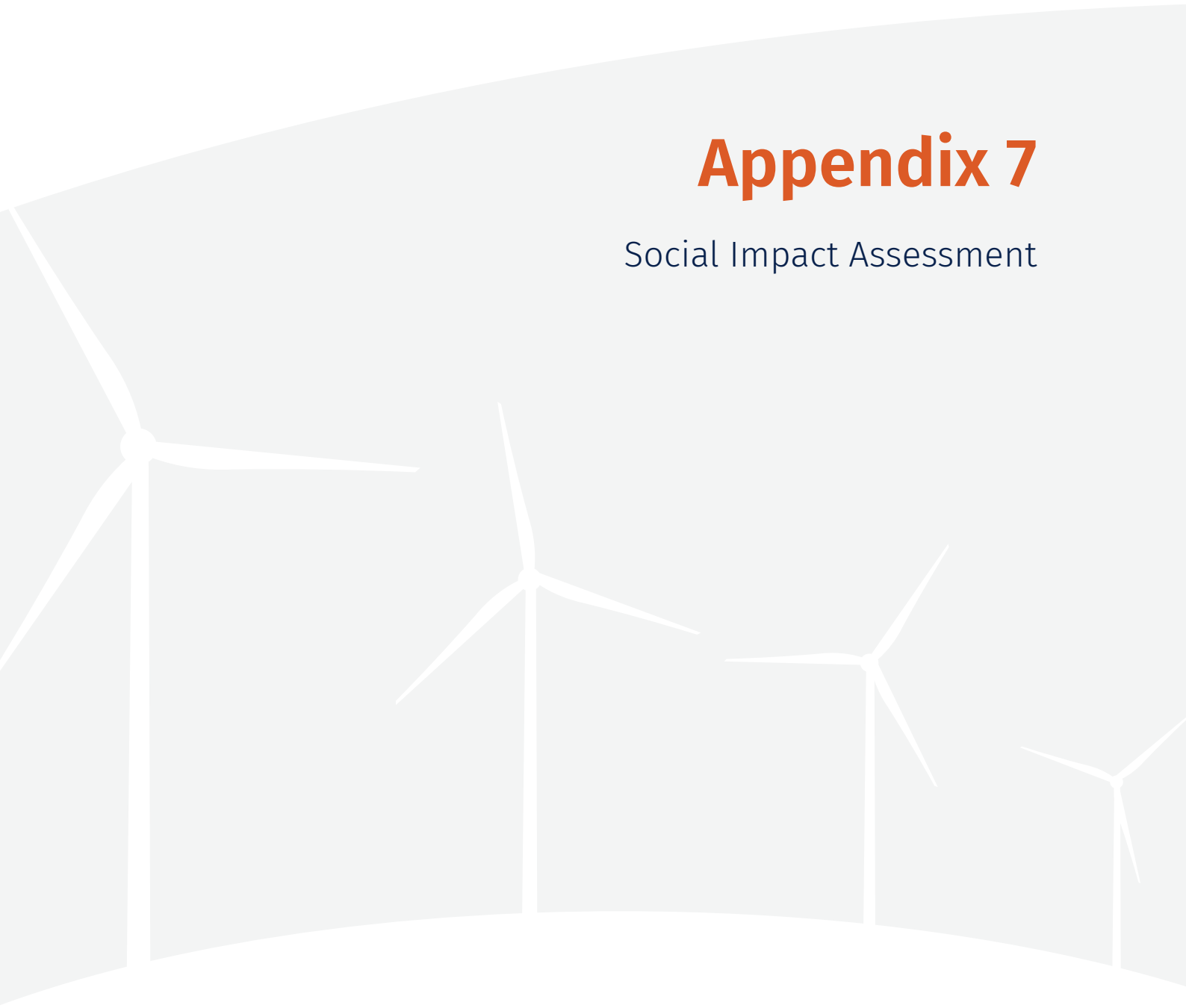
Appendix 7

Social Impact Assessment



umwelt
Environmental & Social Consultants

NEOEN

THUNDERBOLT ENERGY HUB
STAGE 1

Social Impact Assessment

FINAL

February 2022

THUNDERBOLT ENERGY HUB STAGE 1

Social Impact Assessment

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
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Report No. 7066/R10
Date: February 2022

Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Document Status

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	Name	Date	Name	Date
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Executive Summary

Neoen is proposing to develop the Thunderbolt Energy Hub located in the Kentucky locality of New South Wales (NSW), approximately 47 kilometres (km) northeast of Tamworth and adjacent to the New England Highway and within the proposed New England Renewable Energy Zone (REZ) as identified in the NSW Government's Electricity Strategy (NSW Government, 2020).

This Social Impact Assessment (SIA) has been prepared as part of the Environmental Impact Statement (EIS) for the Thunderbolt Energy Hub – Stage 1 (the Project) which is proposed to include up to 32 wind turbine generators (WTGs) and is located to the north of the New England Highway. The SIA has been prepared in line with the key principles and processes outlined in the NSW Government's Social Impact Assessment Guideline (DPIE 2021).

Stakeholder engagement with the community, businesses, interest groups and other interested stakeholders has indicated that there is both support for the Project as well as those not supportive, with concerns. This situation is common for large State significant project such as wind farms where they elicit a diversity of views and stakeholder responses. An online survey (conducted by Neoen from July 2020 to October 2021) found that on average participants rated their support for the Thunderbolt Energy Hub Project as 7.4 out of 10 (where 0 reflected limited support / opposition and 10 indicated a high degree of support). Regarding local residents, there is a mix of sentiment in relation to the Project.

Neoen has taken the approach of separating the originally proposed Thunderbolt Energy Hub project into two stages based on feedback from landholders, local community groups and local Members of Parliament in the scoping phase, who have requested more time to consider what is now known as the Stage 2 area. This approach allows Neoen to undertake further consultation, planning and design work for Stage 2 whilst enabling Stage 1 (this Project) to progress, if approved. The separation of the Project in two separate stages with only Stage 1 being progressed as part of the current development application is a tangible response by Neoen to some of the stakeholder engagement feedback received, which has identified some issues requiring further consideration with regards to Stage 2. Neoen's plan to only progress Stage 1 (the Project) in this current development application represents an approximate 50% reduction in the original scale of the Project.

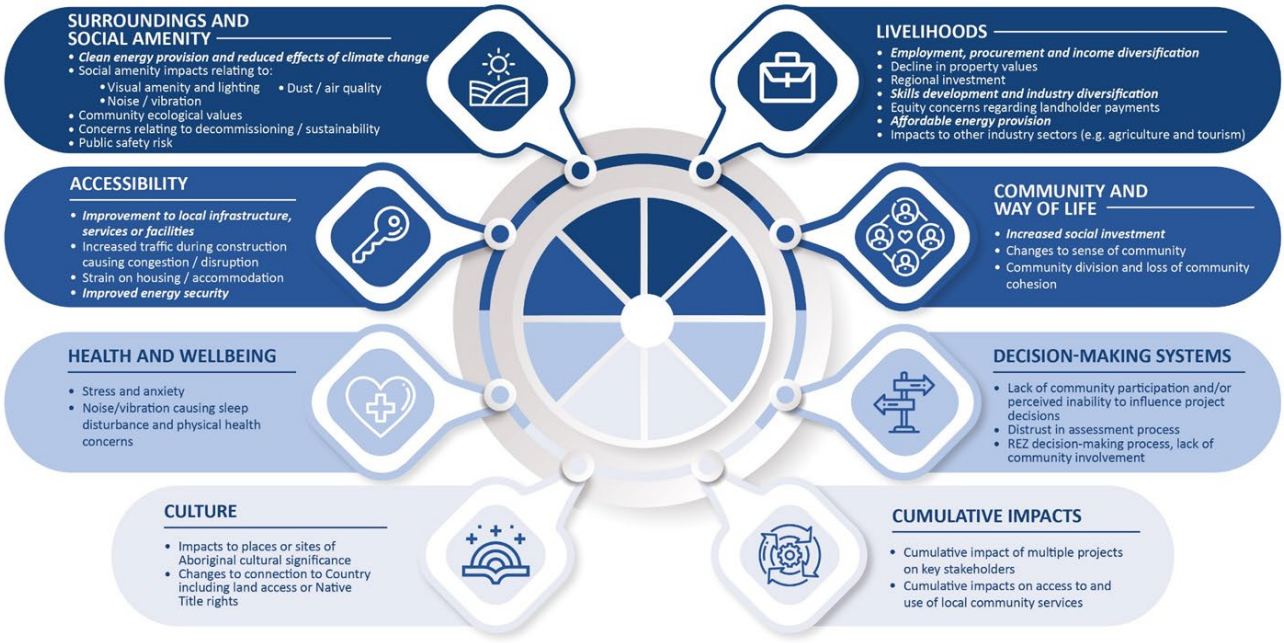
Engagement with the community and key stakeholders regarding the Thunderbolt Energy Hub has been undertaken by Neoen since 2019 and has been ongoing since this time. Outcomes from community consultation activities undertaken by Neoen have been reviewed and consolidated to inform the SIA and understand the range of community views, concerns, interests, and feedback provided on the Project to date. This existing information has been complimented by a targeted consultation program for the SIA specifically, undertaken between September and October 2021 by Umwelt in collaboration with Neoen. Engagement utilised in the SIA (undertaken by Neoen and Umwelt) has involved consultation with landholders and near neighbours, members of the wider community, community and special interest groups, local businesses and service providers, Aboriginal Stakeholders, and government agencies. Refer to **Table ES1** for consultation statistics.

Table ES1 Summary of Consultation Statistics (utilised in the SIA)

Stakeholder Group	Mechanism	No. Consulted
Landholders/near neighbours	Engaged by Neoen through multiple mechanisms (including meetings, phone calls and emails)	188
	Phone interviews with Umwelt	4
Wider community	Online Q&A session	14
	Community survey	70
Community and special interest group representatives	SIA meeting	18
Business and service providers	Business and service provider survey	15
Aboriginal stakeholders	Phone interviews with Umwelt	1
Government agencies	SIA meeting	3
	Total	**312**

Note: SIA meeting indicates a targeted meeting conducted by Umwelt to inform the SIA, Neoen representatives were represent at some (but not all) of these meetings. Stakeholders may have been engaged through multiple mechanisms and are therefore counted more than once.

Key community concerns and benefits of the Project, that have been identified through consultation, are summarised in the following figure (with positive impacts identified in italics):



To minimise potential negative impacts and enhance social benefits for the community, a number of Project design changes have also been made and a range of management measures identified to mitigate negative impacts and enhance project benefits, these include:

- Separating the Thunderbolt Energy Hub into two stages and only progressing with Stage 1 as part of the current development application.
- Designing the Project to seek to avoid and minimize impacts on environmental and social values where practicable. Multiple design changes have been made to reduce impacts including through consideration of the findings of preliminary environmental studies and stakeholder feedback.

- Neoen has sought to enter into agreements with the most affected near neighbours to the Project, including commitments to appropriate mitigation and management measures. Agreements are in place with the most affected nearby landowners. These agreements are in addition to the agreements in place with host landholders and collectively ensure the effective mitigation and management of the impacts of the Project on the most effected nearest neighbours.
- A range of environmental mitigation and management activities as outlined in the EIS.
- A range of social mitigation and management measures as outlined in this SIA.
- A Community Relations Plan (CRP) updated to include all community engagement measures to manage and enhance social impacts.
- A Community Benefit Sharing Program, including
    - a Neighbours Benefit Program under which near neighbours receive a direct annual payment from the Project, and
    - a Community Benefits Fund to provide benefits to the broader local community.
- A Local Participation Plan which includes an Accommodation, Employment, and Procurement Strategy.

Collectively these measures provide a robust social impact management and mitigation plan for the Project that aims to enhance the positive social impacts and mitigate the potential negative impacts.

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
AEDI	Australian Early Development Index
BAM	Biodiversity Assessment Methodology
BDAR	Biodiversity Development Assessment Report
CASA	Civil Aviation Safety Authority
CCC	Community Consultative Committee
CRP	Community Relations Plan
CRP	Neoen's Community Relations Plan
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act, 1979
FOKAG	Friends of Kentucky Action Group
FTE	Full-time Equivalent
GW	Gigawatts (unit)
GWh	Gigawatt hour (unit)
Ha	Hectares (unit)
IAIA	International Association for Impact Assessment
IARE	Indigenous Area
Kms	Kilometres (unit)
kV	Kilovolt (unit)
LALC	Local Aboriginal Land Council
LGA	Local Government Area
LSPS	Local Strategic Planning Statement
LVIA	Landscape and Visual Impact Assessment
MP	Member of Parliament
MPS	Multipurpose Service
MW	Megawatts (unit)
MWh	Megawatt hour (unit)
Neoen	Neoen Australia Pty Ltd
NSW	New South Wales
PAD	Potential archaeological deposit
REZ	Renewable Energy Zone
SA2	Statistical Area Level 2
SEARs	Secretary's Environmental Assessment Requirements
SEFIA	Socio-economic Indexes for Areas
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan

Abbreviation	Description
SSC	State Suburbs
SSD	State Significant Development
The Guideline	Social Impact Assessment Guideline for State Significant Projects
the Project	Thunderbolt Energy Hub Stage 1
Umwelt	Umwelt (Australia) Pty Limited
WTGs	Wind Turbine Generators

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Appendices

1.0 Introduction

Neoen Australia Pty Ltd (Neoen) has engaged Umwelt to undertake a Social Impact Assessment (SIA) for the Thunderbolt Energy Hub – Stage 1 (the Project).

The Project is considered a State Significant Development (SSD) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The SIA has been conducted following the requirements of the NSW DPIE Social Impact Assessment Guideline for State Significant Projects (2021) or 'the SIA Guideline' and with the Secretary's Environmental Assessment Requirements (SEARs) provided by the NSW Department of Planning, Industry and Environment (DPIE) on 16 December 2020 and revised on 11 November 2021. The SIA Guideline[1] outlines that every State significant project in NSW is subject to a SIA and explains how to assess likely social impacts for State significant projects under the EP&A Act.

1.1 Project Description

The proposed Thunderbolt Energy Hub is located in the Kentucky locality of New South Wales (NSW), approximately 47 kilometres (km) northeast of Tamworth and adjacent to the New England Highway and within the proposed New England Renewable Energy Zone (REZ) identified in the NSW Government's Electricity Strategy (NSW Government, 2020).

The Thunderbolt Energy Hub is proposed to include wind and solar electricity generation. Since the submission of the scoping report the Project has been separated into two stages:

- Stage 1 - proposed to include up to 32 wind turbine generators (WTGs) and is located to the north of the New England Highway (referred to as 'the Project').
- Stage 2 – is proposed to form part of a separate development assessment and approval process and is not part of the current Project as proposed by Neoen. Stage 2 is proposed to be located to the south of the New England Highway.

The SIA relates to Stage 1 of the Thunderbolt Energy Hub only as Stage 2 is not being progressed at this time and will be subject to further consideration and design work by Neoen prior to a separate, future development application and assessment process.

