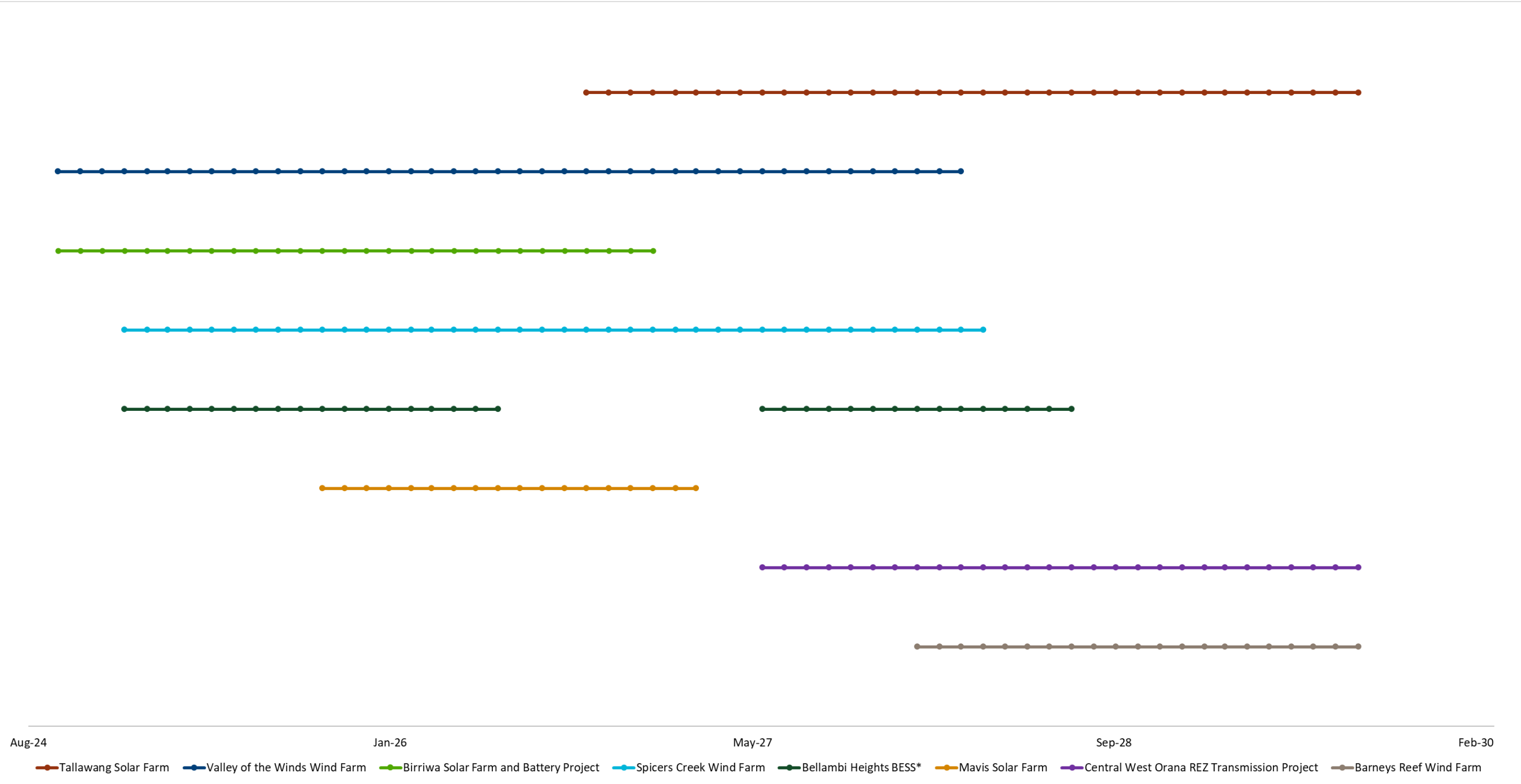


Figure 3.1 Overlapping Construction Timeframes of Proximal Projects with Potential Cumulative Workforce Impacts

Source: Umwelt, 2024
 *the two-stage construction approach is used for Bellambi Heights BESS.

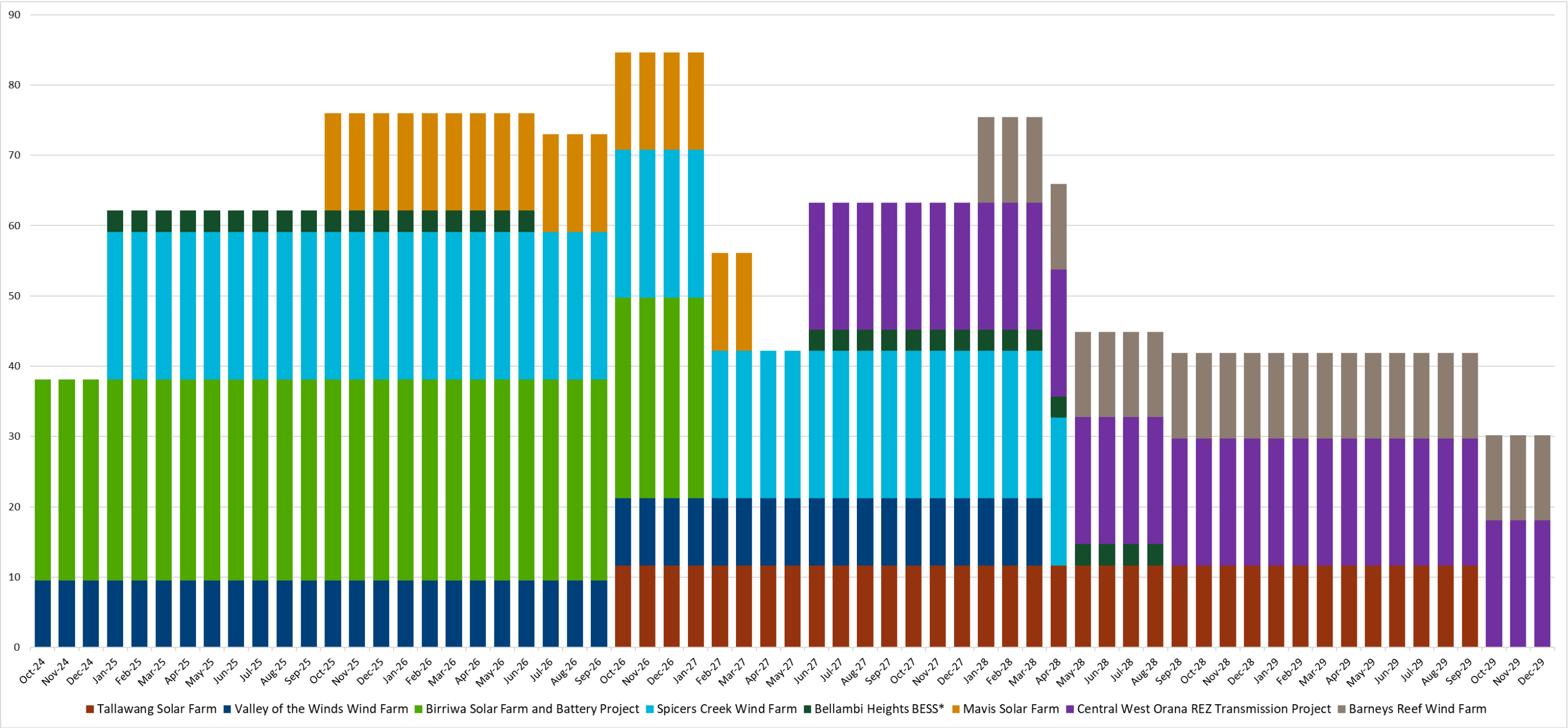


Figure 3.2 Average Cumulative Workforce by Month

Source: Umwelt, 2024

*the two-stage construction approach is used for Bellambi Heights BESS.

4.0 Updated Social Impact Assessment

This section provides an update to the assessment of social impacts based on the Amended Project. It considers both new or changed social impacts as a result of the proposed TWA facility and other Project changes, as well as discussion on the social impacts that are ongoing or recurring as significant impacts for the community as raised in recent community engagement.

4.1 Population Change

This section considers the potential impact of cumulative population change, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that a population change of greater than 5% in a local area is likely to result in a significant impact being experienced by the host population.

Changes to population are a fundamental impact within SIA, given that the size, composition, and behaviours of a community are underpinned by its population and characteristics. Population change (influx and outflux) is usually described as a first-order social impact which has the potential to create second-order social impacts, such as impacts on community infrastructure and services, changes in sense of community, sense of place, social cohesion, and community networks and so forth.

The Amended Project will generate around 380 full time equivalent (FTE) jobs during construction (with a peak of 420 onsite workers), and 10 full time staff during operation and maintenance phases. In addition, construction of the TWA facility will require a workforce of 20 to 25 workers over an 8-week period at the start of the 36-month construction period anticipated for the solar farm. Once constructed, ongoing operation of the TWA facility will require approximately 20 staff for the duration of Amended Project construction.

Key jobs during construction will include operators, project managers, mechanical management, labourers, installation experts and technicians. Pending approval, the construction period is expected to commence in late 2026, with a 36-month construction period from Q4 2026 to Q4 2029. Refer to **Figure 4.1** for a histogram of the anticipated construction workforce across the estimated period.

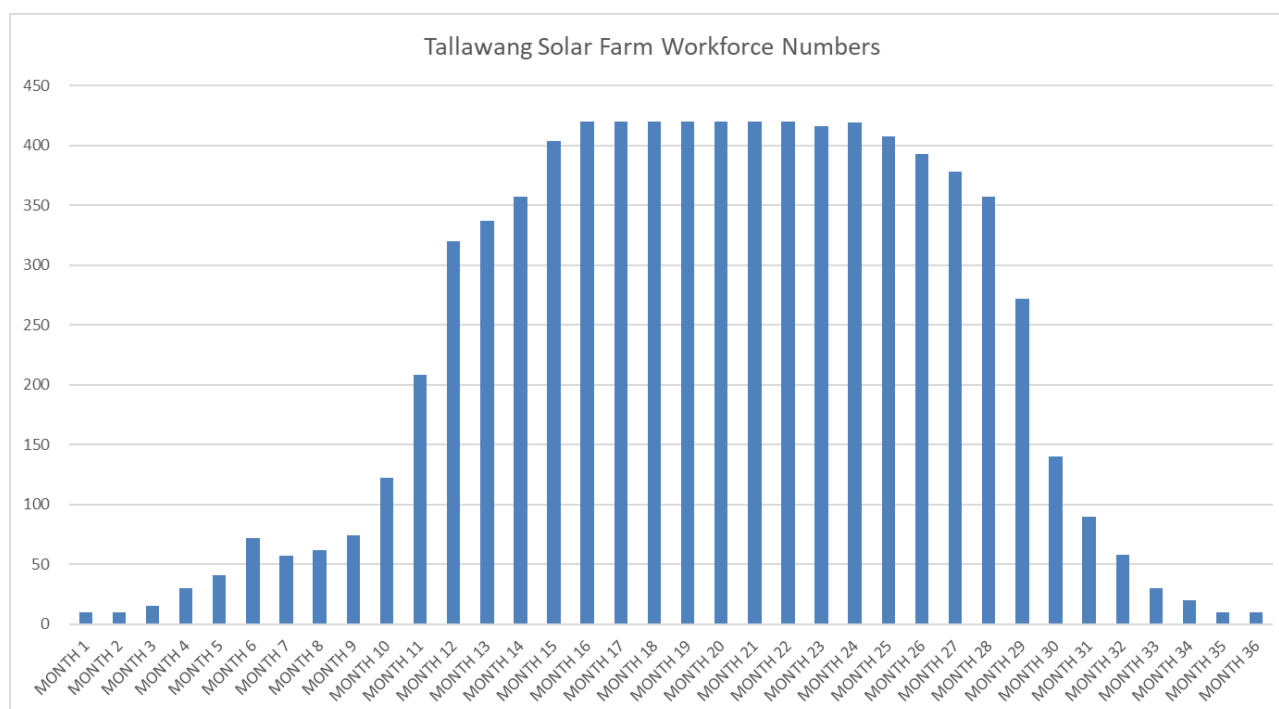


Figure 4.1 Construction Workforce Histogram (Q4 2026 to Q4 2029)

Source: Provided by RES

The maximum on-site workforce at any time is anticipated to peak at approximately 420 workers, plus the 20 operational workers for the TWA facility.