Neoen has taken the approach of separating the Thunderbolt Energy Hub into two stages based on feedback from landholders, local community groups and local Members of Parliament, who have requested more time to consider Stage 2. This approach allows Neoen to undertake further consultation and planning for Stage 2 whilst allowing Stage 1 to progress. The separation of the Project in two separate stages with only Stage 1 being progressed as part of the current development application is a tangible response by Neoen to some of the early stakeholder engagement feedback which identified some issues requiring further consideration regarding the Stage 2 area.

[1] The SIA Guideline was released in July 2021, after the commencement of the Project. Therefore the SIA has been developed to be consistent with the key principles and processes outlined in the SIA Guideline.

The Project (Stage 1) will have a capacity of approximately 192 megawatts (MW), with the potential to power approximately 118,000 homes. The Thunderbolt Energy Hub (Stages 1 and 2 combined) as originally proposed included approximately 70 WTGs over an area of approximately 12,222 and capacity of 380 MW2 (refer to Figure 1.1). **Neoen's plan to only progress Stage 1 (the Project) in this current development application represents an approximate 50% reduction in the scale of the original Project scale, in response to community feedback.**

The Kentucky locality has been identified as having high potential for wind energy, with the REZ expected to play a vital role in delivery affordable energy to the community across NSW (NSW Energy, 2019). The Project Area encompasses two freehold properties and covers approximately 5,918 hectares (ha), currently utilised for sheep and cattle grazing activities.

In addition to the construction and operation of 32 WTGs, the Project includes associated infrastructure including operation and maintenance buildings, internal access roads, civil works, and electrical infrastructure (including one new substation) required to connect to the existing electricity transmission network which traverses the Project Area.

Neoen has considered a range of alternatives in planning the Project and in determining the concept layout included in the EIS. Neoen initially commenced consultation with potential involved landholders based on a study area of 35,000 ha. Through consultation with interested landholders and preliminary environmental analysis, this area was then reduced to approximately 12,222 ha for the entire Thunderbolt Energy Hub, with Stage 1 forming approximately 5,918 ha.

The preliminary WTG layout and infrastructure design was also subject to several iterations during consultation with landowners and the initial environmental investigation and during the feasibility and scoping phases of the Project, which has informed the development of the proposed conceptual Project layout (refer to **Figure 1.2**). The conceptual layout for the Project will be subject to further refinement and detailed design as part of the detailed design and pre-construction phases.

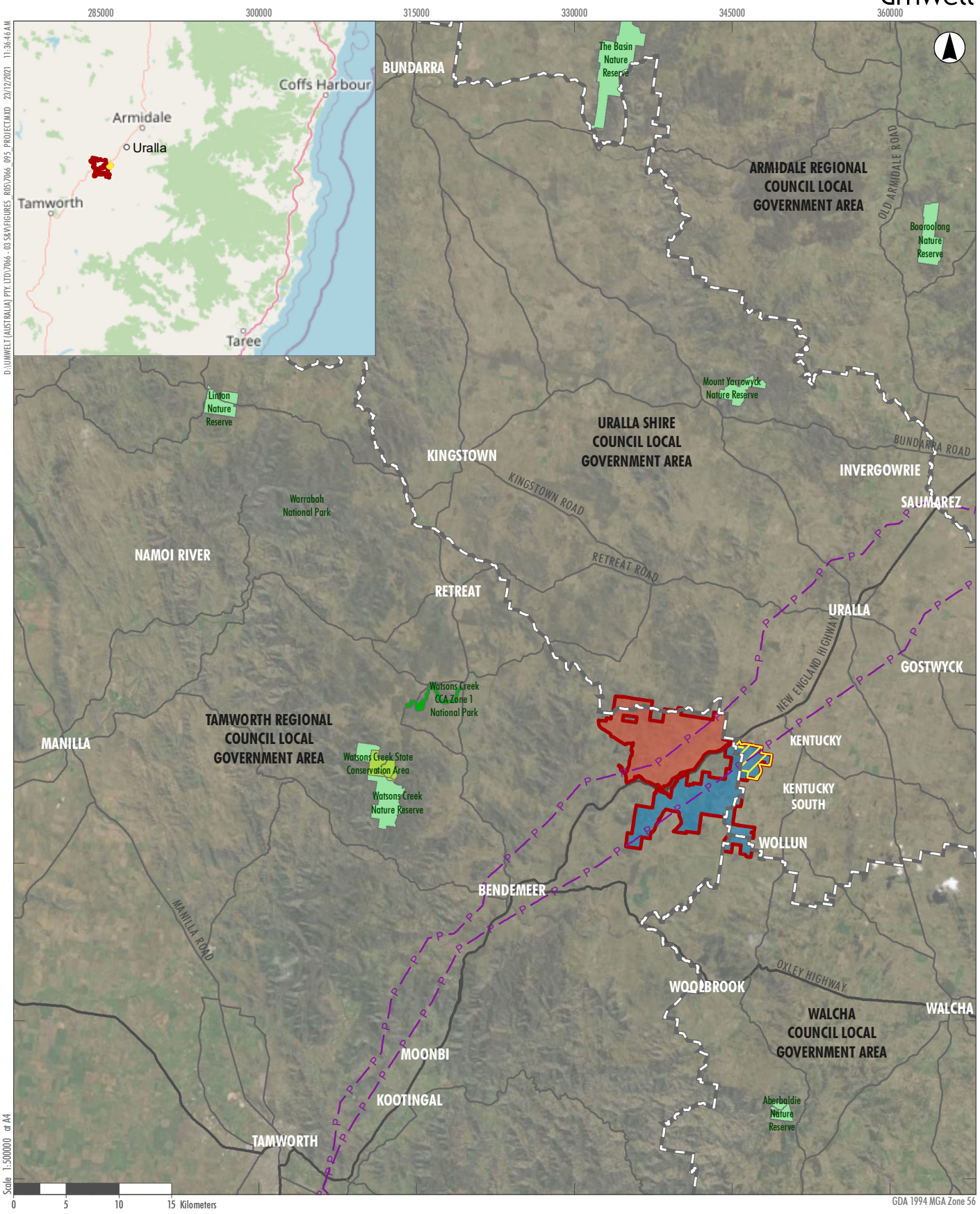
Table 1.1 provides an overview of key components of the Project.

Table 1.1 Overview of Key Project Components

Key Components	Approximate Dimensions/Detail	Quantity
WTGs		
Tip Height	Maximum of 260 m	Up to 32
Tower (hub) height	Maximum of 170 m	
Blade Length	Maximum of 90 m	
Electrical Reticulation		
Transmission Line	33kV electrical cabling (underground and/or overhead)	NA
	330kV overhead transmission line connecting the switching station and substation	NA
Substation	Approx. 1 ha	1
Switching Station	Approx. 2.6 ha	1

[2] This figure is considered approximate as the size of the Stage 2 development has not been confirmed and will be subject to an additional environmental assessment and approval process.

Key Components	Approximate Dimensions/Detail	Quantity
Internal Access Roads	Road surface width ranging 6-9m (providing for delivery of WTG components and access during operations)	Approx. 50 km
Meteorological Monitoring Mast	Height up to 170 m	Up to 6 to be installed during operations in proximity to turbines 1 temporary mast currently installed (80m)
Operations and Maintenance Buildings	Approx. 1 ha	1 - includes storage shed, office and parking
Access to Project Area	Construction of new intersection on New England Highway for direct access to Project Area	1
Operations Workforce		Approximately 5-10 personnel
Temporary Construction Facilities		
Construction Compound and Laydown Areas	Main compound approx. 2.4 ha Satellite Compounds approx. 0.3 ha	1 x Main Compound 3 x Satellite Compounds
Mobile Concrete Batch Plant	Approx. 2ha per batching plant	2 co-located plants – 3 possible assessed locations
Construction Workforce		Approximately 190 personnel (average)



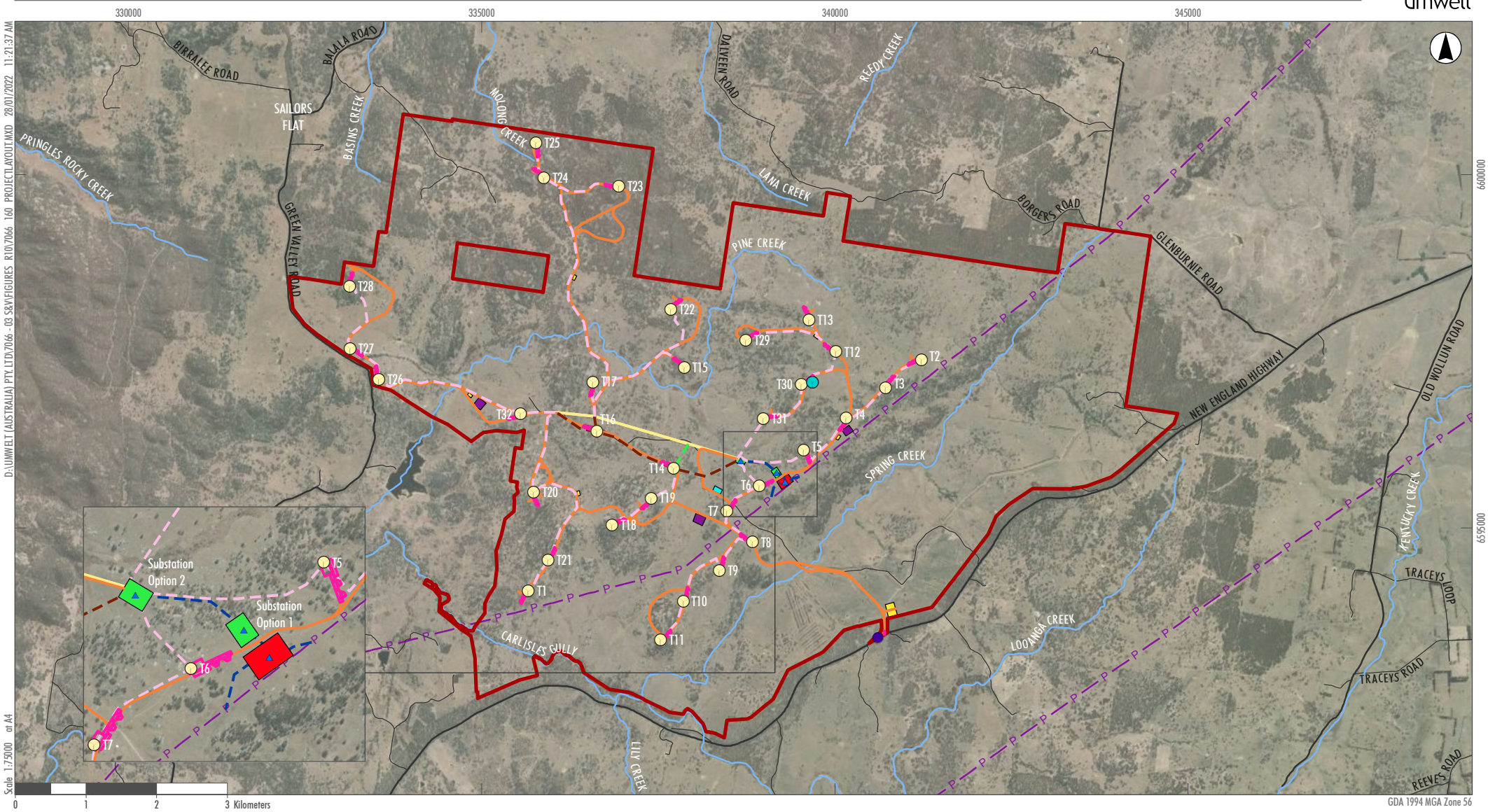
Legend

- Thunderbolt Energy Hub
- Stage 1 Project Area
- Stage 2 Project Area - Subject to separate Approval Process
- Thunderbolt Solar Farm - Subject to separate Approval Process
- Local Government Areas
- Existing 330kV Power Lines
- National Park
- Nature Reserve
- State Conservation Area

FIGURE 1.1

Thunderbolt Energy Hub

Image Source: ESRI Basemap, Data source: DFSI (2020), Neoen (2020)



Legend

- Project Area
- Conceptual Turbine Layout
- Temporary Met Mast
- Proposed Access Point
- Conceptual Access Tracks
- Hardstand Area
- Batching Plants
- Laydown-Compounds
- Operation and Maintenance Compound
- Substation
- Switching Station
- Existing 330kV Power Lines
- Underground 33kv Cables
- Option 1 - MV Overhead Line Route
- Option 1 - Underground Trench to Overhead Line
- Option 2 - Full MV Underground Reticulation
- High Voltage TXL Route
- High Voltage Plants

FIGURE 1.2

Conceptual Project Layout

Image Source: ESRI Basemap Data source: NSW DFSI (2020), Neoen (2021)

2.0 Methodology

SIA, informed by community and stakeholder engagement, affords opportunities to effectively identify, integrate and address social impacts within the detailed Project planning, design, and assessment phases.

The SIA has been prepared in line with the key principles and processes outlined in the NSW Government's Social Impact Assessment Guideline[3] (DPIE 2021), as part of the environmental impact assessment process, as illustrated in **Figure 2.1**.

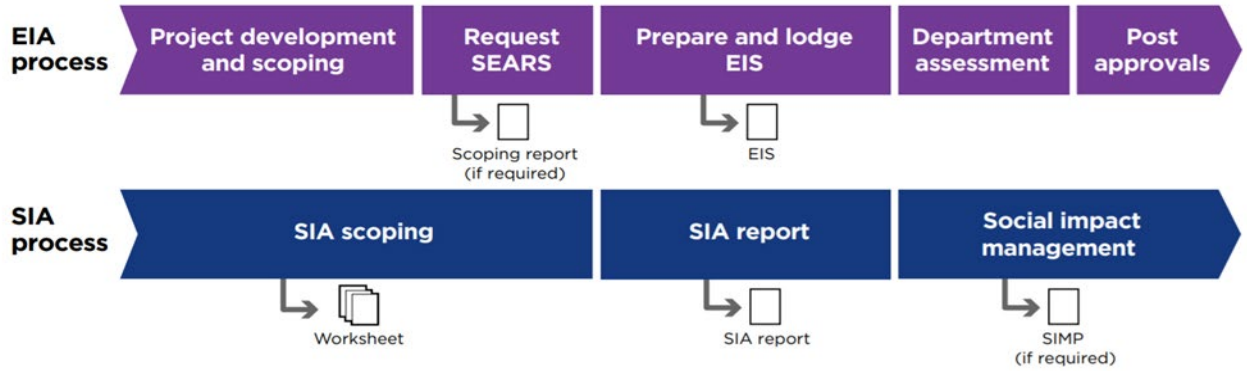


Figure 2.1 SIA and EIA Process Alignment

Source: DPIE 2021

The SIA (along with a separate Economic Impact Assessment) has also been completed to address the SEARs for the Project issued by DPIE on 11 November 2021:

> *Social & Economic – the EIS must include an assessment of the social and economic impacts and benefits of the project for the region and the State as a whole, including consideration of any increase in demand for community infrastructure services, assessment of impact on agricultural resources and agricultural production on the site and region.*

The process of identifying and managing social impacts is outlined in **Figure 2.2**. As outlined in **Figure 2.3,** and consistent with guideline requirements, the SIA process involves three key phases.

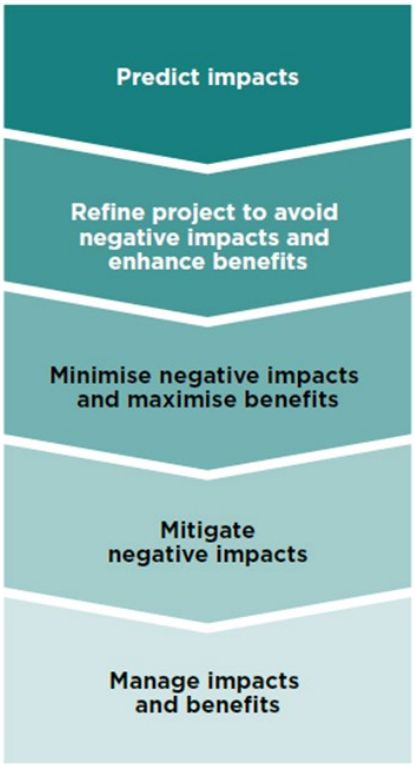


Figure 2.2 Managing Social Impacts

Source: DPIE 2021

[3] Note the SIA Guideline was released in July 2021 which was after the commencement of the assessment of the Project,

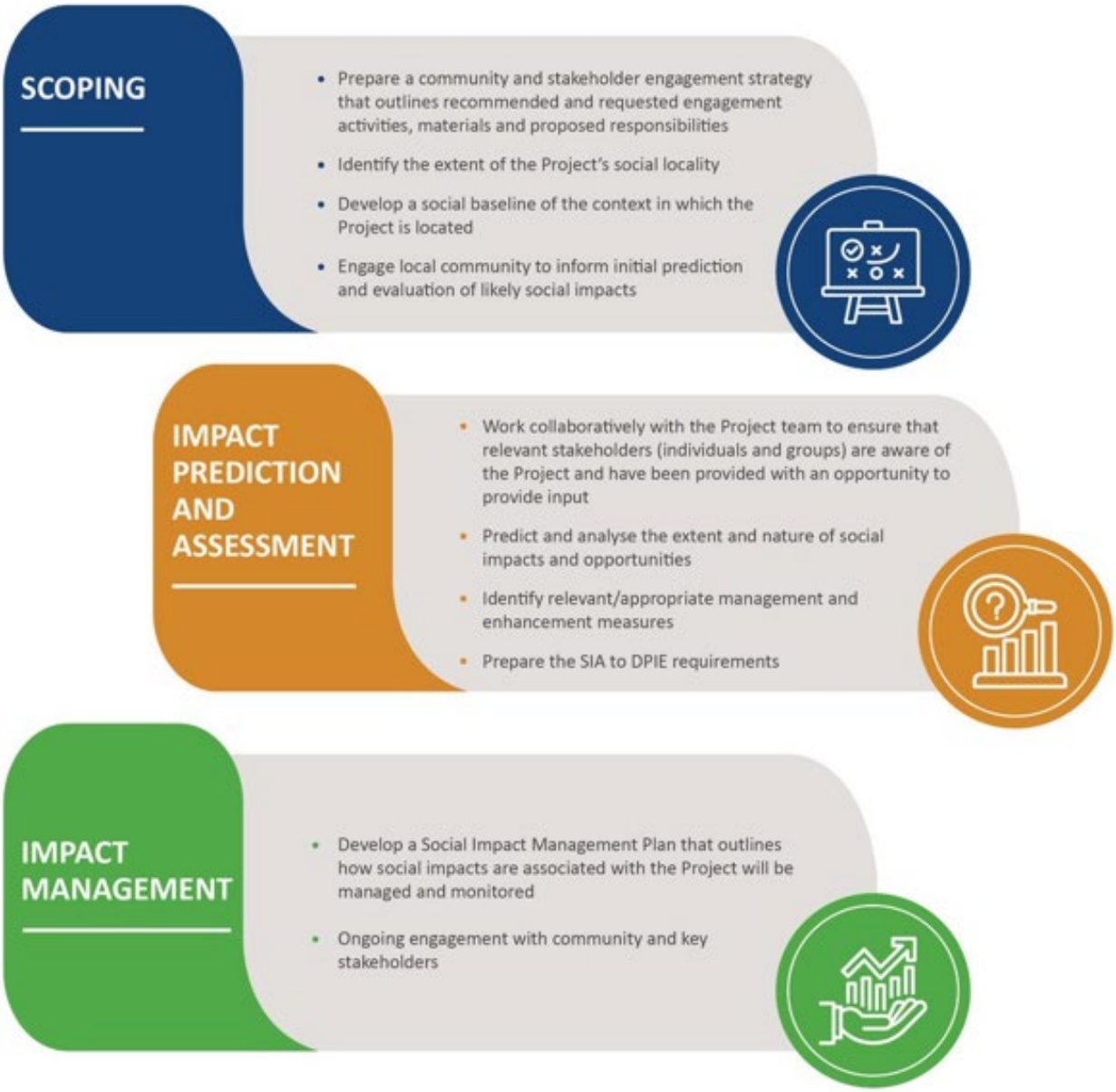


Figure 2.3 SIA Program Phases

According to the SIA Guideline, and as outlined in **Figure 2.4**, social impacts can be grouped, and may involve impacts/changes to people's way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods, and decision-making systems.

Figure 2.4 Social Impact Categories

As is the case with any type of change, some individuals or groups within the community may benefit, while others may experience negative impacts. *Social impacts may be physically observable or may manifest as rational or justified fears or aspirations; may be experienced positively and negatively by different stakeholders; and may be tangible or more tangible (SIA Guideline, Table 1, page 5).*

If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of social disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced.

Monitoring and evaluation is also a key component of the SIA process, to identify any unanticipated impacts that may arise because of the project, and to monitor social impacts, should the project proceed.

2.1 Defining the Social Locality

The primary communities of interest that for the Project for the purposes of this assessment are outlined in **Table 2.1**.

Table 2.1 Communities of interest within the social locality

Community of interest and purpose	Statistical area
Localities (SSCs)[4] proximate to the Project	Kentucky, Kentucky South, Wollun, Woolbrook, Bendemeer, Walcha Road, Balala
Key townships proximate to the Project	Kentucky, Bendemeer, Woolbrook, Uralla, Walcha
Significant Urban Areas	Tamworth, Armidale
Local Government Areas (LGAs)	Tamworth Regional LGA, Uralla Shire LGA, Walcha LGA
Sub-Region	Southern New England High Country, Lower North West
Region	New England North West
State averages have been used for comparative purposes	NSW

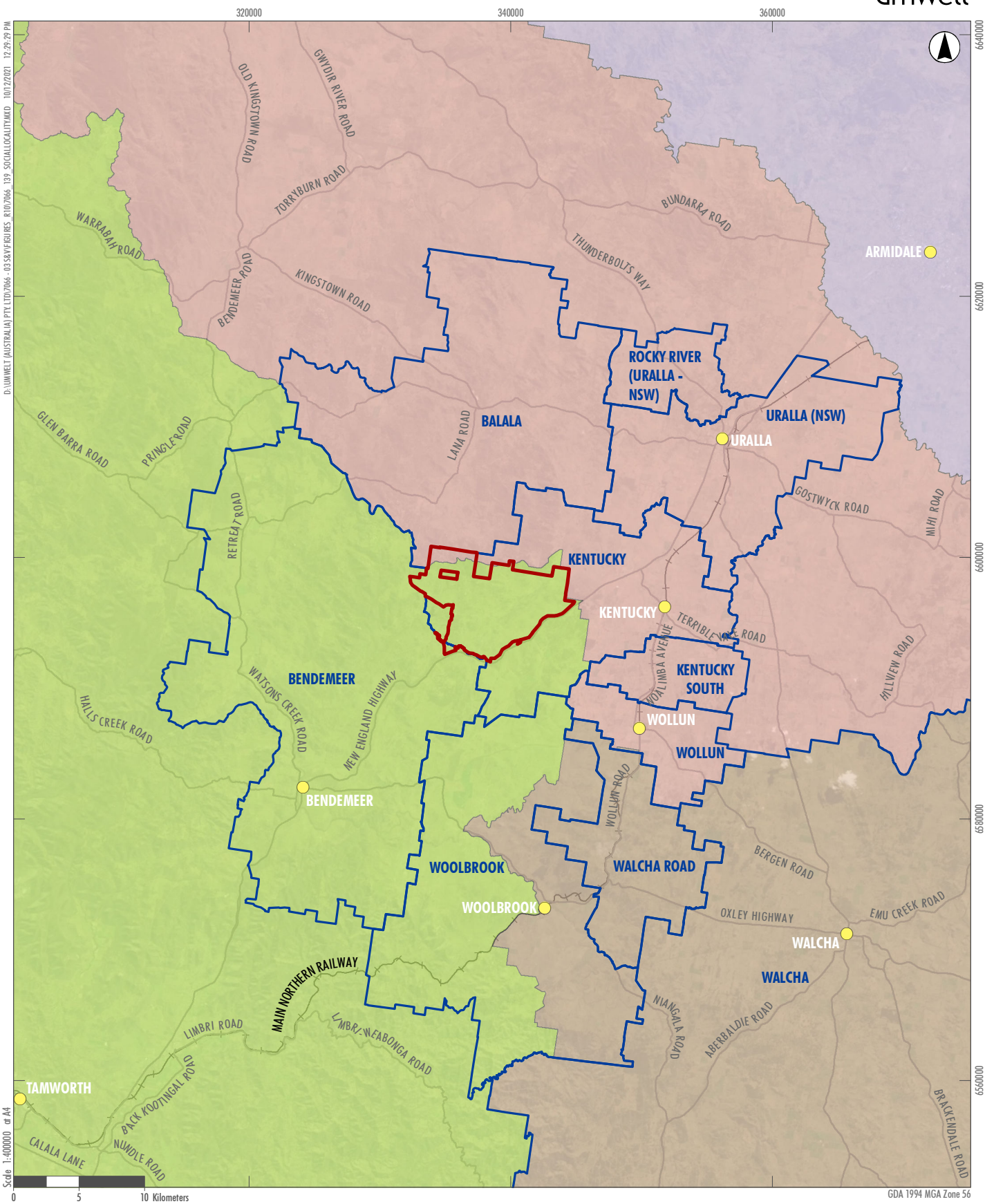
The social locality has been defined as a result of:

- properties who are directly involved in the Project or live nearby, including host and adjacent properties
- localities that are likely to be impacted by the Project or benefit from the community benefits program including surrounding localities of Kentucky, Kentucky South, Wollun, Woolbrook, Bendemeer, Walcha Road and Balala
- localities where construction workforces or materials may be sourced from or where workforces may be accommodated or housed, including the host Tamworth Regional LGA and Uralla Shore LGA and neighbouring Walcha LGA.

As outlined in **Section 4.0,** social impacts of the Project are likely to be felt predominately within the social locality.

Figure 2.5 provides an overview of the location of the Project and the ABS statistical areas used within this assessment. As shown in **Figure 2.5**, the Walcha, Wollun, and Rock River SSCs are also in proximity to the Project Area. Given the low populations within these areas, most data captured in the ABS census and other sources is typically withheld or randomly adjusted to safeguard residents' anonymity. Given this limitation, these suburbs have not been the focus of the SSC community profile with representation instead occurring at a LGA level.

[4] ABS defined State Suburbs (SSCs)



Legend

- Project Area
- SCC Boundary
- Road
- Railway
- City/Town

Local Government Area

- Armidale Regional Council
- Tamworth Regional Council
- Uralla Shire Council
- Walcha Council

FIGURE 2.5

Social Locality

Image Source: ESRI Basemap, Data source: DFSI (2020), Neoen (2020); ABS (2016)

2.2 Social Baseline Profile

A baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social environment in which a project is proposed, and of potentially affected communities. The social baseline profile is a foundational component of SIA, as it provides the basis for which social impacts associated with the Project may be predicted, assessed, monitored, and managed over time.

The Guideline (DPIE, 2021) outlines the key components of a social baseline study, to include:

- the scale and nature of the project
- who may be affected, including any vulnerable or marginalised groups
- any built or natural features on or near the project
- relevant social, cultural, and demographic trends and other change processes
- the history of the proposed project and/or development in the area, including community response to previous change.

2.2.1 Sustainable Livelihoods Approach

To understand the communities of interest to the Project and to evaluate their resilience and adaptive capacity to change, the social baseline has utilised the Sustainable Livelihoods Approach or 'community capitals' analysis (U.K. Department for International Development [DFID] 1999).

According to this framework, people seek to maintain their livelihood within a context of vulnerability. Specifically, threats to their livelihood include shocks (such as sudden onsets of natural disasters, problems, conflicts, and economic crises), trends (for instance, those relating to the economy, health, resources, and governance) and seasonality (such as cyclical fluctuations in prices or employment). People draw upon these assets to build and maintain their livelihood. A livelihood is considered sustainable *'…when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base'*.

The DFID (1999) approach draws on broad categories of community capitals as a fundamental basis to identifying and further enhancing community capacity and resilience. This methodology has been further developed by Coakes and Sadler (2011) to reflect the capitals approach - human, social, natural, physical, economic and political. The vulnerability of each capital area can be assessed through the selection of a suite of indicators specific to each capital area to assess a community's vulnerability to change, or conversely, their adaptive capacity. Elements of each capital area are further outlined in **Figure 2.6**.