4.1.1 Scenario Development and Analysis

To evaluate the potential population change that the Project may contribute to, two scenarios have been developed, based on the degree to which the Project workforce may be sourced from the local labour pool.

The two scenarios are defined below:

- **High** – the most conservative scenario; this assumes that 5% of the workforce may be sourced locally, and therefore 95% of the workforce would migrate in.
- **Low** – an aspirational scenario; this assumes that up to 20% of the workforce may be sourced locally, and therefore 80% of the workforce would migrate in.

The high scenario is understood to be most probable outcome for the Project in terms of realising local employment and the subsequent changes to the broader community, with the low scenario considered aspirational and requiring proactive and targeted effort by RES to increase the likely proportion of locally based people to be employed by the Project. Based on this, the high scenario is the assumption adopted in the Project's Accommodation and Employment Strategy (AES) (Umwelt, 2024) and as further outlined in **Section 4.6** of this Report.

Using these two scenarios, two analyses have been conducted, with the first considering the total workforce of the Amended Project only (440 workers, including both the construction workforce and the TWA Facility operational workforce), and the second accounting for the workforce of the Amended Project plus those of other proximal projects identified with potentially overlapping construction timeframes (as

per **Table 3.6**). Through consideration of these other projects, it is assumed that the probable population influx, while temporary, during the construction phase of the Amended Project, would total approximately 3,820 workers in the region. This figure is based on peak construction workforce numbers and hence is considered the ‘worst case’ scenario for proponents and government to jointly and effectively manage.

Further, within each analysis, a population change prediction is determined for both the Project’s host LGA and for the wider social locality. **Table 4.1** and **Table 4.2** below display the outcomes of these analyses.

Table 4.1 Projected Population Change Due to Amended Project

	Mid-Western Regional LGA	Social Locality
Existing population	25,713	191,168
Workforce ⁹	440	440
High Scenario (95% workforce influx)		
Population Influx	418	418
Population Change %	1.6%	0.2%
Low Scenario (80% workforce influx)		
Population Influx	352	352
Population Change %	1.4%	0.2%

Table 4.2 Projected Population Change Due to Amended Project and Cumulative Workforce

	Mid-Western Regional LGA	Social Locality
Existing population	25,713	191,168
Workforce ¹⁰	3,820	3,820
High Scenario (95% workforce influx)		
Population Influx	3,629	3,629
Population Change %	14.1%	1.9%
Low Scenario (80% workforce influx)		
Population Influx	3,056	3,056
Population Change %	11.9%	1.6%

It can be seen from **Table 4.1** that the population change under both scenarios likely to be caused by the Amended Project when considered individually, fall under Burdge’s population change threshold of 5%. Therefore, it is not expected that either Mid-Western Regional LGA or the wider social locality would experience significant change to its population as a result of Amended Project when considered individually.

However when considering the population change likely to be caused by the cumulative workforce due to the number of potentially overlapping and nearby projects in **Table 4.2**, it is evident that significant changes to the Mid-Western Regional LGA population are possible, with the analysis predicting an 11.9-14.1% temporary growth in the Mid-Western Regional LGA’s population during the years of 2027, 2028 and 2029, should these projects all be approved and maintain their proposed construction timeframes, and should all

⁹ This is the sum of the Amended Project’s construction workforce (420 workers) and the operational workforce for the TWA Facility (20 workers).

¹⁰ This is the sum of the Amended Project’s construction workforce (420 workers), the operational workforce for the TWA Facility (20 workers), and the cumulative workforce from other projects (3,380 workers).

workforces reside within the Mid-Western Regional LGA. When considered across the social locality as a whole, the findings show that the level of population change across the social locality is not considered significant at a predicted 1.9% for these years.

Thus, when considered cumulatively, the population change to be experienced across the Mid-Western Regional LGA is considered very high in possible impact due to the proportion of nearby projects with overlapping construction timeframes to that of the Amended Project. It is noted however that it is unlikely that all of the proposed Projects will be approved for development, and the likelihood of construction timeframes shifting of the proportion which are approved is also possible. It is also unlikely that all project workforces would reside within the Mid-Western Regional LGA. Based on these variables, the estimated cumulative population change for the social locality may reduce, or increase, depending on the actuality of the various projects proceeding and where their respective workforces are accommodated. Nevertheless, proactive collaboration with other proponents, NSW Government and Council would aid in developing coordinated strategies to mitigate the likely large-scale cumulative population change and any associated social impacts as a result of the temporary population influx.

The following sections discuss the identified social impacts associated with the cumulative population change as they relate to the Tallawang Solar Farm.

4.2 Accessibility

Impacts on accessibility refers to changes in how people access and use infrastructure, services and facilities in their communities. A range of social impacts related to accessibility are relevant here, including impacts upon housing and accommodation, local service provision and road infrastructure.

4.2.1 Reduced Strain on Local Accommodation and Housing

As considered in the ‘high’ population modelling scenario in the previous section, and based on stakeholder consultation as well as the regional labour market capacity assessment undertaken as part of the Project’s AES, an employment target of at least 5% of the peak labour force (i.e. 21 people) from the social locality is deemed feasible (Umwelt, 2024). Therefore, the Project would require a maximum of 400 beds of accommodation required at the peak of construction (around Month 16 to Month 24) and approximately 380 beds required for 1 to 2 months either side of that period, to house the non-local workforce.

Assessment undertaken as part of the AES (Umwelt, 2024) identified a lack of existing short term accommodation and rental housing within a 1-hour drive of the Amended Project to host this large number of anticipated non-resident workers due to the cumulative impact of other concurrent large-scale projects proposed across the region, in addition to the existing demand from tourism, mining and agricultural sectors that utilise, and rely on, short-stay accommodation in both the LGA and regionally.

Table 4.3, Table 4.4, and Table 4.5 show the current availability of short-term accommodation (hotels/motels), Airbnb properties, and rental accommodation in the social locality. With only 71 short-term accommodation rooms, 17 Airbnb rooms, and 8 rental properties available, it is evident that there is limited access to short-term and rental accommodation in the area.

Table 4.3 Short-Term Accommodation Availability

	Distance from site (time/km)	Number of service providers	Number of rooms	Number of rooms @ 80% occupancy ¹¹	Number of rooms available to the Project ¹²
Mudgee	45min/ 51.8km	94	1,033	207	20
Wellington	1hr7min/ 70km	7	105	21	2
Gulgong	21min/ 20.9km	4	70	14	1
Dubbo	1hr8min/ 97km	61	1,858	372	37
Dunedoo	48 min/ 44km	10	46	10	1
Total		176	3,112	467	71

Source: (Australian Accommodation Monitor, 2022)

Table 4.4 Airbnb Rooms Available as of December 2023

Location	Number of rooms	Number of Rooms @ 80% occupancy	Number of rooms available to the Project
Dubbo and Region	195	39	4
Mudgee and Region	630	126	13
Total	789	158	17

Source: Airbnb, 2023

Table 4.5 Rental Housing Availability

Location (State Suburb, SSC)	Number of dwellings	Rental Stock Available	Stock available to the project (up to 2%)	Vacancy Rate
Dubbo	17,465	229	5	1.21%
Wellington	3,890	8	0	0.4%
Mudgee	5,382	121	3	2.25%
Gulgong	1,117	10	0	0.8%
Dunedoo	550	3	0	0.43%
TOTAL	28,404	371	8	

Source: (Real Estate Investar, 2021)

Stakeholder engagement undertaken since the Project's EIS submission has highlighted concerns that incoming workforces for proximal projects are already contributing to the increase in rental prices to unsustainable levels in the social locality, while short-term commercial accommodation availability is consistently low. Mid-Western Regional Council has explicitly communicated a desire to see no short-term

¹¹ A conservative estimate of 80% occupancy rates across Airbnb and hotel and motel accommodation is used based on average occupancy rates from data supplied by Dubbo Regional Council and Mid-Western Regional Council, therefore assuming 20% of total stock is available to incoming workforces.

¹² Assumes no more than 10% of rooms likely to be available to the Project on any given night could be accessed by RES without restricting accommodation supply for other users, especially given the presence of multiple other concurrent projects in the region.

accommodation in the LGA used by construction workforces associated with the Amended Project to avoid detrimental impacts on the existing tourism industry in particular and visitation numbers.

Due to these existing conditions, RES's proposed 400-bed onsite TWA facility would house the majority of the required construction workforce which would largely mitigate these concerns. Given that approximately 5% of the peak workforce (or 21 people) are expected to be sourced from the social locality, it is assumed that the remaining 399 non-local workers would be housed in the TWA facility, thus removing the need to use existing short-term accommodation or housing.

As a result, the Amended Project is unlikely to cause additional pressure or strain on the local accommodation market or private rental housing stock and therefore is no longer understood to cause accessibility issues for other population groups in need of housing, or other users of the short-stay accommodation market across the LGA as well as region-wide.

Note however that the TWA facility itself will require a construction workforce of 20 to 25 workers for a period of around 8 weeks. It is recommended then for RES to work closely with local accommodation providers to accommodate these workers for this initial period.

While housing the Amended Project workforce in the TWA would alleviate the strain on short-term accommodation, the cumulative social impacts of multiple projects developing their own TWAs, particularly when numerous workforce camps are established within proximity to one another, or nearby to homes across the landscape. This should also be considered, with some stakeholders expressing a desire for more collaboration between renewable energy proponents to tackle the shared issue of workforce accommodation more effectively.

“Every project is offering its own campsite but that’s hard for people in the area... Could a proponent take leadership and collaborate with other proponents to solve accommodation camps. LSbp is setting up training facility in Wellington – would be better if proponents talked about workforce together.” – State government representative

Open communication and collaboration with Council, EnergyCo, and other project proponents to approach the workforce accommodation requirements of the energy transition in a coordinated manner, and to potentially reduce the number of individual workforce camps required are potential pathways to mitigating these cumulative impacts.

There is also the potential for the TWA facility to provide long-term benefit following construction of the Amended Project. As an alternative option to decommissioning, RES may seek to collaborate with other proponents, the NSW Government and Council to explore potential re-purposing models of the TWA facility and its associated infrastructure, including consideration of adapting the infrastructure for community use to support local housing provision for other population groups, or to re-purpose as other community facilities.

4.2.2 Reduced Strain on Local Health Services

While it is recognised that there is limited access to GPs and health specialists across the social locality, and the anticipated increase in population of up to 420 people for a period of 20 months could place additional pressure on health services in the region, it is understood that the Amended Project will provide health

facilities and services to its workforce to minimise the effect of the Project on local health service provision. This includes:

- A first-aid station.
- An onsite registered nurse.
- GP services via telehealth.

The registered nurse on site and/or facilitated access to GP via telehealth services would be used on an as needs basis to triage health concerns and referring to external health providers if needed (via telehealth services). The nurse would be responsible for the ordering and/or administering medication as well as write pharmaceutical prescriptions if needed. Efforts should be made to ensure that the first aid station is appropriately stocked and staffed throughout the construction phase.

These proposed facilities and services as part of the TWA facility have considered existing research which suggests that non-resident workforces tend to access GPs at a similar rate to the general population and access the emergency department at higher rates than the general population. Further, they may lead to more complex caseloads as doctors are not familiar with individuals and often experience limited sharing of patient records (Australian Healthcare and Hospitals Association, 2019).

In the unlikely event of an emergency, onsite workers or patients would be transported to the region's existing Emergency Departments, being the newly developed Mudgee Hospital and secondly, the Dubbo Base Hospital. A Construction Management Plan will be developed to detail the onsite emergency response protocols.

Based on this, it is not expected that the Amended Project and its associated workforce would place additional significant strain on the existing health services across the region.

4.2.3 Increased Pressure on Police Services

As raised by stakeholders during engagement relates to access to policing services due to the Project's workforce and the broader influx of the population across the region. Engagement with the local police service and community members identified the potential for the Project workforce to cause an increase in anti-social behaviour (including due to alcohol) and decreased road safety due to fatigue or speeding as significant concerns associated with the incoming temporary workforce (impacts on community cohesion are further contained in **Section 4.4.1**, and impacts to road safety described further in **Section 4.7.4**). Based on feedback from local emergency services and other community stakeholders, it is understood that anti-social behaviour and the potential for the increase in crime or decrease in public safety in proximal towns is based on recent experiences with other solar farm construction workforces as well as from past experiences with other sectors and transient workers residing and recreating in local towns.