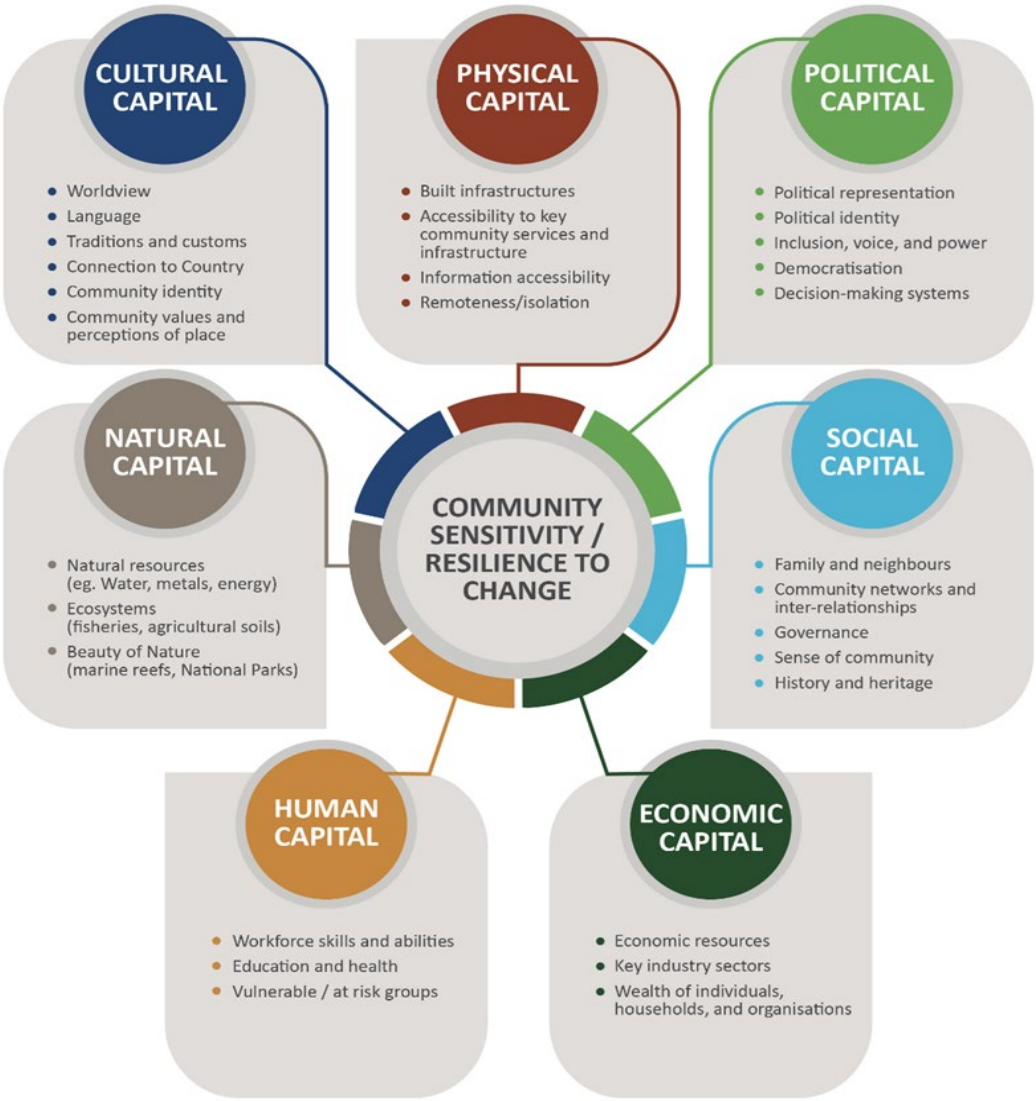


Figure 2.6 Community Capitals Framework

Source: Coakes and Sadler, 2011

The social baseline profile also draws on a range of measures and data sources to understand the socio-economic, cultural, and demographic characteristics of the communities within the social locality and is used to determine how the Project may affect the different aspects of people's lives. Data has been gathered and summarised from publicly available secondary datasets, including the Australian Census (2016) and Social Health Atlas of Australia (PHIDU, 2021) as well as through a review of local media, and local, regional and State government plans and strategies relevant to the social locality.

Whilst the Project intersects two LGAs, statistical and comparative analysis using ABS data has been undertaken at the SSC structural level to better capture key trends and themes relevant to the Project. LGA level data is also used, to inform regional characteristics and trends relevant to the Project, including regional strategic planning priorities and directives.

Appendix A contains the dataset that has been used to inform the social baseline as well as additional detail on the capitals analysis. The key indicators of interest used to compile the social baseline profile is outlined in **Figure 2.7**.

Figure 2.7 Social Baseline Profile Indicators

2.3 Stakeholder Identification

SIA involves the participation and collaboration of people who have an interest in, or those that are affected by a project. As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live, work, or recreate near the Project
- have an interest in the proposed action or change
- use or value a resource associated with the Project
- are affected by the Project e.g., may be required to relocate because of the Project.

A stakeholder identification process was undertaken for the Project to support the planning and delivery of community and stakeholder consultation to inform the SIA. This process involved identifying stakeholders with an interest, or those directly and indirectly affected by the Project. This included identifying any special interest and/or potentially vulnerable or marginalised groups.

Key stakeholder groups that have been consulted or engaged are outlined in **Figure 2.8**.

Figure 2.8 Key Stakeholder Groups

Further details of the key stakeholder groups relevant to the Project are outlined in **Table 2.2**.

Table 2.2 Identification of Project Stakeholders

Stakeholder Category	Stakeholders
Landholders/Near Neighbours	Landholders and near neighbours in proximity to the Project (including Kentucky, Kentucky South, Wollun, Bendemeer and Balala)
Wider Community	Community members in Tamworth, Uralla, Walcha and Armidale LGAs
Local, State and Federal Government Agencies	Department of Planning, Industry and Environment (DPIE) Tamworth Regional Council Uralla Shire Council Walcha Council Armidale regional Council Department of Agriculture, Water and Environment (DAWE) Environment Protection Authority (EPA) Natural Resources Access Regulator (NRAR) NSW Biodiversity, Conservation and Science (BCS) Heritage NSW Transport for NSW (TfNSW) Airservices Australia Department of Defence NSW Rural Fire Service
Aboriginal stakeholders	Armidale Local Aboriginal Land Council (LALC) Tamworth LALC Iwatta Aboriginal Corporation Nyakka Aboriginal Culture Heritage Corporation Gomeroi NT claimant
Community and Special Interest Groups	Project Community Consultative Committee (CCC) Uralla Business Chamber Armidale Business Chamber Tamworth Business Chamber NSW Farmers Uralla Branch ZNET Uralla Kentucky Progress Association Red4NE Southern New England Landcare Landcare Tamworth Kentucky Hall committee Friends of Kentucky Action Group (FOKAG) New England Vision 2030 Institute

Stakeholder Category	Stakeholders
Local and Regional Businesses and Service Providers	• Service providers and local businesses targeted for consultation the SIA: • Accommodation and housing providers • Employment services and recruitment agencies • Education and training providers • Healthcare providers • Tourism providers • Community services • Local Businesses and contracting services Service providers consulted as part of the broader EIS: • Transgrid • Digital Distribution Australia Pty Limited • NSW Telco Authority • Bureau of Meteorology • Mobile Phone/internet Service Providers – TPG Internet, Optus Mobile, Vodafone Australia, Pivotel Mobile • Various Digital Radio Service Providers • Royal Flying Doctors Service

2.3.1 Community and Special Interest Groups

The sections below provide a description of some of the community and special interest groups identified in Table 2.2 for additional context.

2.3.1.1 Friends of Kentucky Action Group

The Friends of Kentucky Action Group (FOKAG) is a community group comprised of local landholders and community members in the Kentucky locality, that has formed as a result of their issues/concerns with the Thunderbolt Energy Hub Project (FOKAG, Facebook 2021). The group has developed a Facebook page to act as a medium to express concerns and to share information with local residents.

During engagement for the SIA, the FOKAG group were contacted to be involved in a meeting with representatives from Neoen and Umwelt to discuss their feedback on the Project. To account for member's individual availability, individual telephone meetings were undertaken with 14members of the group, with representatives nominated by FOKAG as landholder representatives across the geographic Project footprint (Stages 1 and 2) - with some landholders located adjacent to the Project Area and others from localities surrounding the Project Area (analysis of the outcomes of these meetings is provided in **Section 4.0**). These participants have been classified in the SIA as representatives of a community or special interest group i.e., FOKAG, however, it is also acknowledged that some members are landholders.

Neoen's previous engagement with the group is also outlined in the CRP, refer to Appendix 6 of the EIS.

2.3.1.2 Z-NET Uralla

Z-net Uralla (Zero Net Energy Town Uralla) was formed in 2015 from volunteers who came together to help construct the blueprint for Moreland Energy Foundation, now known as the Australian Energy Foundation. The mission statement of Z-NET Uralla is:

> *To assist the people of the Uralla Shire's transition to energy self-sufficiency, based on renewable sources, and to allow our community to confidently participate in the unfolding revolution in energy technologies.*

Community engagement and education in the energy transition is the focus of the initiative. Key priorities include: (1) energy efficient homes, (2) vibrant sustainable businesses, (3) building renewable energy sources and (4) acting together on renewable energy self-sufficiency.

Z-Net has implemented a number of programs within the community of Uralla to increase sustainability:

- Helping people make their households more energy efficient:
  - Teaching DIY curtains for window and door coverings
  - Home energy reviews for homeowners
- Sustainable firewood collection methods
- Education of the community
- Sustainability within businesses
- Partnering with Farming the Sun for access to a rooftop solar and solar hot water bulk deal
- Efficient water usage
- Adopt a tree program and tree plantings
- Waste management.

A representative of Z-Net Uralla was engaged as part of the SIA.

2.3.1.3 Red4NE

Red4NE (Responsible Energy Development for New England) is a group that has formed in opposition to the NSW Energy Transition and the development of the New England REZ. The group is calling for more meaningful community engagement and consultation regarding this transition and suggest that the NSW Government needs to do more to ensure that all aspects of renewable energy projects are considered and that this is communicated to the local community. The group is seeking:

> *Meaningful engagement for the community on key strategic land use planning. What generation and transmission goes where and when?*
>
> *Assessment of infrastructure compatibility, for example between large scale solar and agriculture*
>
> *Development of Infrastructure that mitigates in favour, rather than against regional tourism and respects traditional owners and their heritage of the land*
>
> *Development which promotes more ethical engagement from developers, promotes respect for full transparency for the community in terms of project economic, overall life of the project bankability and benefit sharing*
>
> *Development based on independent research which clarifies potential adverse impacts of oversized projects and the cumulative impacts from over development on the landscape*
>
> *Development which introduces more scientific certainty and liability for 'end of project life' considerations, such as decommissioning and remediation* (Red4NE, 2021).

2.3.1.4 New England Visions 2030 Institute

New England Visions 2030 Institute is a non-profit Think Tank based in Armidale. The group engage stakeholders and council officers examine issues relating to the local community and any conflicts and publish reports with recommendations for future action. Issues examined by the group include:

- Road funding
- Internet usage
- COVID-19 pandemic
- Armidale Regional Council
- Regional development
- Drought stimulus package.

Representatives of the Institute were engaged as part of the SIA.

2.4 Community Consultation

Neoen commenced consultation with host landholders in 2018 and 2019 in relation to the Project, with consultation ongoing since this time. This initial consultation included phone calls and meetings conducted by Neoen employees. Since this time Neoen has completed a range of community engagement activities with local landholders and key stakeholders. To support this process Neoen engaged a local community engagement officer in September 2020, with further detail of these activities outlined in Neoen's Community Relations Plan (CRP).

Neoen's CRP also outlines the Project's approach to engagement and community benefit sharing, which was submitted to DPIE together with the Scoping Report in November 2020 (an updated version of the CRP is included in Appendix 6 of the EIS).

Outcomes from community consultation activities undertaken by Neoen during the scoping phase and EIS preparation phase have been reviewed and consolidated to inform the SIA and understand the range of community views, concerns, interests, and feedback on the Project to date. This existing information has been complimented by a targeted consultation program for the SIA specifically, undertaken between September and October 2021 by Umwelt in collaboration with Neoen.

Table 2.3 outlines the engagement mechanisms that have been utilised to inform the SIA, with **Table 2.4** summarising the stakeholders consulted. **Appendix B** provides additional detail of the stakeholders consulted for the SIA. Neoen's CRP, (refer to Appendix 6 of the EIS) provides additional detail on the engagement program undertaken by Neoen.

Table 2.3 SIA Engagement Mechanisms

Mechanisms	Description	Target stakeholders	Neoen/Umwelt Responsibilities
Project newsletters and bulletins	To date, 1 newsletter and 3 bulletins have been developed for the Project: • December 2020: newsletter distributed to community members in Kentucky • July, September and October 2021: bulletins were emailed to approximately 140-200 community members Throughout 2020 and 2021 Neoen's Community Engagement Officer distributed physical copies of the information booklets to letterboxes of community members surrounding the project area who had not been met in person. An information booklet with an advertisement for the September 2021 community information sessions was distributed to community members in Kentucky via Australia Post.	Wider community Near neighbours/ Landholders	Neoen was responsible for the development, content and distribution of the newsletters and bulletins
Concerned neighbours group meeting	Meeting was held at the Kentucky Hall in February 2020. This meeting was attended by approximately 30-40 community members.	Wider community Near neighbours/ Landholders	Neoen was responsible for attending the meeting and recording outcomes Umwelt representatives were not involved in this meeting and the outcomes of this session have not been analysed for the SIA
Community drop-in session	A Community drop-in session was held at Uralla in September 2020, where the community was invited to view Project posters, maps and ask the Neoen team questions about the Project.	Wider community Near neighbours/ Landholders	Neoen was responsible for the development of materials for the session, attending the session and answering outcomes An Umwelt Ecology team member was present to respond to ecology questions Outcomes of this session have not been analysed for the SIA
Landholder Personal Meetings	Meetings with landholders and near neighbours to discuss the Project and any concerns. Approximately 88 community members were consulted (sometimes on multiple occasions) between December 2019 to October 2021. The host landholder group for Stage 2 comprises of approximately 8 families, who were consulted in addition to the 88 community members.	Near neighbours/ Landholders	Neoen was responsible for organising, attending meetings, and recording outcomes Neoen provided summary outcomes of meetings to Umwelt including documentation of the social impacts identified during the meetings

Mechanisms	Description	Target stakeholders	Neoen/Umwelt Responsibilities
Community Survey	An online community survey was used to capture community feedback on the Project for incorporation in the SIA. The survey link was provided on Neoen's website and in Project newsletters and bulletins. The survey was available from July 2020 and was still available at the time of reporting. For the SIA, the results of the survey up until October 2021 were analysed.	Wider community Near neighbours/ Landholders	Neoen was responsible for the development the initial survey instrument and the distribution and promotion of the survey Survey questions were adapted in 2021 for the SIA and analysed by Umwelt
SIA Interviews/ Personal Meetings	Individual meetings held via telephone or video conference. Stakeholder were identified through a stakeholder identification process and through snowball sampling (where participants recommend additional people to contact). In addition, two landholders requested to be contacted by the SIA team through Neoen's online survey. Proactive calls/emails were made to facilitate these meetings. The purpose of the meetings were to: • understand community views on the Project and identify issues of importance • understand how the project may impact on the community (positively and negatively) • identify any potential strategies to mitigate negative impacts or to enhance positive impacts/community benefits, such as identifying potential community partnerships and collaborations, community needs etc.	Near neighbours/ Landholders Community and special interest groups Local industry groups Government agencies	Neoen made initial contact with identified stakeholders Where stakeholders identified they would be interested in a meeting/discussion, Umwelt followed up to arrange a meeting Umwelt attended all meeting and recoded outcomes Neoen representative attended some meetings to provide a project briefing (where the stakeholders were comfortable with this occurring) Umwelt analysed outcomes and data for the SIA
Business and Service Provider Survey	Online survey distributed to 121 local and regional businesses and service providers with 6 service providers and 9 businesses completing the survey. The survey included questions relating to: • views on the project • the organisation/business and the types of goods or services they provide • the local economic market, opportunities and constraints for renewables projects • the town and region's current servicing capacity • the town and region's current workforce availability and capability	Local businesses and service providers in the Tamworth, Uralla, Walcha and Armidale LGAs Contractor and suppliers on Neoen's existing database (in the local and regional area and across Australia)	Neoen distributed the survey via email Umwelt analysed outcomes and data for the SIA

Mechanisms	Description	Target stakeholders	Neoen/Umwelt Responsibilities
	• the business/service's current servicing capacity (including occupancy rates) and existing supply and demand, considering seasonal trends and other industry sectors • the business/service's interest to provide goods or services to the Project in the future		
SIA Briefing and Discussion	SIA briefing provided at scheduled Community Consultative Committee (CCC) meeting (in September 2021). SIA team member provided a briefing on the SIA and facilitated a short discussion on community feedback, including: • SIA process and Guideline requirements • Categories of social impact • SIA engagement - how community members could get involved • Initial feedback from the community on the Project A copy of the presentation and minutes were published on the Project website.	CCC members	Neoen organised and hosted the meeting Umwelt provided presentation on the SIA and responded to questions from the CCC members Umwelt analysed outcomes and data for the SIA

Mechanisms	Description	Target stakeholders	Neoen/Umwelt Responsibilities
Community Information Session	Two online community information and Q&A sessions were held in September 2021 to provide: • Project update (Neoen) • Summary of key findings from EIS technical studies • update on the SIA including an overview of the SIA process and how community members can be involved • Responses to participant questions The presentation material and recording, and a summary of the Q&As was uploaded to Neoen's website following the sessions To complement the online sessions, Project information posters were displayed at the Kentucky Hall between 15-18 September 2021 with Neoen's Community Engagement Officer present to engage with interested people directly. A virtual community day was undertaken and made available on Neoen's website.	Wider community Near neighbours/Landholders	Neoen was responsible for organising, advertising and running the sessions. Umwelt's SIA team provided a short presentation on the SIA process and answered questions from participants that related to the SIA

Source: Data provided by Neoen and collected by Umwelt

Table 2.4 Summary of Consultation Statistics (utilised in the SIA)

Stakeholder Group	Mechanism	No. Consulted[5]
Landholders/near neighbours	Engaged by Neoen through multiple mechanisms (including meetings, phone calls and emails)	188
	Phone interviews with Umwelt	4
Wider community	Online Q&A session	14
	Community survey	70
Community and special interest group representatives	SIA meeting	18[6]
Business and service providers	Business and service provider survey	15[7]
Aboriginal stakeholders	Phone interviews with Umwelt	1
Government agencies	SIA meeting	3
	Total	**312**

Note: SIA meeting indicates a targeted meeting conducted by Umwelt to inform the SIA, Neoen representatives were represent at some (but not all) of these meetings. Stakeholders may have been engaged through multiple mechanisms.

2.5 Social Impact Evaluation and Management

The SIA has utilised data from a range of sources to identify and develop a layered picture of the potential social impacts arising from the Project. Social impacts associated with the Project have been evaluated by providing a ranking of impacts according to an assessment of impact characteristics, as defined in the SIA Guideline (DPIE 2021) and outlined in **Table 2.5**.

Table 2.5 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 (DPIE 2021)

[5] Note that stakeholders have been consulted over multiple mechanisms and could be counted more than once.
[6] Includes 18 representatives from 5 different special interest groups, note that some special interest group representatives (including FOKAG representatives) are also near neighbours / landholders [7] Includes 6 service providers and 9 businesses out of the 121 contacted
[7] Includes 6 service providers and 9 businesses out of the 121 contacted

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 (Risk = Hazard + Outrage) (Sandman, 1993), which acknowledges what are 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. This approach is reflected in the new SIA guideline, where level of concern/interest and intensity or importance are considered (refer to **Table 2.5**).

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 relate to a number of 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. This section also provides an evaluation of the significance of each potential negative and positive social impact, utilising the impact characteristics noted in the SIA Guideline (DPIE 2021). This section also outlines Neoen's responses to community identified impacts and proposed mitigation and management measures to be implemented to address the impacts should the Project be approved.

The social significance matrix used to evaluate social impacts (refer to **Table 2.6**), 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) to determine an overall evaluation of impact as 'low', 'medium', 'high' or 'very high'. **Table 2.7** and **Table 2.8** contain further detail regarding magnitude and likelihood classifications. Proposed mitigation and enhancement strategies are also considered in determining the residual social impact.

Table 2.6 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 (DPIE 2021)

Table 2.7 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 (DPIE 2021)

Table 2.8 Definitions of Likelihood

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 (DPIE 2021)

Both positive and negative impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts e.g., level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution, etc.

The evaluation of social impact significance has involved four main steps as outlined in **Figure 2.9**.

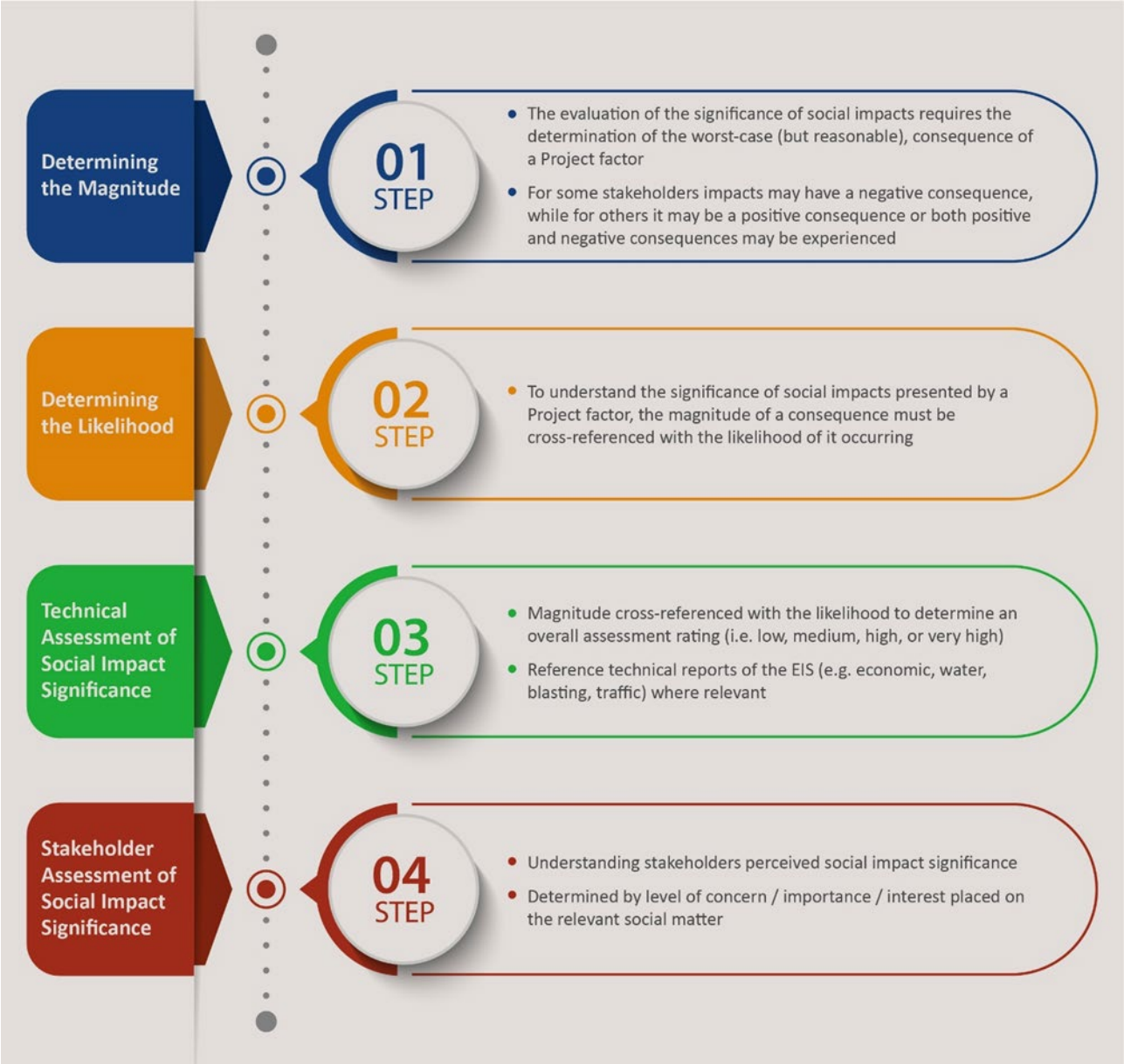


Figure 2.9 Social Impact Evaluation Process

2.6 Assessment Assumptions and Limitations

The following points identify limitations of the SIA, that may affect assessment outcomes:

- Change in engagement approach given the COVID-19 pandemic – the face-to-face community information session that was planned for September 2021 was modified to include a poster display at the Kentucky Hall, with Neoen's Community Engagement Officer in attendance to answer questions, and additional online resources provided (refer to **Table 2.3**).

- Umwelt has been involved in community consultation activities (to inform the SIA) since September 2021 (refer to **Table 2.3**) with Neoen leading community consultation with host and neighbouring landholders and the broader community prior to this time. Feedback and outcomes from previous consultation completed by Neoen were provided to the SIA team for review and consideration in preparation of the SIA.

- Not all stakeholders contacted have been successfully consulted for the purposes of informing the assessment due to 1) a lack of stakeholder interest in participating and/or 2) an inability to contact certain stakeholders e.g., no response to calls and messages, inaccurate contact information.

- Participants were engaged through multiple mechanisms; therefore, some stakeholders have had their feedback and views on the Project considered more than once.

- During community engagement (including meetings and online surveys), some participants, when identifying and discussing social impacts, did not distinguish between the differing Project stages (Stages 1 and 2). While some participants may be less impacted by Stage 1 (which is the subject of the current SIA), they spoke about the two separate stages as one Project, with a number assuming that if Stage 1 proceeded, Stage 2 would also proceed. Some community members acknowledged that they believed that they would be more impacted by Stage 2 due to the Project's closer proximity to Kentucky, however wanted to note their concerns during Stage 1 consultation activities. As has been previously noted, Neoen has made the decision to separate the Thunderbolt Energy Hub into two stages based on feedback from landholders, local community groups and local Members of Parliament, to enable further time to consider Stage 2. The separation of the Project in two separate stages with only Stage 1 being progressed as part of the current development application is a response by Neoen to enable further consideration of Stage 2 area, in line with stakeholder feedback.

- The Project (Stage 1) will have a capacity of approximately 192 megawatts (MW), with the potential to power approximately 118,000 homes. The Thunderbolt Energy Hub (Stages 1 and 2 combined) as originally proposed included approximately 70 WTGs over an area of approximately 12,222 and capacity of 380 MW. This represents an approximate 50% reduction in the scale of the Project being progressed in the current development application, in response to community feedback. This approach will enable Neoen to undertake further consultation and planning for Stage 2 whilst allowing Stage 1 to progress, if approved. It should be noted that the online community survey and some of the engagement undertaken by Neoen was completed prior to this Project change. Therefore, in many instances it is not possible to delineate which stage of the Thunderbolt Energy Hub concerns relate to specifically. Where possible sentiment is denoted in this regard.

3.0 Social Baseline

The following sections summarise key findings and insights sourced from the community profile, particularly around community strengths and vulnerabilities, utilising the Sustainable Livelihoods Approach outlined in **Section 2.2.1**. The complete dataset used to inform the social baseline profile is provided in **Appendix A**.

The following components have been considered in the social baseline profile for the Project, namely:

- **geographic and spatial** – identification of communities of interest and relevant stakeholders in the social locality and their respective socio-economic and demographic characteristics and values
- **governance** – an understanding of the relevant governance structures including those of traditional owners and local, State and Federal government jurisdictions
- **development context** – a review of the other major projects and other development factors, as well as previous experiences with comparable projects, to ascertain the response of local communities to potential change processes
- **key community values, challenges and priorities** – identification of community values through both primary and secondary sources, documentation of current community needs or issues, and goals or priorities, as identified in key strategic planning documents, regional plans or studies as well as within local and regional media
- **identification of vulnerability or resilience** across the communities of interest and their capacity to cope with change.

3.1 Energy Policy and Strategic Planning Setting

Australia's commitment at the international level to the Paris Climate Accord has influenced the growth of and investment in the renewable energy sector across the country.

In 2013, the NSW Government released the NSW Renewable Energy Action Plan which consists of 24 actions under three goals outlining the Government's intention to work with communities and the renewable energy industry to increase renewable energy generation in the state. The Plan was implemented alongside the Energy Efficiency Action Plan (NSW Government, 2013) and was completed in December 2018.

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 (Department of Planning, Industry and Environment, 2020). The Government noted the investment will generate 6,300 construction jobs and 2,800 ongoing jobs, along with $1.5 billion in lease payments for landowners, especially in regional NSW for wind and solar farms. The government also announced a Manufacturing Renewables Taskforce to create local jobs and support local industry (Deputy Premier, 2020).

As part of the 2019 NSW Electricity Roadmap, the NSW Government is currently in the development phase of the first five Renewable Energy Zones (REZ) (Energy NSW, 2021). The REZs support the planned diversification of the energy sector as existing power stations near the end of their operational life. The zones will also support the coordination of new grid infrastructure to connect multiple generators (such as wind and solar farms) to the same location. The REZs subsequently build on the NSW Transmission infrastructure strategy, supporting the implementation of the Australian Energy Market Operator's Integrated System Plan (2020).

The Project Area is located within an identified REZ (the New England REZ) under the NSW Government's Electricity Strategy (Department of Planning, Industry and Environment, 2019). The New England REZ is identified as potentially supplying 8,000 MW of renewable energy as it has been identified by the NSW Government as having some of the best natural energy resources in the country and is ideally located close to existing high voltage power lines that connect the NSW east coast and Queensland (Energy NSW, 2021). As such, there are a large number of renewable energy projects within the REZ, at different stages of the approval process within 100 km of the Project Area (refer to **Figure 3.1**).

There are several other projects which are recently approved for development or currently in planning across the social locality. Such developments may further intensify impacts experienced by local communities across the region or could result in cumulative changes to the community when considered in conjunction with the Project. This could be particularly in relation to impacts associated with concurrent construction periods. For example, other Projects in proximity to the Project that are currently being proposed that could have construction timeframes similar to the Project, include the Winterbourne Windfarm (approximately 38km north of the Project Area), the Salisbury Solar Farm (approximately 32km northeast of the Project Area, the Oxley Solar Farm (approximately 50km northeast of the Project Area and the Tilbuster Solar Farm (approximately 55km northeast of the Project Area). Cumulative impacts of these Project are further outlined in **Section 4.8**. An overview of other major projects in the social locality, is also provided in **Appendix C** and Section 2.4 of the EIS.

A media review of issues relevant to the New England REZ has been conducted (Refer to **Appendix D**). The review suggests that local residents' sentiment towards renewable energy projects is mixed. Some community members have raised a general concern for the impacts of projects on the community, with some involved in active efforts to oppose Projects from being developed. However, other local community members have expressed strong support for renewable energy projects when developed on land that does not hold high value. The review indicates that conflicts between community groups and project development often arise where perceived negative impacts to agricultural economic viability, visual, aesthetic, and social amenity values are perceived to outweigh the benefits to the local residents or community.