"Concern that workers might do hunting/spotlighting without permission" – Nearby resident

"Worker behaviour/nuisance. Irish backpackers as workers have previously caused issues in town. Increases in assaults in camps and in town." – Local police

“Concern will be overall safety and security; I have two houses on the highway. Security is something that needs to be considered. People shouldn’t be wondering around on peoples blocks surrounding the area.” – Nearby resident

The capacity for existing services to respond to these issues if and when they arise is likely to be exacerbated by the concurrent construction of proximal projects and associated cumulative population influx as described in the population change modelling in **Section 4.1** above.

“It’s a capacity issue. Mudgee police only have 1 car and Gulgong doesn’t have 24/7 staffing – driving to Gulgong takes away resources for Mudgee” – Local police

“Police can’t pre-emptively request more staff based on forecast temporary populations, need to wait for rising crime stats and then might get an officer” – Local police

Engagement with the local police revealed some suggested strategies for reducing the potential for crime or anti-social behaviour as a result of the visiting workforce, by taking measures to limit the impacts of alcohol and drugs as well as introducing policies encouraging good behaviour. Employing security services on site to mitigate the need for a police response was also suggested. Local police also raised the potential to engage with the workers around safe driving practices, as they do with mine workers in their catchment.

“Suggest a dry camp and drug and alcohol testing on site.” – Local police

“Worker behaviour and training – good behaviour policy and onsite training and toolbox talks.” – Local police

“Employ security services for the site – in NSW, security services are the first response in most cases, then police after that.” – Local police

“Police work with mines on driver behaviour, fatigue and speeding training. Could be something similar.” – Local police

The ongoing management and operation of the TWA facility would consider the safety of the workforce and nearby residents. As an extension of the workplace, codes of conduct and acceptable behaviour will be strictly adhered to and overseen by the operational contractor to the TWA facility and EPC Contractor. Any consumption of alcohol will be controlled, and should alcohol be available at the facility, responsible service of alcohol requirements will apply within designated social areas with set operating times to ensure the wellbeing of employees is appropriately managed. Further, the TWA facility and Amended Project proposed to provide security through security personnel available on site 24/7 to ensure the safety and conduct of workers and the surrounding community.

Based on the Amended Project plans, local policing is unlikely to be strained due to the accommodation of the workers onsite and the existing workforce management and security plans. The increase in pressure on local police would likely be experienced cumulatively in nature due to the numerous large-scale projects in development across the social locality and would require a whole-of-region approach in collaboration with Council, EnergyCo, and other key stakeholders.

4.2.4 Increased Pressure on Emergency Fire Services

Concern relating to the capacity of existing emergency services such as the NSW Rural Fire Service (RFS) and the cumulative impact of multiple projects were also raised during stakeholder and community consultation. Multiple stakeholders raised concerns about fire risk and emergency access associated with solar farm development in the region, linking this to additional pressure on RFS volunteers already responding to fires in the social locality.

“The RFS is already busy.” – Community member

“How will helicopters and fire fighters get in with all this infrastructure surrounding us?” – Nearby resident

“(Beryl Solar Farm) – they couldn’t mow the grass so the fire spread.” – Local police

“(Powerlines) will wear out and they will catch on fire.” – Nearby resident

Community suggestions to alleviate the strain on local emergency services included the Project having its own on-site emergency equipment, and also involving local police and RFS in emergency response planning.

“RES should get their own on-site fire truck.” – Community member

“Recommended involving police and RFS in practice/role playing of various emergencies.” – Local police

The Amended Project’s Bushfire Threat Assessment (Umwelt, 2024) has assessed the impact of the TWA facility, which concludes that the TWA facility will not increase the potential for, or the severity of bushfires. However, the accommodation of construction staff at the TWA facility requires consideration from a bushfire management perspective. There is also risk of onsite activities igniting fire during both construction and operation. Implementing appropriate bushfire protections measures (such as the inclusion of an Asset Protection Zone (APZ), water tanks for firefighting purposes) can effectively avoid the risk of onsite activities igniting fire during both construction and operation.

With the implementation of a Bush Fire Emergency Management Plan specifically for the TWA facility, in consultation with the RFS, it is considered that potential bushfire risk associated with the TWA facility can be appropriately managed (Umwelt, 2024).

Furthermore, Umwelt also conducted a Preliminary Hazard Analysis (Umwelt, 2024) to provide an updated assessment of hazards and risks associated with the Amended Project, including the increase of the BESS capacity and the introduction of the TWA facility. The assessment concluded that the increased BESS capacity and the location of the DC Coupled Battery Station has the potential for off-site impacts should an incident occur with a battery storage unit located adjacent to the Amended Project boundary. It is recommended this is addressed through the preparation of site-specific plans and procedures, preparation of the Fire Management Plan (FMP) and preparation of the Emergency Response Plan for the Amended Project.

There is also the potential for adverse impacts on first responders attending a hazard event. This will be addressed through RES's commitment to the development and documentation of the site-specific plans and procedures designed to manage the residual risk presented by the Amended Project. Emergency Response Management plans should also be shared with local emergency services prior to establishment of the TWA facility.

4.3 Health and Wellbeing

Health and wellbeing includes peoples' physical and mental health and psychological stress resulting from pressures or changes in their environment.

4.3.1 Impacts on Mental Health

Some community members have raised the mental health effects that the Amended Project has caused, or is causing, due to the personal stress and uncertainty associated with the solar farm development.

"Mental toll of this change." – Community member

"This project has impacted my family and my mental health." – Nearby resident

The increased strain and perceived damage to people's sense of place and community belonging due to the presence of and anticipation of multiple proximal projects is understood to be both due to the Amended Project individually as well as cumulative in nature.

Impacts on mental health and wellbeing for nearby residents is also linked to disruption or threat to place, and this can lead to adverse health and wellbeing, psychological trauma, and reduced social cohesion (Devine-Wright, 2009; Breth-Peterson, Garay, Clancy, Dickson & Angelo, 2023). Research suggests that this is compounded in agricultural, rural and regional landscapes, and given the cultural and emotional attachment that manifests around the natural environment, threats of altering this landscape may result in greater anxiety among nearby residents or those who enjoy the landscape (Marshall, Adger, Benham et al., 2019; Benham, 2016; McManus, Albrecht & Graham, 2014).

Although the TWA facility is expected to alleviate demand on local health services, there is potential for the Amended Project (along with the cumulative impacts of other nearby projects) to result in an increase in demand for mental health services from the local community. This impact is exacerbated given the low availability of specialist health practitioners (including mental health professionals) in the region (see **Section 3.4**).

The potentially negative impacts to community members' mental health as a result of uncertainty surrounding the Amended Project may be mitigated by the provision of consistent, transparent and proactive information and active consultation with stakeholders throughout Project development. The development of a Community Stakeholder and Engagement Plan (CSEP) will also facilitate effective engagement, and appropriate resourcing for effective community engagement regarding the Amended Project may be ensured by considering employment of a Community Liaison Officer.

The cumulative impacts with other projects may be addressed through proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to address these cumulative social impacts.

4.3.2 Impacts on Workforce Health and Wellbeing

There are also potential health and wellbeing impacts for the workers who are proposed to reside in the TWA facility including:

- possible feelings of isolation and loneliness due to being away from their families and social networks
- inadequate sleep and fatigue due to noise
- uncomfortable beds or irregular work schedules
- physical health risks due to working physically demanding jobs
- physical safety risks due to residing in close proximity to a large-scale construction site and solar panels.

While the provision of onsite medical care is described in **Section 4.2.2**, the TWA facility is also planned to include recreational facilities such as a gymnasium, beer garden, bar area, and BBQ facilities to alleviate some of workforce wellbeing matters described above. The provision of mobile phone and internet reception is also crucial to ensure that workers can remain in contact with their family and friends at home. It is also recommended for RES to take steps in supporting mental health by providing access to an Employee Assistance Program or similar confidential counselling service, and by providing workforce education programs around mental health.

While it is intended that the TWA facility will have a wet mess (serves alcohol), which may improve morale, it is intended that there will be restrictions with regards to alcohol consumption (see **Section 4.2.3**) which may mitigate any alcohol-related safety or health and wellbeing risks. Further, as the construction workforce is temporary, and intended to operate on a roster, it is recognised that these impacts will be short-term in nature. Additionally, the relative proximity of the TWA facility to towns will aid in enabling workers to access local services and facilities and to integrate within the community outside of the individual's shift. It is anticipated that workers may choose to have meals or recreate in Gulgong, Mudgee or Dunedoo as the closest towns to the Amended Project as well as to access community facilities and commercial or retail services on an as needs basis. Encouraging workers to have safe, responsible and respectful interactions and participation in host communities will aid in improving the physical and mental health and wellbeing outcomes for workers onsite and may also aid in the building of stronger intercommunal relations between the existing community and the temporary workforce.

Lastly, the risks of the workforce residing in close proximity to an active large-scale construction site and solar panels may be mitigated by establishing emergency preparedness protocols and ensuring that the resident workforce is familiar with them, implementing safety training as part of the worker onboarding process, and collaboration with local emergency services and council as needed to ensure safety for both onsite workers and nearby residents.

4.4 Community and Way of Life

Potential impacts to community and way of life may include changes to how people live, work, and play within their communities and any changes in community composition, cohesion, character, function, resilience, and sense of place because of a project.

Concerns about perceived impacts relating to community include changes to community cohesion, composition, and character. Key perceived impacts identified during the Amended Project engagement revolved around impacts to community cohesion, which refers to the strength and interconnectedness of relationships within a community.

4.4.1 Cumulative Effect on Community Cohesion

Large-scale change, the introduction of new projects in a social locality, changes to the built and natural environment, and the influx of new residents and transient construction workforces, can influence the levels of social cohesion within a community and can alter a community's composition or stability (NSW DPE, 2023).

Some stakeholders consulted on the Amended Project have suggested that the renewable energy developments proposed or recently developed in the social locality had already caused division in the community, with potential negative backlash to individuals from others as a result of hosting renewable infrastructure or being generally supportive of the Project.

“Didn’t go to the info session as (I) had negative experiences in the community because (I) had a solar farm proposal on (my) property... Quite amenable to the project.” – Nearby resident

It is also recognised that the large-scale workforce may contribute to a decrease in community cohesion due to the temporal nature and male-dominated workforce coming from outside the region. Impacts to community cohesion can also be felt more acutely in smaller or more rural localities. Recent research has demonstrated that the strongest predictor of acceptance of solar farms were affective responses, with how a person felt about a project highly influencing all other aspects of social license (Cousse, 2021; Scovell, McCrea, Walton & Poruschi, 2024). Feelings such as dislike, anxiety, and frustration, raised by respondents in **Section 4.3.1** and **Section 4.5.1**, can produce protective approaches in which people and things that aren’t part of the ‘familiar’ are excluded based on their difference (Pretty, Bishop, Fisher & Sonn, 2007). Communities may then reinforce who is ‘part’ of the ‘real’ community and who ‘doesn’t belong’ leading to a sense of exclusion for those depicted as the ‘others’ (Pretty, Bishop, Fisher & Sonn, 2007; Fisher & Sonn, 2007). This can include project proponents who are not considered to be part of the local community.

The workforce’s likelihood to be predominantly male also has implications for gendered impacts to communities. The influx of a new largely male population may have negative impacts on the safety or perceived safety of female community members. The largely male (and young) workforce is also likely to demonstrate higher rates of alcohol consumption and therefore alcohol-fuelled violence (Ruddell & Ortiz, 2015). Where this workforce accesses pubs and restaurants there may be risk of alcohol-fuelled violence or road accidents, especially where appropriate management mechanisms are not implemented.

The importance of Amended Project workers integrating themselves into their local communities was raised as a way to mitigate the social division that may result from visiting workforces. A lack of meaningful opportunities to connect with the local community has the potential to create a psychological distance between locals and non-residents, leading to a perception of ‘us’ and ‘them’ that erodes sense of community, particularly in regional settings (Sincovich, Gregory, Wilson, & Brinkman, 2018).