The media review (**Appendix D**) also highlights concerns raised in relation to other major developments as noted below:

- Walcha Energy Project (approximately 30km southeast of Kentucky) which includes the Winterborne Wind Farm, Uralla Renewable Energy Hub and the Salisbury Solar Farm, has received mixed feedback from the community. Community opposition has been experienced due to the perceived potential for the project to adversely impact on agricultural land and cause changes to the way of life in surrounding towns. While other media reports note that the community is supportive of the Winterborne Wind Farm due to community t community benefits of the project including the substantial community fund and community benefits program.

Solar renewable energy projects in the New England REZ have also observed similar community responses while also facing additional challenges.:

- Metz Solar Farm - located in Hillgrove saw mixed elements of support and concern, with support being focused on an increase in local job opportunities.
- Oxley Solar Farm - faced significant controversy and community opposition due to its proximity to a UNESCO World Heritage Site, resulting in the project size being reduced by half.

In the case of all the above project examples, it was residents in proximity to these projects that expressed the greatest levels of opposition. This is a common occurrence for large scale developments of any nature where the proximate residents are generally the most affected by environmental and social impacts.

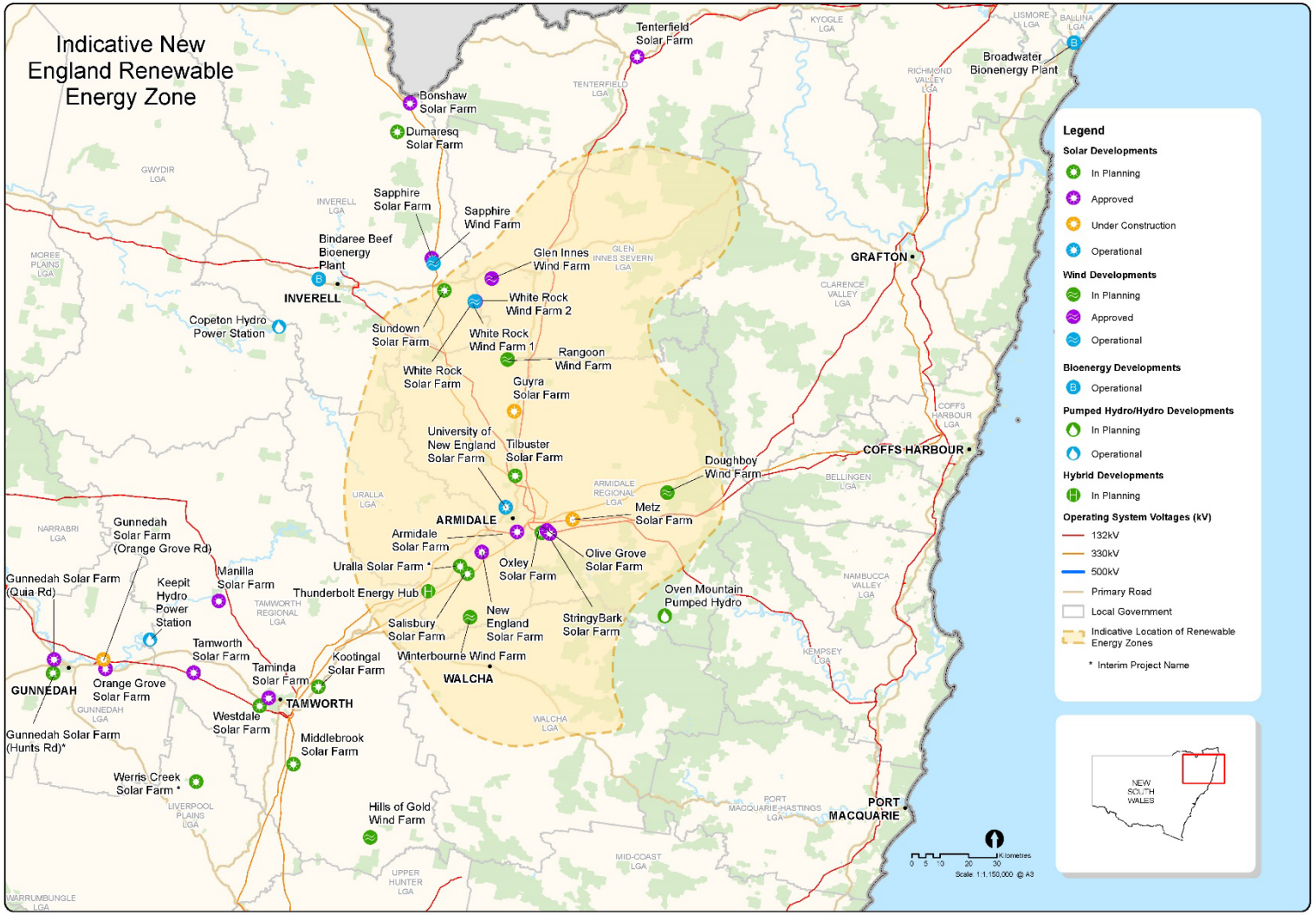


Figure 3.1 New England Renewable Energy Zone

Source: NSW Government (2021) Renewable Energy Zones, Renewable Energy Zones | Energy NSW

3.2 Local and Regional Context

The Project Area is located within a rural setting approximately 47 km northeast of the regional city of Tamworth, to the west of the locality of Kentucky and adjacent to the New England Highway, within the New England North Western Region. This larger region is comprised of many smaller sub-regions, of which the Project Area intersects the Lower North West, and the Southern New England High Country regions.

The Project Area covers approximately 5,918 ha partially within Tamworth Regional Local Government Area (LGA) and Uralla LGA. Smaller population centres identified within the social locality include Uralla, Bendemeer, Walcha, Woolbrook, Invergowrie, Saumarez, Moonbi, Kootingal, and Manilla. Large and regionally strategic population centres within the social locality include Armidale and Tamworth. The Walcha LGA has also been included in the profile as Stage 2 (if progressed) is likely to be located in this area. Given the location of the Project is it likely that some of the construction workforce for the Project will be sourced from within the broader region including Tamworth Regional, Uralla, Walcha and Armidale LGAs.

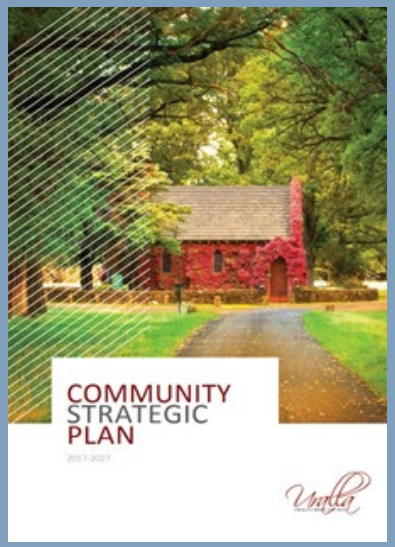
The Lower North West Region, and the Southern New England High Country is an important area for NSW, located at the convergence of key inland transport routes from Newcastle and Sydney, to the greater Northern Tablelands, the North West, and South East Queensland. Tamworth and Armidale are the administrative and service centres of the respective regions; each have their own airports, are located on the New England Highway, and are positioned on the North West railway line and freight corridor.

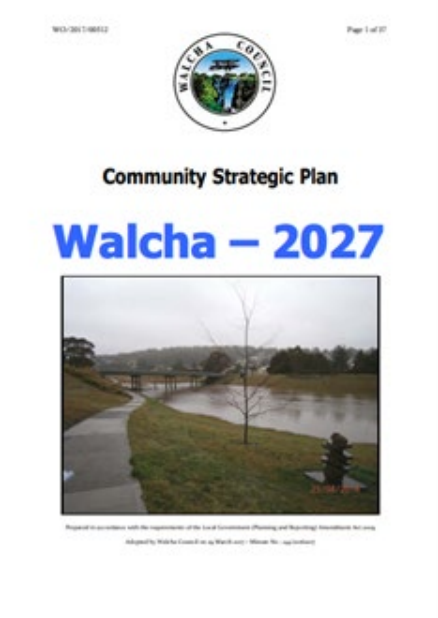
The social locality also contains critical transmission networks connecting key energy suppliers to consumers across the State.

Table 3.1 contains an overview of local and regional strategic plans relevant to the social locality. This provides an understanding of the local and regional context, as well as strategic priorities and interests for the local and regional area as they relate to the Project. As outlined below these strategic plans are supportive of renewable energy developments within the region, suggesting that the Project is consistent with local and regional planning, in addition to State Government policy regarding the Renewable Energy Zone.

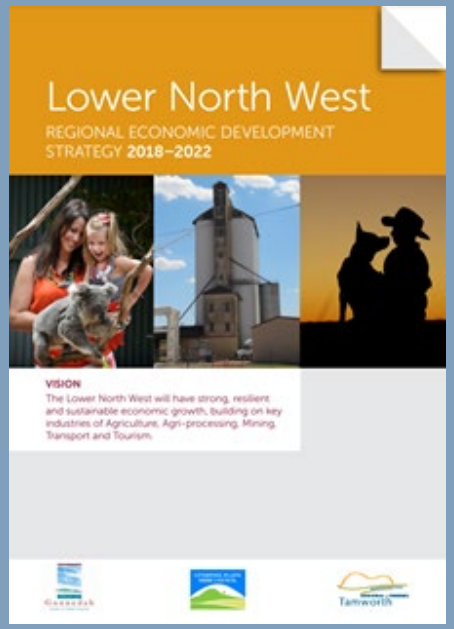
Table 3.1 Strategic Plans and their Relevance to the Project

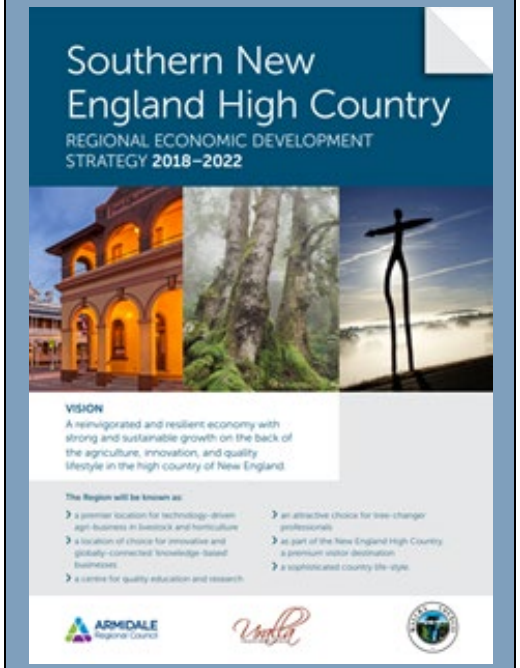
Plan/Document/Strategy	Relevance to the Project
Keychange 2017-2027 Community Strategic Plan (Tamworth Regional Council, 2017) 	This document outlines the strategic plan for the Tamworth Regional Council over the next ten years. This plan has been informed by community engagement. From this community engagement Council has outlined a series of aims and objectives. Relevant objectives identified in the plan include: • Meet social justice principles through the provision of accessible and inclusive high-quality, integrated community services that meet current and emerging needs • Preserve and celebrate the character, heritage and culture of our city, towns and villages • Support and facilitate economic development and employment opportunities • Market the Tamworth Region as a destination for living, working and leisure • To establish rail, air, land connections to enable local, national and international trade • Improve connectivity with capital cities and other regions • Represent and advocate community needs • Provide inclusive opportunities for the community to get actively involved in decision-making. In addition, the development of renewable energy, and sustainable practices were identified by the community as a key prospect for future, comprised within that is a view to support a sustainable energy transfer following the phasing out of fossil fuels.

Plan/Document/Strategy	Relevance to the Project
Community Strategic Plan 2017-2027 (Uralla Shire Council, 2017) 	The Plan outlines the strategic community planning priorities, informed by community consultation, within Uralla Shire Council. Relevant strategies identified in the plan include: • Respect the heritage of the region and highlight and enhance our unique characteristics • Implement tools to simplify development processes and encourage quality commercial, industrial and residential developments • Provide land use planning that facilitates employment creation • Support the attraction of new businesses, including sustainable employment generating projects • Implement and maintain developer contribution plans • Engage with the community effectively and use community input to inform decision making • Ensure Uralla is prepared to deal with bushfires, major storms and flood events • Uralla Shire utilises a quadruple bottom line approach within their Integrated Planning & Reporting Framework to monitor progress toward their goals. This is a wholistic planning framework that considers how each project works towards the key themes of Society, Economy, Environment, and Leadership. In addition to the plan, Uralla has set a strategic objective to be Australia's first net zero energy town which it plans to achieve through energy conservation, onsite electricity generation, generating energy nearby, or purchasing through the National Electricity Market.

Plan/Document/Strategy	Relevance to the Project
Community Strategic Plan Walcha – 2027 (Walcha Council, 2017)  	The Plan outlines the strategic community planning priorities, informed by community consultation, within Walcha Council. Common issues and challenges that were raised by the community during consultation included: • Improving the economic sustainability of Walcha • Maintaining the feel and identity of Walcha (achieved through: Reversing population decline; Retaining families; Public community transport; Maintaining health provider, police and key agencies; Transportation and the road network)Retaining and attracting young people (promote apprentices and trainees) • Maintaining environmentally sustainable agricultural activities • Attracting new enterprises and jobs • Environment (climate change and renewable energy) Relevant Goals identified in the Plan include: • Walcha will be services by an integrated and efficient transport network • Health services and facilities will be provided and where appropriate managed locally to meet the needs of the community. • Education and training opportunities will be provided that deliver the skills and knowledge needed to advance the community. • Social services will be planned, maintained and coordinated so that they meet the current and future needs of all groups in the community. • Young people will be retained and supported to live in Walcha. • Walcha's distinct and diverse natural and built environment will be protected and enhanced. • The character of Walcha and its surrounding villages will be maintained while protecting the productivity of our rural land With regard to renewable energy development, the community strategic plan identifies increased use and production of renewable energy as a strategic goal. The Plan hopes to achieve this by establishing (with partners) alternate renewable energy supplies that will exceed the energy needs of our community.

Plan/Document/Strategy	Relevance to the Project
New England North West Regional Plan (Department of Planning & Environment, 2017) 	This document outlines the motives and goals of the New England North West region, presenting strategies for the success of key goals toward 2036. The vision for the Region is: • Nationally valued landscapes and strong, successful communities from the Great Dividing Range to the rich black soil plains The vision is supported by four regionally focused goals: **1. A strong and dynamic regional economy** **2. A healthy environment with pristine waterways** **3. Strong infrastructure and transport networks for a connected future** **4. Attractive and thriving communities** Key industries in the region identified are: agriculture, agribusiness, livestock, meat production, mineral resource development, renewable energy, health and education. The goals are supported by a number of 'Directions'. Of relevance to this Project is Direction 5 Grow New England North West as the renewable energy hub of NSW, supports the development of the renewable energy sector in the North West. In particular, this direction is supported by: • Diversifying energy sector by identifying renewable energy resource precincts and infrastructure corridors with access to the electricity network • Facilitate appropriate smaller-scale renewable energy projects using biowaste, solar, wind, hydro, geothermal, or other innovative storage technologies. The Plan also notes that the construction of large-scale infrastructure and resource projects and seasonal agricultural employment can increase transient populations and place pressure on housing and accommodation supply.