“Worker/company integration into community. Embedding workers in the community is a positive thing a lot of the time – locals in Mudgee will like workers coming in, you want them to join the footy team. Gulgong is a unique town – visitors stand out.” – Local Police

“I’m not against these projects, just wish they would talk to each other. I think it’s great for people to come into the area, see what country life is like and maybe stay.” – Local Police

To foster community integration, it is also key to minimise any anti-social behaviour or crime that may be conducted by the visiting workforce in the resident communities as outlined in the previous **Section 4.2.3**. In addition to the mitigation measures to address these potential impacts previously described in **Section 4.2.3**, discouraging workers from wearing high-vis or other workwear when visiting or spending time in local townships would also assist in demystifying the perceptions of ‘us’ and ‘them’. Further, encouraging and providing opportunities for the workforce to engage in community activities or volunteering then may be an effective way of integrating the workforce into local communities.

As it is already recognised that the broader cumulative setting of multiple concurrent workforces would likely contribute to the decrease in community cohesion and potential rise in anti-social behaviour, other means to mitigate these cumulative community impacts is to liaise and coordinate efforts widely amongst other project proponents and local stakeholders and to consider options to jointly develop or contribute to local benefit schemes across projects in the REZ in a combined or partnership manner.

An example of such a benefit scheme is the Project’s Shared Benefit Strategy that is proposed to be developed and implemented to target community investment to local needs and priorities. This Strategy will be cognisant of activities/efforts of adjacent projects and across the broader REZ. The strategy will include a Neighbours Benefit Program, focused on delivering benefits to the Amended Project’s closest neighbours and those most directly affected by Amended Project activities, and a dedicated Community Enhancement Program, focussed on support and funding of broader community initiatives or programs at the local and regional level. By supporting valued community initiatives, the Project will aim to foster community cohesion.

4.5 Decision-Making Systems

Decision-making systems includes the extent to which members of a community can have a say in the decisions that affect their lives, and their access to complaint, remedy, and grievance mechanisms.

4.5.1 Information Transparency and Communication across Multiple Projects

There was a strong focus on public engagement and communication during consultation, with some community members expressing frustration around the perceived lack of meaningful engagement by both RES and EnergyCo relating to the proposed nearby CWO-REZ Transmission Project. Consultation with members of community raised frustration relating to the lack of involvement in decision-making for both the Amended Project and wider development in the region. This cumulative impact of perceived poor engagement can generate anger or resentment towards future developments.

Comments around the Project’s engagement processes include:

“Don’t really know what’s going on. Didn’t know what was going on until I got the phone call about the info session.” – Nearby resident

“I have never had info from RES unless I’ve chased it up. I found out about the solar farm by accident.” – Community member

“We are angry and impacted – there hasn’t been enough transparency... (call me) with real answers.” – Nearby resident

“Frustrated with the process, and RES. Impact is huge. Come and meet with me, with someone with the ability to make decisions about the project and neighbour impacts.... Dragging on over 3 years, no one has discussed compensation with me.... The lack of professionalism of RES is not good enough, having consultants calling me and telling me what’s happening, rather than properly consulting me and taking on board my feedback.... RES didn’t respond or acknowledge (our) legal letter, disappointing and disrespectful.” – Nearby resident

Stakeholders have requested further involvement and information on certain aspects of the Amended Project.

“Want more detail on neighbour benefits, sewage plans, traffic increase impacts, road upgrade plans from RES.” – Nearby resident

“How close will the Tallawang solar farm will be to (my) property? Borders it from the north-western corner.” – Nearby resident

“Does RES receive subsidies? Large generation certificates - Concern is that taxpayers are subsidising renewable energy production.” – Community member

Relating to the broader REZ establishment and community engagement for the CWO-REZ Transmission Project, members of the community have raised that this has had influence in how they perceive the Amended Project and others in the local area:

“EnergyCo hasn’t done good engagement – it’s the ironfist decision on top of you. This whole REZ was dumped on top of us without any warning – that isn’t going to help your case.” – Community member

“EnergyCo is doing compulsory acquisition... We didn’t have much opportunity to fight REZ – they dropped it on us.” – Community member

These concerns further emphasise the importance of ongoing engagement and open, transparent, and accessible communication in alleviating the stress, emotional and community wellbeing effects that the Project is understood to be causing on the community.

Providing transparent and timely information about the Amended Project that acknowledges the stages of psychological response to change (see **Figure 4.2**) and facilitating spaces for communities and Project representatives to share information and concerns about the Amended Project will all help mitigate community concerns caused by an actual or perceived absence of information.

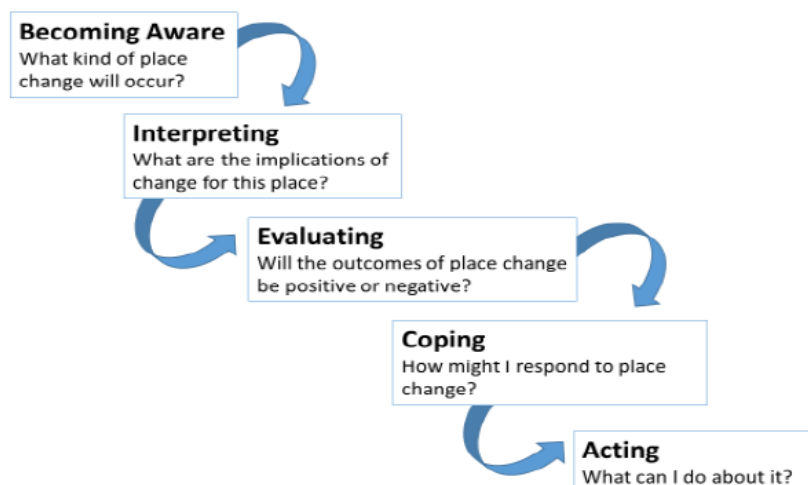


Figure 4.2 Stages of Psychological Response to Place Change

Source: (Devine-Wright, 2009).

Given the cumulative nature of this impact, proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums is also important to develop coordinated strategies towards effective information sharing and consultation. The Project's CSEP or Communications Strategy will also facilitate ongoing, effective engagement with the community to manage and enhance social impacts throughout each stage of the Amended Project.

4.6 Livelihoods

Livelihood describes peoples' capacity to sustain themselves through employment or business, any impacts or opportunities related to these, and the distributive equity of any benefits.

Table 4.6 below outlines the project phase and associated works with each phase based upon the construction and operations of comparable solar farms. These various types of works listed contextualise the roles the Amended Project may seek to employ and procure.

Table 4.6 Project Phases and associated works

Project Phase	Type of works
Pre-Construction	<p>Surveys</p> <p>Building/road dilapidation surveys</p> <p>Investigative drilling, excavation or salvage</p> <p>Minor clearing or translocation of native vegetation</p> <p>Establishing temporary site office and compounds</p> <p>Installation of environmental impact mitigation measures, fencing, enabling works, Meteorological masts</p> <p>Flora and fauna investigations and pre-clearing surveys, inspections, specific habitat feature removal, relocation.</p> <p>Establishing Project Area access points, minor access roads and minor adjustments to services/utilities, signage etc. including associated vegetation removal and heritage artefact salvage.</p>

Project Phase	Type of works
Construction	PV solar panels Compounds Electrical network lines Battery storage Ancillary infrastructure Any temporary facilities which were not already established as part of the pre-construction minor works.
Operation Phase	Ongoing operation, monitoring (on-site and remote monitoring) and maintenance of all Project infrastructure and land during the operational lifespan of the Project. Maintenance of land. Replacement of major components as required, such as PV solar panels. This may require the use of cranes and ancillary equipment

Source: (Umwelt, 2024)

For the purposes of this addendum, research has been conducted into the likely jobs, occupations, and roles that are typical for large-scale solar farms. According to the Clean Energy Council (CEC, n.d.), construction jobs which are associated with the construction of large-scale solar farms are illustrated in **Figure 4.3**. These roles are likely to be required for the construction of the Project and highlight the industries and occupations which the Project will seek to employ.

Construction Jobs for Large-Scale Solar Farms

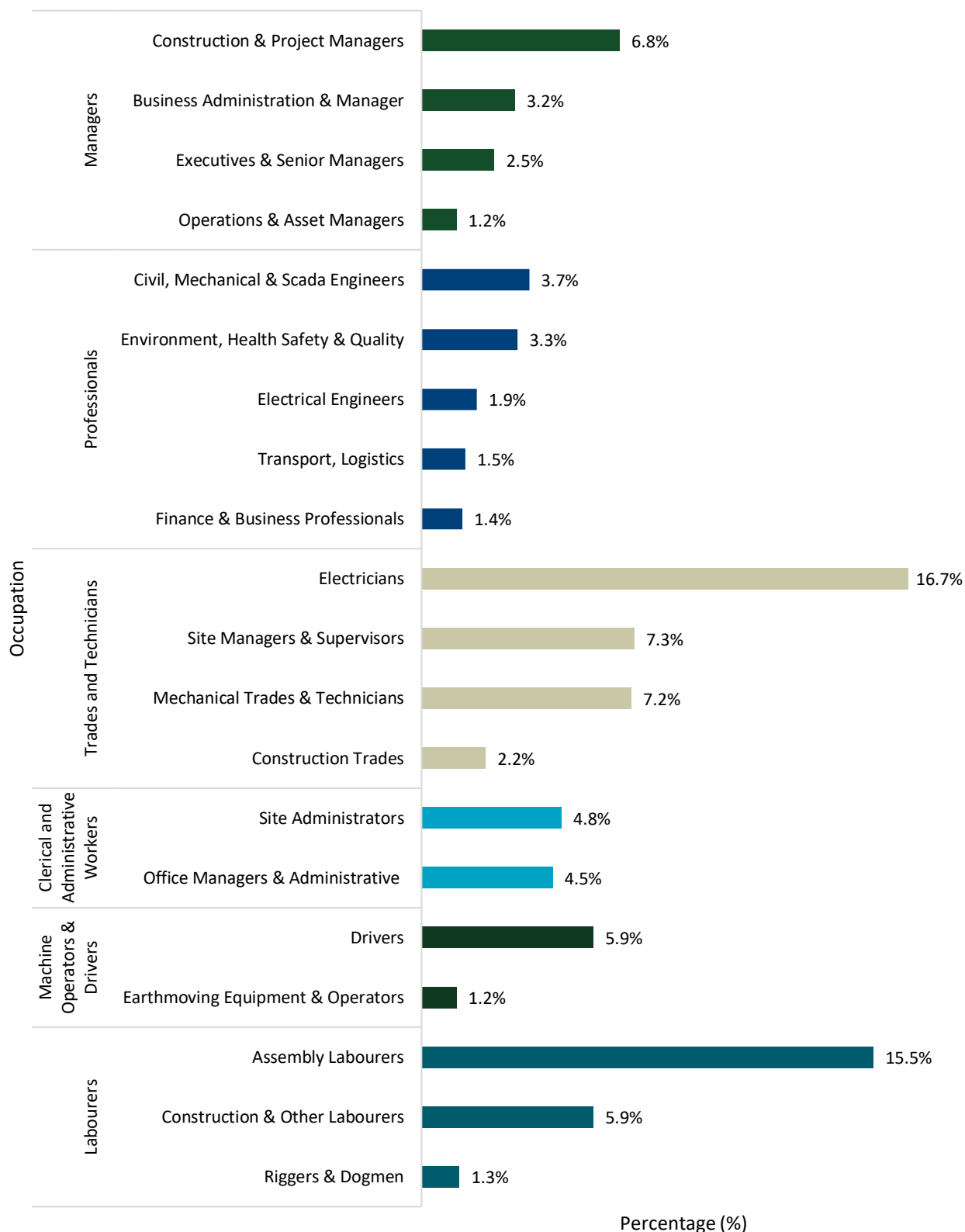


Figure 4.3 Large-scale Solar Farm Construction Occupational Composition

Source: (CEC, n.d.)

4.6.1 Opportunities for Local Employment

Renewable energy sector development, including the contribution that the Amended Project provides and creates further opportunities for the construction and manufacturing industry to grow across the region. While competition for skilled labour in the construction sector remains tight due to high demand, the presence of a skilled and growing workforce presents opportunities for other sectors to access development, especially during periods of relatively low growth in the mining sector (Narromine Shire Council and Dubbo Regional Council, 2018).

Opportunities for local employment and procurement during the Project's construction are evident, as noted in **Section 4.1**, construction of the TWA facility will require a workforce of 20 to 25 workers, and the ongoing operation of the TWA facility would require approximately 20 staff for the duration of the construction phase.

As **Table 4.7** illustrates, the social locality has a total workforce of around 46,120 people, including 3,895 employed in the construction industry and just over 7,000 people employed as trades workers and technicians. Those employed in these professions are most likely to have transferable skill sets suitable to work on construction of the TWA facility (and subsequent solar farm) should this be explored.

However given the relatively low unemployment rate in the Mid-Western Regional LGA (4%) and across neighbouring LGAs (3.6% in Dubbo, 3.2% in Upper Hunter) and given the large number of construction projects proposed across the broader CWO-REZ, the types of operational jobs required at the TWA (e.g. maintenance, catering, administration, security, and janitorial services), and the small number required, it is more likely that these roles could be sourced from the local workforce as a component of the local employment target of 5% as discussed previously. **Table 4.7** also shows that 1,348 workers across the social locality are currently employed in a related job type.

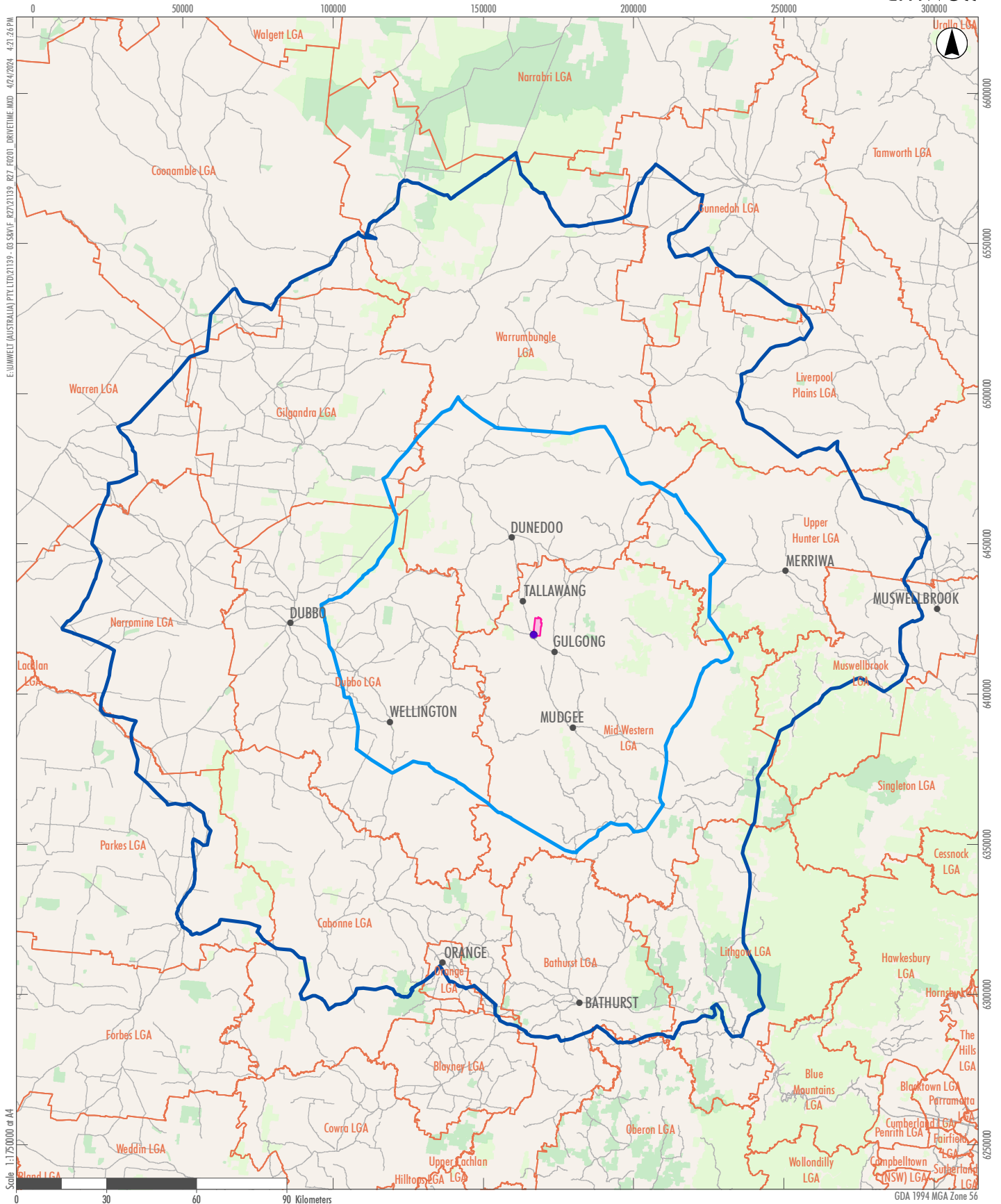
Table 4.7 Employment by Industry and Job Type Summary Table

	Dubbo Regional	Upper Hunter Shire	Mid-Western Regional	Warrumbungle Shire	Total
Total workforce	24,909	6,651	11,231	3,329	46,120
Workforce employed in construction	2,282	487	942	184	3,895
Workforce employed as trades workers and technicians	3,556	1,152	1,998	353	7,059
Workforce employed in TWA-related job types¹³	762	148	377	61	1,348

Source: ABS, 2021

Figure 4.4 below shows the towns and rural localities within one hour and two-hour drive times from the Project to illustrate the feasible drive times to likely service catchment areas for infrastructure, services and procurement purposes.

¹³ TWA-related job types include the following industries of employment: Laundry and Dry-Cleaning Services; Investigation and Security Services; Repair and Maintenance; Building Cleaning, Pest Control and Gardening Services; Food and Beverage Services; Water Supply, Sewerage and Drainage Services; Administrative and Support Services; and Waste Collection, Treatment and Disposal Services.



- Legend**
- Tallawang Solar Farm Project Area
 - Access Point
 - Local Government Area Boundary
 - State Forest
 - National Parks (NPWS Estate)
 - Road
 - Drive Times from Tallawang Solar Farm Access**
 - 1hr
 - 2hr

FIGURE 4.4

Local Employment and Procurement Catchment

Despite the difficulties in achieving a large local workforce for the Amended Project, several strategies to encourage local employment have been suggested by community stakeholders, including local businesses and training providers. These suggestions include collaborating with organisations such as Workforce Australia, pre-emptively providing information on the roles and skills required for the Amended Project and stressing the importance of offering competitive pay.

“Work with Workforce Australia – government department they have the pool of workers.” – Local workforce provider

“RES to provide a list of roles and skills for the project and position descriptions, then work with RTOs to fund training placements. Provide expressions of interest for skills needed.” – Local training provider

“Provide workforce profiles and a form on job types & proportions for solar and wind projects.” – State government representative

“RES should aim for 20 apprentices on the project.” – Local training provider

“Biggest issue is willingness to pay – RES will struggle to get staff unless they offer the best terms.” – Local workforce provider

The increased competition for local labour as a result of the cumulative impacts of multiple proximal projects with overlapping construction timeframes is likely to result in labour being sourced from outside of the region and interstate or overseas. It is acknowledged that the current and future challenges faced in the region regarding workforce procurement due to the cumulative demand for labour is contributed to from large infrastructure projects.

However, concurrent projects also create opportunities to build a project pipeline that facilitates skilled workers to move to the area, either permanently or in the medium-term, to work across consecutive projects, supporting the value of legacy employment outcomes. As a result, RES acknowledges the ongoing work by EnergyCo in developing Generator Guidelines for the CWO REZ which outline an approach to addressing and minimising cumulative REZ impacts by coordinating with proponents and other stakeholders.

Further, the Accommodation and Employment Strategy (AES) (Umwelt, 2024) will be further developed and implemented in collaboration with key stakeholders and Mid-Western Regional Council. The AES includes targeted and proactive initiatives to maximise local employment and sourcing from local communities such as training, up-skilling and capacity building support, in collaboration with local stakeholders and training providers, and will consider targeted initiatives to appropriately manage workforce during construction period to manage social changes caused by the incoming population.

4.6.2 Opportunities for Local Procurement

Looking across the social locality, construction is the second largest industry, with substantial proportions of construction businesses having annual turnovers of over \$200,000 (ABS, 2023). This indicates the potential for construction businesses across the region to contribute to the Amended Project to create and maximise opportunities for local procurement.

In addition, Mid-Western Regional LGA and Dubbo Regional LGA also have notable numbers of manufacturing businesses (118 and 165 businesses, respectively), with approximately half of these businesses having annual turnovers of over \$200,000 (ABS, 2023). This indicates opportunity for these businesses with the relevant skills to involve in the Amended Project.

The Project's Economic Impact Assessment (EIA) notes that although construction-related business are likely to benefit most from the Amended Project, businesses in other sectors may also directly or indirectly support the Amended Project and thus also benefit from the economic opportunities the Amended Project provides (Ethos Urban, 2024). These sectors include:

- retail trade
- accommodation and food services
- rental, hiring, and real estate services
- health care and social assistance.

Businesses in these sectors will likely play a role in supporting the needs of the Amended Project workforce.

Looking towards the operation of the TWA facility, Mid-Western Regional LGA and Dubbo Regional LGA also have relatively high numbers of businesses in Accommodation and Food Services, and Administrative and Support Services (which includes cleaning, pest control, and gardening services), which are likely to offer the types of services relevant to operation and maintenance of the TWA facility and in meeting the Project's local employment and procurement target (ABS, 2023). Across LGAs in the social locality, there is also a sizeable proportion of businesses categorised under 'Other Services' which includes businesses mainly engaged in the repair/maintenance of equipment and machinery (ABS, 2023). It is possible for the contractor or third party engaged by RES and/or the EPC Contractor for the management of the TWA facility to be able to procure services from local businesses to support its operation.

These local procurement opportunities may be maximised by adhering to the procurement strategies provided in the AES such as maintaining a business register, communicating regularly with local businesses, and attending and hosting industry forums in close collaboration with regional industry stakeholders, other proponents and local government.

4.6.3 Cumulative Community Changes to Livelihoods

Stakeholder and community consultation continues to see a number of recurring and prominent issues raised by the local community. It is recognised that these impacts are cumulative in nature due to the large number of renewable energy developments proposed across the region, and thus require proactive and collaborative approaches between RES and other proponents, government and community to navigate effective solutions.

Cumulative and recurring issues that have been raised by the community affected by the Amended Project include:

- Conflicting land use between land for agriculture and renewable energy generation
- Rural property devaluation

- Distributive inequity between landholders.

The establishment of renewable energy generation developments on land which had historically been used for agriculture is a common and ongoing cause of tension in impacted communities.

“Why aren’t you somewhere with less productive agricultural land?... I’m a fifth generation farmer, this is my life.” – Community member

Ongoing community engagement and transparency around why project locations were chosen is crucial, together with continued consideration of landholder and neighbours’ needs and concerns during construction and operation, and continued implementation of landholder and neighbour agreements.

Concerns around property devaluation continue to be expressed in more recent community feedback. The impacts to future saleability were perceived to be an impact of the Amended Project, with two community members stating that the Amended Project would have direct negative impacts on their financial security into retirement.

“I can’t sell this property and I am looking at retirement with zero income – the whole thing has been a nightmare.” – Nearby resident

“(The Project is) Bordering right on the edge (of my property). Bought land 16 years ago, (my) plan for superannuation (was) to subdivide and build houses, feel like I’ve been steamrolled and not respected at all... Mines have a buffer zone, they compensate properly... Buy my land and create an offset, use it as a buffer. Don’t build up against the fence line... Buy my land at market value or 10% off, to make it a fair process.” – Nearby resident

Other research indicates that the impacts of solar farms on property values is unclear, as values are influenced by several factors. For example, the Tamworth Solar Farm Assessment Report found that there is no clear evidence to suggest that solar farms in NSW are negatively affecting property values (DPIE, 2020).

One community member also raised the issue of the solar farm impacting their ability to insure their property.