Plan/Document/Strategy	Relevance to the Project
Lower North West Regional Economic Development Strategy 2018-2022 (Shire of Gunnedah; Liverpool Plains Shire Council; Tamworth Regional Council, 2018) 	The Development Strategy focuses on industry specialisations and outlines associated goals for the Lower North West Region. The vision of the Strategy is: • The Lower North West will have strong, resilient and sustainable economic growth, building on key industries of Agriculture, Agri-processing, Mining, Transport, and Tourism. The vision is supported by four key strategies, and subsequent priorities and initiatives: **1. Deliver key infrastructure as a foundation for growth Improve telecommunications infrastructure** • Facilitate the development of serviced industrial and employment land. **2. Provide a positive, supportive environment to facilitate business growth and investments** • Build partnerships between councils and strategic alliances with private sector and industry organisations. • Develop the region's workforce to address labour and skill shortages. • Reduce compliance costs and change regulatory barriers for industry development. • Advocate for changes to regulatory barriers that hinder business growth. **3. Support and leverage key sectors** • Provide support to agriculture and agri-processing • Leverage the mining sector to facilitate growth in transport, logistics and aviation. • Provide an adequate supply of residential and industrial land to accommodate growth **4. Position and promote the Lower North West region as a location of choice** • Grow Tamworth and consolidate its role as the primary regional service centre The Strategy identifies mining, agriculture, and agri-processing as significant engine industries. The Strategy relies heavily on continued growth and investment in these sectors to deliver economic diversification.

Plan/Document/Strategy	Relevance to the Project
Southern New England High Country Regional Economic Development Strategy 2018-2022 (Armidale Regional Council; Uralla Shire Council; Walcha Council, 2018) 	The Development Strategy outlines the regional economic development plan for the Southern New England High Country. The vision of the Strategy is: *A reinvigorated and resilient economy with strong and sustainable growth on the back of the agriculture, innovation, and quality lifestyle in the high country of New England* By implementing this Strategy, the Region seeks to be known as: • A premier location for technology-driven agri-business in livestock and horticulture • A location of choice for innovative and globally connected 'knowledge-based' businesses • An attractive choice for tree-changer professionals The vision is supported by five key strategies, and subsequent priorities and initiatives: **1. Strengthen the Region's connectivity** • Increase the Region's attractiveness to visitors, sea/tree change professionals and other skilled workers • Invest in key road infrastructure to support further growth in agriculture and tourism **2. Secure the inputs for growth** • Build the size and capacity of the local workforce • provide a positive, supportive environment for business to establish and grow. **3. Strengthen, consolidate and grow key sectors** • Support and strengthen the agricultural sector • Strengthen industry-education links and knowledge-based industries • Foster the growth of the manufacturing, renewable, and specialised industry sectors **4. Enhance the attractive, desirable lifestyle** • provide services appropriate for growth, and continue to develop, position and promote the Region's towns as lifestyle centres. **5. Effective marketing and promotion** • supporting existing businesses and industry clusters, including positioning Armidale as a centre of excellence for Ag Tech and knowledge-based industries Renewable energy industry generation is noted as a key opportunity through leveraging the proximity to high-voltage transmission networks.

3.3 Capitals Analysis

The following sections provide a snapshot of each of the community capital assets as outlined in **Section 2.2**. Further detail of each capital can be found in **Appendix A.**

3.3.1 Political Capital

Political capital refers to the governing and organisational structures of the population, including formal and informal systems, and the existing means for public participation in various aspects of civil life. The following sections outline the governance arrangements of relevance to the Project.

Political Capital Snapshot

- Strategic governance in the region is managed by a range of strategies, structures, and institutions, across varying levels of political integration.
- The Project Area is situated partially within the Uralla Shire Council area and Tamworth Regional Council. Stage 2 of the Project, if developed, will also cross into the Walcha Council area and consequently data for this LGA has been considered in the social baseline profile.
- The land of the Project Area was traditionally occupied by the Kamilaroi, and Anēwan (Nganyaywana) Nations. Aboriginal residents within the social locality are represented by the Tamworth and Armidale LALCs.
- Australia's commitment at the international level to the Paris Climate Accord has influenced the growth of and investment in the renewable energy sector across the country with strategies to support development of the sector at both federal, state, and local government levels.

3.3.2 Cultural Capital

Cultural capital refers to underlying factors that provide human societies with the means and adaptions to maintain themselves in their environment (Cochrane, 2006). It includes the way people know and understand their place within the world. It may also refer to the extent to which the local culture, traditions, or language, may promote or hinder wellbeing, social inclusion and development (International Association for Impact Assessment, 2015).

Cultural Capital Snapshot

- The Project area is culturally significant to Aboriginal people, exemplified through a current Native Title Application within the locality.
- Despite extensive grazing and land clearing, there are a range of Aboriginal cultural artefacts located within the surrounding areas.
- The surrounding areas are culturally significant to European early colonial history. The Project is in the region of sites associated with the infamous 18th Century bushranger, Captain Thunderbolt, and numerous locally significant heritage buildings.

3.3.3 Natural Capital

Natural capital refers to the natural assets and resources that contribute to community sustainability. Natural capital can include resources such as minerals, land, forests, and waterways, which provide benefit to the community, as well as environmental assets that provide social, cultural, or recreational value.

Natural Capital Snapshot

- The land of the Project Area and surrounds is extensively cleared and predominantly used for agriculture primarily livestock grazing.
- The closest conservation areas to the Project Area are approximately 20 km away.
- New and proposed energy generation projects are creating some concern in the community, as a result of differing land use and changes to the landscape.
- The region will continue to be affected by climate change in the future, and is already a drought-prone area, with warmer climates and variable rainfall projected for the region.

3.3.4 Human Capital

The level of human capital within a community is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of at-risk groups within the community.

Human Capital Snapshot

- Strong population growth to 2041 is projected for regional centres such as Tamworth whereas population decline is projected for small regional communities within the Uralla Shire and Walcha LGAs.
- The population has an older median age than the NSW average and suggests a generally ageing population.
- Residents in the social locality experience lower rates of secondary education and post-secondary attainment compared to the State average. This suggests a lower provision of skilled workers in the area.
- The population experiences a higher burden of disease compared with the broader NSW community.
- Health and Closing the Gap data indicates that Aboriginal people experience higher rates of disease compared with non-Aboriginal population, indicating a higher level of disadvantage.
- There are several identified vulnerable population groups identified within the study region including youth, the elderly, people with a disability and Aboriginal people.

3.3.5 Economic Capital

Examining a community's economic capital involves consideration of characteristics which could include industry and employment, levels of workforce participation, household income and cost of living, such as weekly rent or mortgage repayments. The following provides a summary of the key characteristics of the study areas from an economic capital perspective.

Economic Capital Snapshot

- The key industry of employment for Tamworth is health care and social assistance, with agriculture, forestry, and fishing prominent in rural localities. Tamworth is considered a key service and administrative centre for the region.
- In the broader New England Northwest region, the agriculture and agribusiness sector is also the most significant employer, representing almost half of all businesses in the region, worth an annual $1.8 billion to the regional economy (approximately 20% of the gross value of agriculture and agribusiness for NSW) (NSW Government, 2012).
- The social locality recorded proportionately lower levels of full-time employment. However, this figure is offset by lower levels of unemployment compared to the State; the Tamworth LGA experienced the highest overall rate of unemployment.
- Aboriginal and/or Torres Strait Islander people experience significant disadvantage when compared to non-Aboriginal people with higher rates of unemployment and lower household incomes.
- Household incomes across the social locality are lower than the NSW State average, however, this is offset by, in some localities, lower housing costs, indicating lower rates of financial stress and greater level of housing affordability where properties are owned outright.
- The housing market is currently experiencing strain with residents experiencing housing stress within the local rental market.
- There is a very low level of economic diversity in Walcha LGA, and a relatively lower level of economic diversity in the Uralla Shire compared with Tamworth and NSW.

3.3.6 Social Capital

Various indicators can be used to examine and assess social capital. Such indicators include the level of volunteering, population mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas and language proficiency.

Social Capital Snapshot

- Higher rates of volunteerism, and lower levels of mobility in the population suggests that there are strong community ties present across the population of the social locality and the community is relatively stable and cohesive.
- The community has high levels of lone person households when compared to the State.
- Rates of crime were lower in rural communities compared with the regional centre of Tamworth, with lower levels of crime indicating a stronger sense of community stability and security.

3.3.7 Physical Capital

Physical or built capital includes the provision of infrastructure and services to the community and what is currently available or accessible to people. Within this, it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, facilities, services, and utilities) as well as the provision of, and diversity of, housing (refer to **Appendix A** for the complete dataset).

Physical Capital Snapshot

- Most of the housing stock within the social locality consists of free-standing dwellings. Smaller household sizes and proportionally fewer families with children indicate that the housing stock is suitable for the current population.
- Lower proportional amounts of people have access to the internet compared with the State.
- The proportion of households that own their home outright was consistent with the State average, with higher rates of outright home ownership in Uralla Shire and Walcha.
- High car ownership rates and long commutes suggests a dependency on private vehicles for transportation rather than public transport, which is common across regional and rural areas.
- There are a wide range of community support services and organisations located within the social locality.
- Residents in the smaller rural communities rely on larger regional centres such as Tamworth and Armidale to access healthcare and education.
- There is limited short-term commercial accommodation supply within the smaller rural communities closest to the Project, with most accommodation provided in Tamworth or Armidale.
- Accommodation providers experienced a lower-than-average occupancy rate compared with NSW, with most people travelling to the region to visit friends or family. This indicates that the region has a modest visitor economy.

3.4 Local Challenges and Opportunities

Table 3.2 provides a summarised understanding of the relevant challenges and opportunities identified in the social baseline profile using a compilation of data sources to understand the level of social change that the Project could generate across the social locality.

Table 3.2 Local Challenges and Opportunities

Opportunities	Capital	Challenges
• Strong Aboriginal governance systems and representation • Political will and commitment to growth of renewable energy sector.	Political	• Project is situated across two LGA boundaries • Strategic planning for the REZ is still in its preliminary stages
• Ongoing presence of local arts and cultural activities across the Region, and in particular within smaller communities • The region has rich and vibrant Aboriginal and Europeans cultural identities and histories • Strong event history and visitation in Tamworth • Historic feeling and character of region	Cultural	• Investment and support of arts and culture sector limited in rural localities
• Area has been identified as having good natural resources for renewable energy development • The broader area has rich biophysical strategic agricultural land • The broader area has rich mining resources • Region contains National Parks and Nature Reserves • Lifestyle advantages in rural localities may attract migrants	Natural	• Water security, drought prone, and increased vulnerability to climatic variations • Competing land use and resource claims between agriculture and other land uses • Strong historic land clearing practices leading to fractured remnant native vegetation areas • Impacts of land use development on natural environment require management and regulation • Achieving a balance between the region's resource development prospects and social and environmental expectations
• Strong population growth in larger regional centres • Proportion of resident's secondary education and post-secondary levels of study is increasing	Human	• Lower levels of education attainment amongst resident population in rural areas • Declining population through migration from small rural/remote localities, particularly young people • Ageing population • Significant disadvantage in access and outcomes exist between major centres and remote areas, and between Aboriginal and Non-Aboriginal populations

Opportunities	Capital	Challenges
• Low cost of living relative to NSW • Region has strong and diverse industries including mining, tourism, and agriculture • Strong regional support for the development of key industries (agriculture, mining, tourism, renewables) • Strong support for employment and outcomes in local employment opportunities • Strong agri-business services sector • Increased regional focus on skills development in traded sector to match employment outcomes with work opportunities	**Economic**	• Low median weekly household income resulting in possibly less spending in the local economy • Comparable rates of labour force participation and unemployment rates • Potential for labour force competition due to agriculture and resources industry • Increasing retired age population leading to decrease in skilled employee base • Primary industry growth reliant on key infrastructure development currently lacking • Mining, agriculture, construction, and tourism sectors highly cyclical and exposed to macroeconomic conditions • Lack of diversity in local employment opportunities in rural/remote areas • Low skill base amongst resident rural populations leading to a reliance on outside workers for skilled positions
• Strong social and community networks, and grassroots-based community representation • Relatively low prevalence of crime • High rates of volunteering	**Social**	• Seasonal tourism, and seasonal and short-term workers may impact service provision in local communities • Sparse population outside of the regional centres presents ongoing challenges for infrastructure development and maintenance
• Investment and development of key infrastructure routes and opportunities planned • Leading hubs for education and training and health care located in Armidale and Tamworth • Higher rates of home ownership rates, and generally more affordable housing compared to broader NSW community • Strong transport networks	**Physical**	• Shortage of short and long-term accommodation outside of Armidale and Tamworth • Limited public transport • Lack of health infrastructure and outside of major centres • Spatially isolated communities in rural setting • Smaller communities lack human resources for development of social infrastructure • Funding capacity for physical public infrastructure (e.g. roads) is constrained

4.0 Perceived and Predicted Social Impacts

A key component of the SIA (refer to SIA Guidelines, DPIE 2021) is the process of understanding, from the local community, the issues, values and uses associated with the assessment area, and specifically the identified issues of concern and potential opportunities associated with the Project. Perception is the way in which people understand and interpret the world around them, through their individual / personal lens; and as has been outlined in the Methodology section.

To identify community perceived impacts (both positive and negative) in relation to the Project, this section draws on:

- outcomes of engagement undertaken by Neoen between December 2019 and October 2021 and provided to Umwelt
- targeted engagement undertaken by Umwelt specifically to inform the SIA between September and October 2021
- the social baseline developed for the Project and other project assessments in the area (refer to **Section 3.0**).

Perceived impacts identified through engagement, are then further assessed to predict any significant social impacts in relation to the Project that may require mitigation or enhancement from a social perspective. In this regard, **Section 2.5** has outlined the social impact evaluation process that has been utilised to assess social impacts for the Project. It is important to note that the social impact evaluation process as outlined in the SIA Guideline utilises different terminology and a different assessment process to other EIS studies.

An important component of the SIA has been the integration of technical results with the risk ranking of a project factor or impact as identified by consulted stakeholders i.e., the sensitivity/susceptibility/ vulnerability of people to adverse changes caused by the impact and/or the importance placed on the relevant social matter. The resulting ranking (i.e. low, moderate and high) is determined by the frequency that an issue was raised by a particular stakeholder group in the engagement process.

It should also be noted that the residual social risk ratings represent the risk post implementation of mitigation measures, with proposed mitigation and enhancement strategies to address the residual significant social impacts summarised in **Table 4.1** and further discussed in **Section 5.0**.