“Insurance concerns – my insurance is for \$20 million liability – solar farm is \$700 million CIV so now I can’t get insurance. This is a concern for lots of landholders and there is a lack of understanding around this.” – Community member

It is understood by the renewable energy industry nationwide that neighbouring landholders to renewable energy projects have recurring concerns regarding the potential impact of project infrastructure on their property values (Office of the Australian Energy and Wind Farm Commissioner, 2020). A recent report by the NSW Agriculture Commissioner in 2022 concluded that there is very little reliable evidence of large-scale renewable energy developments influencing adjacent land values, particularly for solar facilities, mostly due to the insufficient evidence of sales of properties near solar farms (NSW Agriculture Commissioner, 2022). However, research undertaken overseas where more longitudinal data is available, such as in the Netherlands (Dröes & Koster, 2021) and United States (Gaur & Lang, 2020), has indicated that in certain cases some small reductions in property values may be experienced, particularly for properties within 1 km of solar farms and in populated suburban areas.

Research conducted in Rhode Island and Massachusetts has suggested that, on average, houses lying within one mile (1.6 km) of solar installations experience property devaluation of around 1.7% post construction, relative to properties located further away (Gaur & Lang, 2020). At current there is no evidence to support this or otherwise in NSW.

Nevertheless, open and proactive engagement with nearby residents is important to ensure understanding of Project impacts on a case-by-case basis, and to inform the targeting of the Neighbours Benefit Program accordingly.

Thirdly the potential for the project to cause distributive inequity between landholders was also raised, being that host landholders receive financial benefit from the Amended Project, whilst impacted neighbours do not see any benefit from the Amended Project.

“Landholders are getting the benefit, absentee owners getting gains while neighbours feel the impact.” – Community member

Such concerns may be alleviated by negotiated agreements with neighbouring landholders, as well as the implementation of a Shared Benefit Strategy targeted at wider areas of community value beyond the vicinity of the solar farm.

As mentioned, proactive and collaborative approaches between RES and other proponents, government and community are required to develop effective solutions to mitigate the above cumulative impacts. As per **Section 4.6.1**, there is ongoing work by EnergyCo in developing Generator Guidelines for the CWO REZ which outline an approach to addressing and minimising cumulative REZ impacts by coordinating with proponents and other stakeholders. The Generator Guideline will aim to support the coordination of REZ-wide outcomes and establish joint responsibility for building and maintaining social licence.

In addition to operating in accordance with the Guidelines being prepared by EnergyCo, RES is committed to being part of the solutions for cumulative impacts and will seek to continue to collaborate with local Councils, the NSW Government and other proponents and community stakeholders to minimise any negative cumulative effects that the Amended Project may contribute, and in efforts to maximise the local and regional benefits.

RES is committed to the development and implementation of a range of management and mitigation measures to address the social impacts and benefits associated with the Amended Project. These include:

- A Social Impact Management Plan (SIMP) is to be prepared in the pre-construction phase and implemented for the Amended Project to manage and enhance social impacts through each stage of the Project lifecycle.
- The Community Stakeholder Engagement Plan (CSEP) will be updated periodically to facilitate ongoing engagement with the community to manage and enhance social impacts throughout each stage of the Amended Project through detailed design, construction and operation.

- As mentioned in **Section 4.4.1**, a Shared Benefit Strategy will be developed and implemented to target investment to local needs and priorities and cognisant of activities/efforts of adjacent projects and across the broader REZ. The strategy will include a Neighbours Benefit Program, focused on delivering benefits to the Amended Project's closest neighbours and those most directly affected by Amended Project activities, and a dedicated Community Enhancement Program, focussed on support and funding of broader community initiatives or programs at the local and regional level.

4.7 Surroundings

The perceived impacts on people's surroundings were discussed by those consulted and included impacts on the amenity of the area and how people experience their surrounds, as well as lasting impacts of the Amended Project's infrastructure on the environment after decommissioning.

4.7.1 Reduced Visual Amenity, Scenic Value and Sense of Place

Through stakeholder consultation, the reduced visual amenity caused by the Project and loss or change to the scenic values of the landscape have continued to be raised as a key community concern. Changes in visual amenity and enjoyment of the natural environment are understood due to the industrialisation of the landscape that the Project's establishment is perceived to cause as well as potential low levels of changes to the nights sky due to the TWA facility and lighting. Identified scenic values associated with landscape features in the area include open rural farming areas including grazing land and plains, hills and ridgelines, natural landscapes and the potential disturbed viewpoints from the Project Area to the township of Gulgong.

These values denote that for some, the area evokes a sense of place identity and attachment, that is part of how community members define who and what they are, in relation to the 'memories, ideas, feelings, attitudes, values, meanings and experience' that are attached to the physical settings around them (Proshansky, Fabian & Kaminoff, 1983), p. 59). This incorporates both past and current ways in which a place or space contributes to fulfilling biological, psychological, social and/ or cultural needs (Proshansky, Fabian & Kaminoff, 1983; Devine-Wright, 2009; Hernandez, Hidalgo, Salazar-Laplace & Hess, 2007).

As place attachment tends to increase with length of residence, a less transient population, higher levels of volunteering and home ownership, and for those with a close living and working relationship with the natural world such as agriculture and natural resources, it is likely that sense of place will be impacted by those living in close proximity to the Project (Devine-Wright, 2009; Giuliani, 2003; Marshall et al, 2019).

While there are 24 residential homes within 5 km of the Amended Project, only 4 homes within 2 km of the TWA facility and 1 additional home at a 2 km distance from the TWA facility. The site selection process for the TWA facility considered 5 potential sites within the Project Area, with the selected site proposed as the preferred option due to it being the furthest removed from the nearby residences and therefore having the least impact upon the local community and nearby residents.

Changes to visual amenity and landscape character as a result of the Amended Project have been assessed through an addendum to the original Landscape and Visual Impact Assessment (LVIA) (Envisage, 2024). Overall, the LVIA Addendum concluded that the Amended Project would result in a comparable level of visual impact to the EIS Project. In addition, the Amended Project reduces the number of potential viewpoints of Project infrastructure from 43 to 32, given that the proposed transmission line is no longer within the Amended Project scope.

The LVIA Addendum further concludes that there is no change to the rating of visual impacts for most remaining viewpoints, with two viewpoints (a private residence and Puggoon Road) seeing a reduction in visual impact due to the formerly proposed transmission line and formerly proposed northern substation no longer being in view.

With regards to the TWA facility specifically, intermittent vehicle movement on the TWA access road may be seen from one residential dwelling, and the TWA facility and carpark would also be visible from Puggoon Road and Jacksons Lane, however the significance of the impacts upon these viewpoints remain at Moderate and Low-Moderate (Envisage, 2024). Additionally the LVIA Addendum notes that night-time lighting impacts from the TWA facility are unlikely as the TWA is not in direct line-of-sight of surrounding residential viewpoints, light glow being limited by surrounding vegetation and topography, and most external lighting being under cover or shielded by overhead awnings (Envisage, 2024).

The LVIA Addendum provides an updated cumulative impact assessment of the Amended Project with other proximal projects. It is expected that the cumulative visual impacts would be most pronounced on four public viewpoints (Castlereagh Highway, Puggoon Road, Jacksons Lane, and Flirtation Hill lookout), ten private residential viewpoints (two more than the original LVIA), and two representative residential viewpoints (one more than the original LVIA). These viewpoints would witness changes in their existing views due to the presence of other solar farms, BESS units, and transmission infrastructure from multiple projects. These developments may sometimes be in proximity and aligned within the same viewing direction. As a result, the proportion of these views adversely affected by infrastructure would increase as a result (Envisage, 2024).

The cumulative visual impact of these developments was raised in community consultation.

“We moved here from the coast for the peace, (now we’re) wham bam in the middle of everything.”
– Community member

“Noise and visual impacts are really big for me... I have beautiful views to Gulgong that I will lose.” –
Nearby resident

The cumulative visual impacts at the public viewpoints would be mitigated by the viewpoints either being accessed by very few people, multiple developments only being able to be seen for brief, intermittent periods, or the distance to the projects coupled with surrounding landforms and vegetation (Envisage, 2024).

To reduce visual impacts and maintain the rural experience for travellers along Castlereagh Highway, the LVIA Addendum recommends a minimum 500m setback from the highway for proposed developments. Other setbacks were also suggested from the community consultation.

“A 200m setback from Puggoon Road to reduce visual impact” – Nearby resident

The Amended Project’s layout addresses this, with a 600m setback from Castlereagh Highway (increased from 500 m) and around an existing residence with the Project Area.

To further mitigate visual impacts, the Amended Project is also finalising a Concept Landscape Plan, which includes a multi-level screening strategy including grasses, shrubs, and trees. Any further Project refinements and layout changes should also be considered from the perspective of those residential properties most sensitively affected by changes to the landscape.

4.7.2 Social Amenity Disruption Associated with Noise

Changes to the levels of noise across the landscape and in particular for proximal residents is expected to be experienced during the construction phase of the Project, and has been raised as a concern by members of the community, for instance:

“Noise and visual impacts are really big for me.” – Nearby resident

Noise generated by the Project is expected from the following activities and could cause disturbance and annoyance for nearby residents, affecting community or personal wellbeing:

- Onsite construction activities during standard working hours.
- Daily traffic on local roads and internal access roads by both heavy and light vehicles.
- Night-time noise from the residential workforce residing at the TWA facility.
- Hum of the BESS throughout its operational life.

A Noise and Vibration Impact Assessment (NVIA) Addendum prepared by Umwelt (Umwelt, 2024) for the Amended Project assessed the potential noise impacts of the Amended Project on a number of nearby residents (sensitive receivers) within the surrounding area. Residents within the Project Area are involved dwellings (owned by landholders involved in the Project) and were not considered as nearby residents for the purposes of the assessment. The closest non-involved nearby residents (i.e. R18 and R200) are located approximately 600 m to the east and west respectively from the nearest Project Infrastructure.

The NVIA Addendum concluded that the predicted noise levels associated with the operation of the TWA facility (i.e. noise produced by diesel generators and air conditioning units) as well as noise produced by vehicle movements on the TWA facility’s internal access road would be well below the applicable day, evening and night-time noise management level (NML) limits at nearby residents. Therefore impacts of noise on proximal residences due to the TWA facility’s operations is expected to be minimal.

The NVIA Addendum further predicts that 13 proximal residents would potentially experience construction noise impacts. The reasonable and feasible noise mitigation and management strategies proposed in the original NVIA (Umwelt, 2022e) remain applicable and are required for the Amended Project in order to reduce the potential impacts on local residents. These include notifying residents at least 7 days prior to any works that may have an adverse noise impact, scheduling work generating high noise during less sensitive time periods, all workers to receive an environmental induction including limitations on high noise-generating activities and location of nearest residents, and general requirement to keep extraneous noise to a minimum, such as loud stereos/radios, shouting on site, and car door slams. The implementation of a grievance mechanism (such as a complaints hotline) would also provide an appropriate channel for community members to report any noise concerns.

Assessments of construction-related road traffic noise found that a small pocket of dwellings in the township of Birriwa proximal to the Castlereagh Highway may experience an elevated road traffic noise level during the construction period. Noise impacts on these dwellings may be reduced by, for example, reducing the speed limit of heavy vehicles as they pass through the Birriwa township.

4.7.3 Impacts on Road Traffic and Safety

Traffic movements associated with the construction workforce were assessed as part of the exhibited Project, however the proposed TWA facility changes the assumptions made in the assessment based on number of vehicle movements and the required intersection treatment at the Castlereagh Highway. These changes may potentially impact the ability for non-Project road users to access the local road network, as well as implications for safety associated with increases in traffic volume.

An updated Traffic Impact Assessment (TIA) has been prepared by Samsa Consulting to assess the traffic and transport impacts associated with the Amended Project (Samsa Consulting, 2024). The TIA concludes that the road networks in the vicinity of the Amended Project all have significant spare capacity to absorb this additional traffic and maintain satisfactory levels of service (Samsa Consulting, 2024).

It is expected that the inclusion of the TWA facility will result in far fewer daily light vehicle trips relative to the EIS Project as a result of the bulk of the construction workforce now residing onsite. There will however be additional heavy vehicle movements associated with construction and operation of the TWA facility (15 heavy vehicles per day). The TWA facility is also expected to generate up to 5 heavy vehicles and 12 light vehicles per day during its 8-week construction period.

Nevertheless, community engagement found that some stakeholders hold concerns around increased levels of traffic on their local roads, and the impact of this traffic on the road infrastructure. There were also concerns around decreased road safety due to speeding.

“Daughter travels along Puggoon Rd four times a day for bus duty - increase in traffic might be concerning.” – Nearby resident

“Slightly concerned about increased traffic of workers driving home etc, but understand the necessity of the accommodation on site.” – Nearby resident

“Road infrastructure isn’t capable of carting that amount of traffic.” – Nearby resident

“Golden Highway is full of trucks for multiple projects; safety concerns” – Local police

“Changes to Merotherie Road (straightening) and bridge upgrades will increase traffic speed, with safety implications.” – Nearby resident

“Lower the speed limit, the road is dangerous – especially if there is no intention to seal Merotherie Road” – Nearby resident

“Road erosion when it rains is an issue, and flooding next to bridge. No plans to seal Merotherie Road?” – Community member

Additionally, there were comments from community members expressing concern around the impact of traffic on transporting or relocating livestock.

“Increased traffic on Jacksons Lane and Puggoon Road, impacting transporting stock.” – Nearby resident

“Traffic concerns about Puggoon Road and stock crossings.” – Nearby resident

“Main concern is stock safety to cross Golden Highway – they currently cross stock at last minute and stop traffic to do that.” – Community Member

One suggested mitigation was that the workforce may benefit from working with the local police on safe driving practices and managing fatigue.

“Police work with mines on driver behaviour, fatigue and speeding training. Could do something similar.” – Local police

Potential traffic and transport impacts can be appropriately managed and mitigated through appropriate intersection design and compliance with the Traffic Management Plan (TMP) as required under the existing Development Consent. Light traffic may also be further reduced by discouraging or limiting the use of personal vehicles by resident workers of the TWA facility. The impacts of heavy vehicle traffic can be mitigated by scheduling heavy vehicle movements to outside of peak hours where possible.

The Amended Project would also require intersection upgrade works on the Castlereagh Highway to establish the Amended Project’s primary access and to accommodate the proposed heavy vehicles. The proposed Castlereagh Highway intersection will consist of a three-way junction with a connecting access track extending onto the Amended Project Area. The proposed intersection upgrade would provide a protected turn lane intersection treatment to accommodate the swept path turning movement by the largest types of trucks requiring access to the Amended Project Area. Continued coordination with Council, other nearby projects and other stakeholders to contribute to road improvement programs would continue to mitigate the impacts to road conditions as a result of the Amended Project.

There are also the cumulative impacts of additional construction traffic along major transport routes and local roads that will be shared by other projects. A Traffic Management Plan will be developed for the Amended Project which identifies potential cumulative traffic impacts and suitable mitigation measures.

4.7.4 Impacts on Water Supply and Sewerage Management

Community engagement indicated that the supply of water to the Amended Project site and transport of sewerage away from the site were key questions that needed to be addressed, showing concerns around the TWA facility or wider Project potentially causing further strain on local water resources for the community and infrastructure such as waste and sewerage treatment facilities. These were of particular relevance given the planned onsite TWA facility and the increased water use and necessary sewerage management associated with a resident workforce.

“Where will water come from? Sewerage treatment? If it stays dry, you’ll get howled down for taking water from others.” – Community member

“Inadequate sewerage system, and water supply/transport. No idea where is the water coming from or going.” – Nearby resident

“Wonder where water and sewerage will come from/to?” – Nearby resident

An Amended Water Resources Impact Assessment (WRIA) in response to the changes associated with the Amended Project (Umwelt, 2024). The report notes that water for the Project will be available through Ulan Water (a commercial bulk water supplier), Lake Windemere, or potentially from farm dams or licensed groundwater bores located with the Amended Project area, where appropriate and available.

A water sourcing strategy will also be developed to ensure that water used during construction will not adversely affect neighbouring landholders or other stakeholders. The report concludes that the Amended Project's proposed water use during construction, operations, and decommissioning would not have a negative impact on water supply to the Amended Project area or the region (Umwelt, 2024). Continued collaboration with councils and local water services will aid in ensuring the Amended Project continues to have no effect on local agricultural and personal water supply.

With regards to sewerage management and disposal, the TWA facility will potentially include an onsite sewage treatment plant for the treatment and disposal of sewage. In addition, RES has consulted with Dubbo Regional Council regarding the receipt of wastewater as an alternative to onsite treatment. RES will continue to consult with Dubbo Regional Council in this regard.

Additionally, one community member expressed concern about the Amended Project potentially impacting groundwater sources.

"Property is on an aquifer – concerns it would impact the whole region." – Community member

The WRIA notes that impacts to groundwater resources are not expected given that construction is unlikely to reach the groundwater table and the relatively deep depth to groundwater at the Amended Project Area means that any chemical spills are unlikely to infiltrate to the groundwater table (Umwelt, 2024).

4.7.5 Cumulative Impacts on Local Community Values

Concerns were raised by some stakeholders in regard to the cumulative loss of or otherwise negative impacts to flora and fauna valued by the local community, such as the loss of mature trees or several native animal species.

"Cumulative loss of trees. Trees take 60-70 years to achieve outcomes. Land clearing at Wellington was terrible." – Community member

"Habitat and barking owls concerns across all the projects. Wedge tail eagles, we know they exist. Echidnas on our property. Red rump parrots." – Community member

The Amended Project has sought to avoid and minimise biodiversity impacts through strategically locating Amended Project components on land that has been cleared and/or disturbed, with only marginal stands of isolated remnant vegetation to be cleared. The Amended Development Footprint therefore consists largely of Category 1 – exempt land with some areas of derived native grassland. Remnant vegetation within the Amended Project Area, which is connected to intact remnant vegetation off site, is to be retained.

Umwelt prepared an Amended Biodiversity Development Assessment Report (BDAR) (Umwelt, 2024) to assess the potential biodiversity impacts of the Amended Project. When compared to the EIS Project, the Amended Project will result in the following biodiversity impacts:

- Direct impacts to Plant Community Types (PCTs) and native vegetation: reduced from 30.93 ha to 7.5 ha.
- Direct impacts to Threatened Ecological Communities (TECs): reduced from 29.9 ha to 5.53 ha.

Overall, the Amended Project would avoid direct impacts on approximately 107 ha of remnant woodland and derived native grassland which equates to 93.44% of remnant woodland and derived native grassland being retained within the Amended Project Area, thus assisting to mitigate community concerns around loss of vegetation and impacts to habitats.

Environmental impacts may be further mitigated by develop and implementing a Biodiversity Management Plan, limiting vehicle and personnel movement to designated areas, and exploring potential partnerships with environmental groups or environmental monitoring programs which involve the local community in biodiversity management and data collection.

It is recommended that public information sharing on the outcomes of the Amended BDAR would be an effective way to improve transparency of project planning and decision making processes and to aid in building community knowledge about the Project's changes, particularly where it relates to matters raise as high community value.

5.0 Updated Social Impact Evaluation

This section presents a summary of the updated social impact evaluation. As noted in the SIA Guideline (DPHI, 2023), the definitions and scale assigned to each of the likelihood and magnitude categories need to be relevant to the impact that is being evaluated and justified in the SIA; and where possible the consequence scale should be based on established measures and standards. The evaluation of social impact significance has involved four main steps as outlined in **Figure 5.1**.



Figure 5.1 Social Impact Evaluation Process

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A summary of the updated social impact evaluation is shown in **Table 5.1**, with proposed mitigation and enhancement measures or management strategies included. Note, green cells indicate positive impacts/opportunities, whereas orange cells indicate negative impacts. Darker shades indicate impacts or opportunities of higher significance, while lighter shades indicate those of lower significance.

Table 5.1 Social Impact Evaluation

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Amended Project Impacts										
Accessibility	Reduced strain on local short-term and rental accommodation due to TWA facility.	Construction workforce influx	Construction phase	Local Businesses and Service Providers Tourists Local government Housing providers Renters	H	A	3	H	Continued development of proposed TWA plans in collaboration with stakeholders and neighbouring landholders RES to work closely with local accommodation providers to accommodate the 20-25 workers required to build the TWA facility itself over 8 weeks. Adherence to commitments within AES should the project be approved. Collaborate with other proponents, NSW Government and Council to explore potential re-purposing models of TWA Facilities including accommodation structures post-construction for adoption and integration within the community to support local housing provision and community benefit.	VH
Accessibility Health and Wellbeing	Reduced strain on local health services due to inclusion of onsite first aid station, nurse and GP telehealth services.	Construction workforce influx	Construction phase	Local government Broader community Local businesses and service Providers	M	B	2	M	Ensuring onsite nurse and first aid station is appropriately staffed and stocked throughout construction phase. Project facilitates and maintains workforce access to GPs via Telehealth services for duration of construction phase. Ensure access to local emergency department and collaborate with local hospital to ensure there is no additional strain placed in the event of an emergency. Construction Management Plan to detail onsite emergency response protocols.	H
Accessibility	Increased pressure on local police and emergency services due to incoming resident Project workforce at TWA facility.	Construction workforce influx	Construction phase	Neighbouring landholders and residents Broader Community Local Businesses and Service Providers Local government	M	C	3	M	RES to engage with local police and emergency services and share emergency response management plans prior to establishment of TWA facility. Presence and maintenance of on-site fire appliances and employees trained in their use. Employment of security services for the Project site/TWA facility. Workforce to work with the local police on safe driving practices and managing fatigue. Adopt workforce code of conduct as part of onboarding for construction workforce. Ensure workforce behaviour management protocols are established prior to establishment of TWA facility with a monitoring and tracking plan in place.	L

¹⁴ Level of concern or interest from the perspective of the affected party: L = Low; M = Medium; H = High; VH = Very High

¹⁵ L = Likelihood (A: Almost Certain, B: Likely, C: Possible, D: Unlikely, E: Very Unlikely); M = Magnitude (1: Minimal, 2: Minor, 3: Moderate, 4: Major, 5: Transformational); S = Significance rating (L: Low, M: Medium, H: High, VH: Very High)

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Livelihoods	Local employment generation and job opportunities for local workforce associated with construction and operation of the TWA facility leading to increase in human and economic capital for employees and their families.	Project Construction	Construction Phase	Broader Community Local Businesses and Service Providers	M	B	2	M	Adherence to the local employment and procurement targets in the Accommodation and Employment Strategy (AES) to maximise local employment and sourcing from local communities. Collaborating with organisations such as Workforce Australia for local employment. Actively and pre-emptively provide information on the roles and skills required for the Amended Project Offer competitive pay. Development of targeted and localised benefit sharing strategies to focus on training, up-skilling and capacity building supports, in collaboration with local stakeholders and training providers, to improve job-readiness in the pre-construction phase of the Project.	H
Livelihoods Way of Life	Local procurement opportunities associated with construction and operation of the TWA facility leading to direct investment in local businesses and increase in economic capital.	Project construction	Construction phase	Local Businesses and Service Providers	M	B	2	M	Adherence to the Accommodation and Employment Strategy (AES) to maximise local procurement opportunities such as through maintaining a business register, communicating regularly with local businesses, and attending and hosting industry forums.	H
Surroundings Way of Life	Additional visual changes to the rural landscape character caused by the TWA facility and other Project amendments may affect people's way of life and their sense of place.	Project construction and establishment of infrastructure	Construction and operational phases	Neighbouring landholders and residents	M	C	2	M	Targeted vegetation screening to be planned in collaboration with affected residents. Targeted onsite landscape screening. Implementation of the Concept Landscape Plan. Solar panel setback of 600m from the Castlereagh Highway. Project refinements and layout changes to be considered from perspective of those residential properties most sensitively affected by changes to the landscape, such as layout buffers and setback from public roads.	L
Surroundings Way of Life Health and Wellbeing	Increase in noise generated by the TWA facility could cause disturbance and annoyance for nearby residents, affecting community or personal wellbeing.	Production of noise and dust from construction activities	Construction Phase	Neighbouring landholders and residents	M	D	3	M	Construction management plan to embed standard work hours, as well as noise management measures where feasible, such as reducing speed limits in populated areas. Scheduling work generating high noise during less sensitive time periods. All workers to receive an environmental induction including limitations on high noise-generating activities and location of nearest residents. General requirement to keep extraneous noise to a minimum, such as loud stereos/radios, shouting on site, and car door slams. Open and proactive communication with nearby residents to share information and generate awareness about construction activities and potential periods of disruption at least 7 days prior. Implementing a responsive and easy-to-access community grievance mechanism (e.g. hotline).	L

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Surroundings Accessibility Way of Life Health and Wellbeing	Reduction in light vehicle traffic due to the TWA facility reducing the need for workers to travel to the Project site from external accommodation, leading to increased safety and less congestion for other road users.	Project construction	Construction phase	Neighbouring landholders and residents Broader Community	H	A	3	H	Discouraging or limiting use of personal vehicles by resident workers of the TWA facility. Adherence to Traffic Management Plan.	VH
Surroundings Accessibility Way of Life Health and Wellbeing	Increase in heavy vehicle traffic due to operational requirements of the TWA facility impacting access and condition of the local road network, and safety of other road users.	Project construction	Construction phase	Neighbouring landholders and residents Broader Community	H	B	3	H	Scheduling heavy vehicle movements to outside of peak hours where possible. Coordination with Council, other nearby projects and other stakeholders to contribute to road improvement programs and jointly manage changes in road conditions caused by the Amended Project such as through road improvements and upgrades to intersections at access points. Intersection works on Castlereagh Highway to establish the Project access. Workforce to work with the local police on safe driving practices and managing fatigue. Adherence to Traffic Management Plan.	M
Surroundings	Reduced local water supply due to increased demand due to construction and influx of incoming workforces utilising the facilities at the TWA facility, impacting water use/access of broader community.	Project construction Construction workforce influx	Construction phase	Neighbouring landholders and residents Broader Community	H	C	3	M	Develop and implement a Water Sourcing Strategy. Collaborate with councils and local water services to ensure no effect on local agricultural and personal water supply is caused as a result of the Amended Project.	L
Surroundings	Sewerage management stemming from the TWA facility causing pressure on existing systems.	Project construction Construction workforce influx	Construction phase	Neighbouring landholders and residents Broader Community	M	C	3	M	Potential development of an on-site sewage treatment system to avoid pressure on existing systems. Ongoing discussions with Dubbo Regional Council regarding sewage management.	L
Surroundings	Project design refinements around access to the TWA facility have minimised disruption to locally valued ecological habitats.	Project construction	Construction phase	Neighbouring landholders and residents Broader community	M	B	2	M	Develop and implement a Biodiversity Management Plan. Limit vehicle and personnel movement to designated areas. Explore potential partnerships with environmental groups or environmental monitoring programs which involve the local community in biodiversity management and data collection.	H

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Community Health and Wellbeing	Incoming resident Project workforce at TWA facility, causing decreases in levels of community cohesion and potential increase in antisocial behaviour.	Construction workforce influx	Construction phase	Neighbouring landholders and residents Broader Community Local Businesses and Service Providers Local government	H	C	3	M	Workers residing in TWA facility to adhere to a Code of Conduct that specifies minimum acceptable behaviour. Disciplinary action will apply to breaches of the Code of Conduct. Mandatory compliance with internal policies on respectful behaviour in surrounding towns. Consider implementing a 'dry site' to avoid alcohol consumption at the TWA facility. Onsite drug and alcohol testing for workers. Twice yearly (or as needed) meetings with police to discuss issues and provide updates. On-going liaison with local councils to ensure open communication and identification of emerging issues. Demonstrate proactive, thorough and transparent community engagement, throughout the lifespan of the Project. Discouraging workers from wearing high-vis or other workwear when visiting townships. TWA facility location, design and amenities to encourage workforce to remain on site for most of their daily needs. Collaborate with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues where relevant.	L
Health and Wellbeing	Impacts on workforce health and wellbeing due to residing at the TWA facility and the associated lifestyle.	Project construction	Construction phase	Project workforce	M	C	2	M	Inclusion and maintenance of recreational facilities at the TWA facility such as a gymnasium, bar, and BBQ facilities. Provision of mobile phone and internet reception. Supporting mental health by providing access to an Employee Assistance Program or similar confidential counselling service, and by providing workforce education programs around mental health. Establishing emergency preparedness protocols. Implementing safety training as part of the worker onboarding process. Collaboration with local emergency services and council as needed to ensure safety for both onsite workers and nearby residents.	L
Cumulative Impacts										
Community Way of Life	Temporary increase in population as a result of multiple incoming workforces from concurrent and nearby projects.	Project construction	Construction phase	Broader community	M	A	4	VH	Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues as a result of population increases. Implementation of other measures as per below impacts.	H

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Livelihoods Way of Life	Disruption of existing agricultural land uses, impacting peoples' livelihoods and sense of place.	Project establishment and operation	Construction and Operational Phases	Neighbouring landholders and residents	H	B	3	H	Continued implementation of landholder and neighbour agreements. Continue to consider landholder needs and activities in construction and operation. Continued communication and transparency around reasons for choice of Project location. Ongoing stakeholder engagement through the delivery and effective resourcing of a Communications and Engagement Strategy.	H
Livelihoods	Project establishment could affect rural property valuation trends and the ability for private property owners to buy or sell, particularly when considered cumulatively with adjacent proposed projects.	Project establishment	Construction and Operational Phases	Neighbouring landholders and residents Local businesses and service providers	H	B	4	H	Community Shared Benefit Strategy to target initiatives to those most affected by the Project or living nearest to the Project. Open and proactive engagement with nearby residents to ensure understanding of Project impacts on a case-by-case basis and target Neighbours Benefit Program accordingly.	M
Surroundings Way of Life Community	Multiple nearby projects causing additional visual changes to the rural landscape character affecting people's way of life, their sense of place and place attachment.	Project construction and establishment of infrastructure	Construction and operational phases	Neighbouring landholders and residents Special interest groups	H	B	3	H	Targeted vegetation screening to be planned in collaboration with affected residents. Solar panel setback of 600m from the Castlereagh Highway. Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to siting new renewable energy projects, and in managing the cumulative social issues and opportunities.	M
Surroundings	Proposed projects leading to cumulative loss of or otherwise negative impacts to local habitats, flora, and fauna valued by local communities.	Project establishment	Construction phase	Broader community Special interest groups	M	B	3	H	Develop and implement a Biodiversity Management Plan. Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues and opportunities.	M

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Community	Decrease in community cohesion and/or rise in community division and intracommunal tension.	Project establishment	Construction and Operational Phases	Neighbouring landholders and residents Broader community Special interest groups	M	B	3	H	<p>Deliver of Shared Benefit Strategy in consultation with community stakeholders and aligned with community priorities, needs and aspirations</p> <p>Multi-stakeholder liaison to ensure widespread integration and prioritisation of social acceptance across various projects and to jointly develop or contribute to local benefit sharing schemes across planning and delivery of the REZ.</p> <p>Encouraging and providing opportunities for the workforce to engage in community activities or volunteering.</p> <p>Discouraging workers from wearing high-vis or other workwear when visiting townships.</p> <p>Provide consistent, transparent and proactive information provision and consultation with stakeholders throughout Project development through a Project Communications and Engagement Strategy, with effective resourcing considering employment of a Community Liaison Officer.</p> <p>Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues and opportunities.</p>	M
Decision-making Systems	Concerns, frustration, or lack of clarity around Project engagement and information provision, and ability to influence Project decisions, particularly when considered cumulatively with adjacent proposed projects.	Project establishment	Construction phase	Neighbouring landholders and residents Broader community Special interest groups Local businesses and service providers	H	B	3	H	<p>Further engagement and ongoing open, transparent, and accessible communication.</p> <p>Provide consistent, transparent and proactive information provision and consultation with stakeholders throughout Project development through a Project Communications and Engagement Strategy, with effective resourcing considering employment of a Community Liaison Officer.</p> <p>Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues and opportunities.</p> <p>Regular updating of the CSEP to facilitate effective ongoing engagement.</p>	M
Decision-making Systems	Concerns around distributive equity of compensation or benefits, particularly when considered cumulatively with adjacent proposed projects.	Project establishment and operations	Construction and Operational Phases	Neighbouring landholders and residents Broader community	M	C	4	H	<p>Further engagement and ongoing open, transparent, and accessible communication.</p> <p>Implementing a Shared Benefit Strategy targeted at focus areas of community value, need and priority.</p> <p>Negotiated agreements with host and neighbouring landholders.</p> <p>Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues and opportunities.</p>	M

Social impact category	Social impact description	Project aspect	Duration	Extent/affected parties	Perceived significance ¹⁴	Significance rating ¹⁵			Mitigation or enhancement	Residual significance
						L	M	S		
Health and Wellbeing	Project development may compound stress and anxiety for proximal residents and community members who feel uncertain about their futures and changes to their way of life as a result of the rapid rate of change across the region.	Project establishment	Construction and Operational Phases	Neighbouring landholders and residents Broader community Local government State Government Community and health service providers	H	B	3	H	Provide consistent, transparent and proactive information provision and consultation with stakeholders throughout Project development through a Project Communications and Engagement Strategy, with effective resourcing considering employment of a Community Liaison Officer. Proactive collaboration with other proponents, NSW Government and Council through multi-stakeholder forums to develop coordinated strategies to cumulative social issues and opportunities.	M

6.0 Conclusion

This Social Impact Assessment Addendum Report has documented the changes in the community between census years, to update the assessment of social impacts and management measures associated with the Amended Project and in particular the inclusion of the proposed onsite TWA facility. This has included the consideration of recent community and stakeholder engagement outcomes and an updated cumulative social impact assessment.

The assessment understands that the Amended Project will result in the following social impacts and opportunities:

- Reduced pressure on housing prices, rental costs and short-stay accommodation demand that may result from the influx of the non-local Amended Project workforce, by accommodating this workforce at the TWA facility.
- A reduction in light vehicle traffic due to the TWA facility being located onsite, which may potentially lead to improved road safety outcomes for other users.
- Increased potential employment and procurement opportunities for local workforce and businesses for the construction and operation of the TWA facility.
- Reduced strain on local health services due to the inclusion of an onsite health facilities and services.
- Potential increased strain on local police and emergency services due to the influx of the resident workforce at the TWA facility, and construction/operation activities.

Identified cumulative impacts include:

- Potential population change impacts to the Mid-Western Regional LGA due to the cumulative influx of proximal projects' overlapping construction workforces.
- Cumulative impacts on community cohesion and sense of place due to the above influx of workforces.
- Cumulative impacts to livelihoods including increasing disruption of existing agricultural land uses, impacts on property values, and distributive inequity between landholders.
- The impacts of the above factors on community members' mental health.
- Cumulative visual impacts of multiple projects in close proximity.
- Social impacts of multiple projects each developing their own TWA facility.
- Lack of clarity around project information, frustrations around lack of engagement, and concerns around ability to influence project decisions or future developments.

Management strategies have also been proposed for the Amended Project to mitigate the significance of any potential negative impacts, or to enhance any potential opportunities.

Some of the key strategies included in this report are:

- Collaboration with other proponents and local government throughout the delivery of the Amended Project.
- Management of the TWA facility's resident workforce to reduce potential cumulative and social impacts.
- Development of an effective CSEP.
- Proactive efforts to maximise local employment and procurement.
- Implementation of a Shared Benefit Strategy in line with community priorities.
- Ensure appropriate resourcing for effective community engagement regarding the Amended Project by considering employment of a Community Liaison Officer.

This Addendum has included the consolidation of community consultation outcomes to inform the assessment of and evaluation of these updated social impacts and opportunities. The impact evaluation has been undertaken to inform methods to reduce negative project impacts and achieve greater positive project benefits and social outcomes.

The assessment concludes that the identified negative social impacts of the Project amendments can be reasonably mitigated or managed to reduce their significance. However, several cumulative impacts are more challenging to manage or reduce by individual projects, and are reliant on the actions of and collaboration with other development proponents and government operating in the region.

The proposed TWA facility is aimed at reducing the significant socio-economic impacts identified in the EIS within the Mid-Western Regional LGA (particularly impacts to local accommodation and employment). Changes to the socio-economic impacts have been assessed via this Social Impact Assessment Addendum as well as within the Amended Economic Impact Assessment.

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