A summary of the key perceived social impacts identified through consultation for the SIA are outlined in **Figure 4.2**. **Figure 4.3** also provides additional detail of the frequency of positive and negative impacts raised during consultation.

As noted in our assumptions (refer to Section 2.6), during engagement undertaken for the SIA, some participants did not distinguish between the impacts of Stage 1 and Stage 2. While some participants noted that they may be less impacted by Stage 1 and were less concerned in this regard (the focus of this SIA and EIS); others wanted to articulate their concerns relating to the broader development, with some stakeholders concerned that should Stage 1 be approved then Stage 2 would be more likely to proceed.

As shown in **Figure 4.3**, positive impacts or perceived benefits of the Project relating to the provision of clean energy and employment and procurement were raised most frequently. Livelihood impacts relating to the potential for local economic benefits, as well as some concerns regarding a potential for decline in property values and impacts to rural character and visual amenity, were also noted.

The potential effects on natural areas and habitats were also seen to be of greater concern as the distance from the Project Area increased. This indicates that stakeholders located further away from the Project had a higher level of concern for biodiversity impacts than social amenity impacts (noise, visual, and construction related impacts). Conversely, stakeholders located within proximity to the Project Area (less than 5 km away), generally rated social amenity impacts of greater concern.

During the online survey (conducted July 2020 to October 2021) participants were asked to rate their support for the Thunderbolt Energy Hub Project, where 0 reflected limited support / opposition to the Project, and 10 indicated a high degree of support for the Project. On average, participants provided a score of 7.3 out of 10, with 44% of responses identifying a high level of support for the Project (with a score of 10/10) by those sampled (refer to **Figure 4.1**).

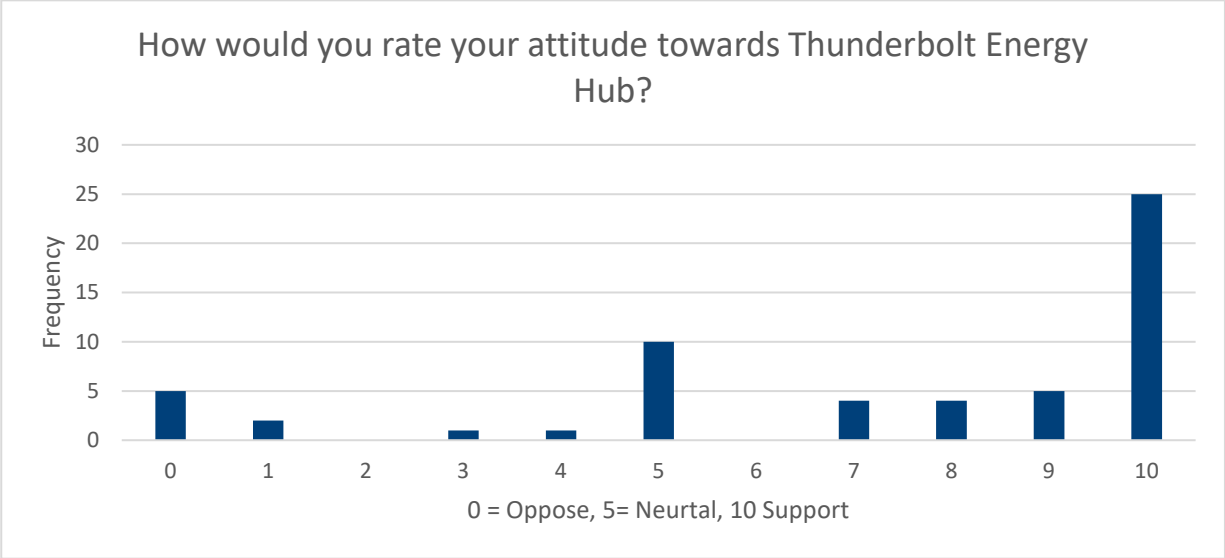


Figure 4.1 Attitudes Towards the Thunderbolt Energy Hub

Data provided by Neoen, complied by Umwelt, N=70

Further discussion of perceived impacts by social impact category are outlined in the following sections.

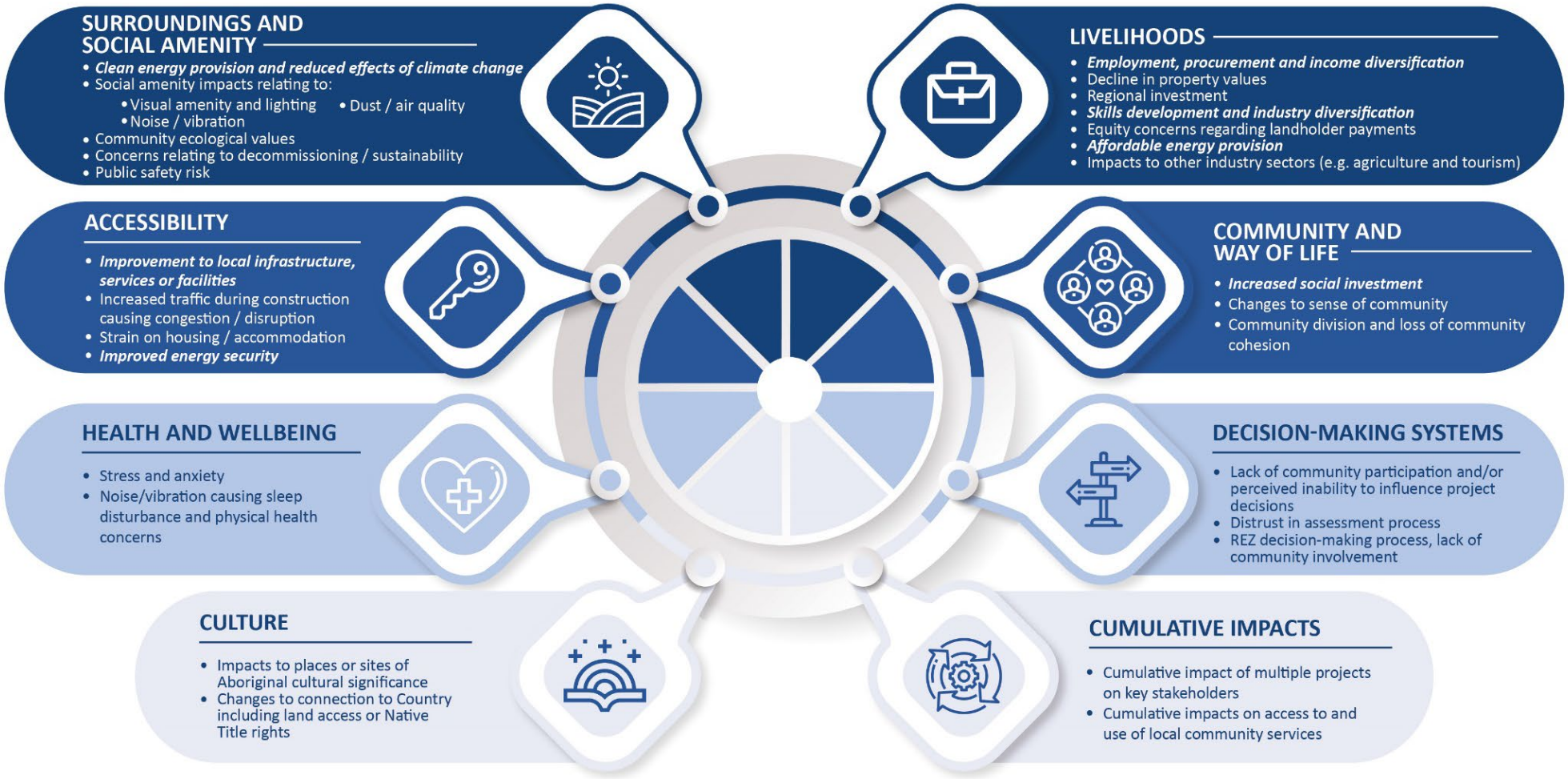


Figure 4.2 Summary of Perceived Positive and Negative Social Impacts

Source: Umwelt 2021

Note: The darker shading in the figure indicates the higher significance to stakeholders. Positive impacts are identified in *italics*.

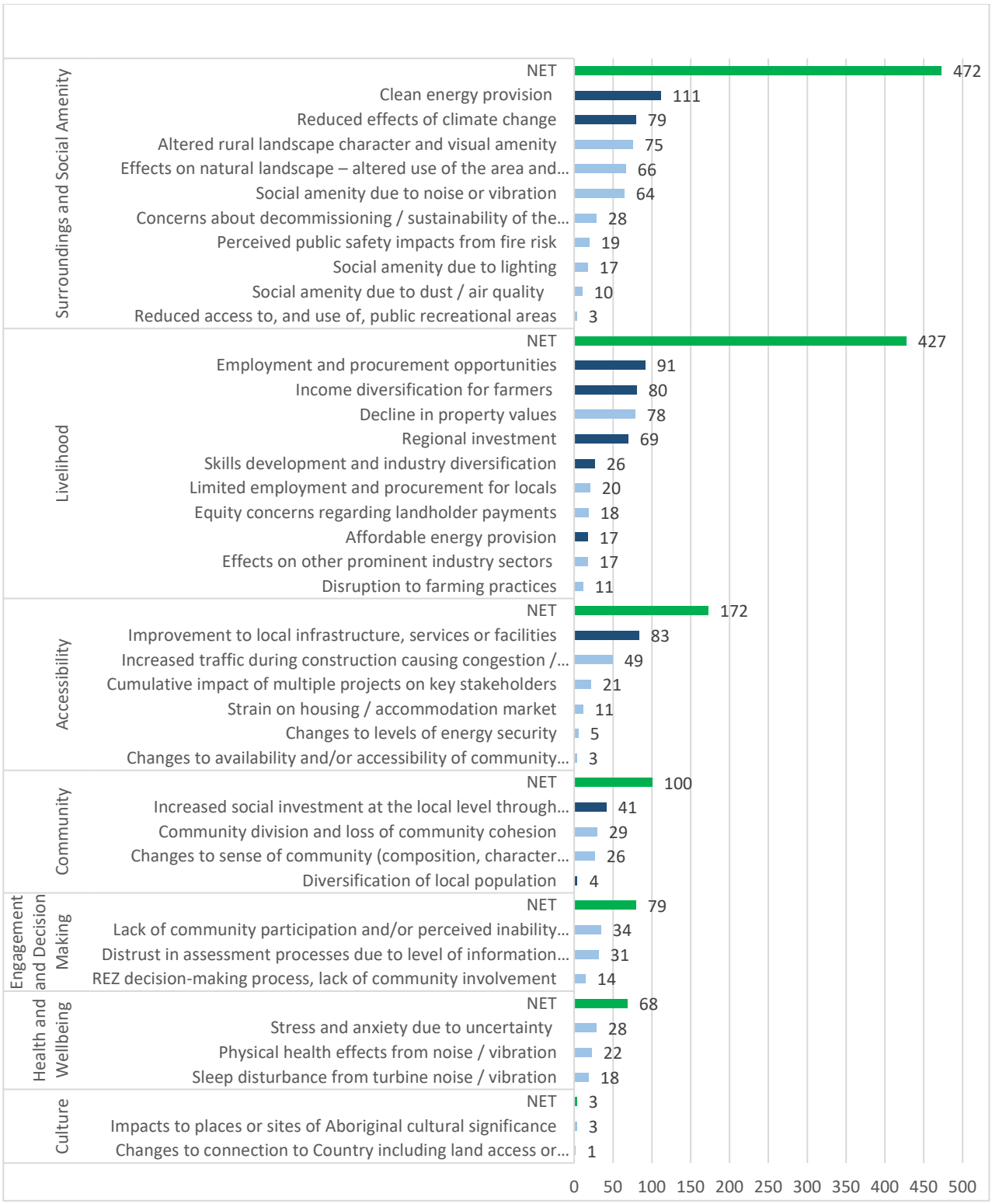


Figure 4.3 Perceived Social Impacts – Frequency of Concern

Data Source: Neoen and Umwelt, Compiled: Umwelt. Note darker blue indicates positive impacts, light blue indicates negative impacts (N= 297, note multiple responses allowed

4.1 Surroundings and Social Amenity

As outlined in the SIA Guideline (DPIE 2021), impacts relating to **surroundings and social amenity** can relate to ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment and aesthetic value and amenity. For the purposes of this Project social amenity and surroundings impacts related to the following issues and are further detailed in the sections below:

- Clean energy provision and reduced effects of climate change
- Concerns relating to sustainability of the Project and decommissioning
- Social amenity impacts due to noise and vibration, lighting/shadow flicker and dust / social amenity
- Changes to rural landscape and visual amenity
- Impacts to wildlife and biodiversity and access and use of water resources
- Perceived public safety due to increased fire risk.

4.1.1 Sustainability and Climate Change

4.1.1.1 Perception of Impact

During engagement, participants frequently noted (n=111), the positive impact of the Project on climate change and in affording provision of renewable energy, reducing reliance on coal mining (refer to **Figure 4.3**), as reflected in the following quotes:

> *Very supportive of renewable energy – Landholder (Neoen meeting)*
>
> *Very supportive of renewables. Not concerned at all. Would rather see wind turbines than coal mines – Landholder (Neoen meeting)*
>
> *Excited about having alternative energy here. Very supportive – Landholder (Neoen meeting)*
>
> *Anything that will produce renewable energy is a benefit. But would like to see money stay in Australia and not to overseas companies – FOKAG Representative*
>
> *There will be large political and economic changes in the country and region in the next 20 and 30 years so it's great to be taking the first steps towards creating a renewable future for Australia. Electricity will be needed for hydrogen power so this could make us a hub for hydrogen – Special Interest Group*
>
> *Should be more of solar and wind, no more coal – Landholder (Neoen meeting)*
>
> *Think that those protesting the project are not being sensible and that renewables are great, much better than coal! – Landholder (Neoen meeting)*
>
> *For sure I see the benefit – energy production, employment, community opportunity, greenhouse and climate change reduced – Aboriginal Stakeholder*

Some participants (28) also questioned Project sustainability in relation to the materials used to develop turbines, their lifecycle, and the opportunity for recycling, reflected in the following quotes:

> *I am concerned about the overall environmental footprint of the type of wind turbine proposed – Online Survey respondent*

> *I question the sustainability of wind farms because of the materials they use, the amount of resource and rare earth metals that are involved in the turbines. And the only way to get rid of the turbines is to bury them. It will impact on the hydrology. The turbines are only for a short time as well – 20-30 years. So where do we go from here? What guarantee will we have that they will rehabilitate, they may remove the tower, but they don't won't dig up the concrete –FOKAG Representative*

Other questions related to responsibilities around decommissioning, including potential sale of the Project and appropriate remediation of the site.

> *If the company goes broke what happens? It will be the host landholder's responsibility to remove the turbines and it will cost them more than they have produced – FOKAG Representative*

> *There needs to be a solid decommissioning process for the solar and the wind – just in case the company falls over or the technology changes so that the windfarm gets removed and the area gets put back in a natural state – Landholder (Umwelt interview)*

> *Definitely a benefit that Neoen is here for the life of the turbines (Landholder, Neoen meeting).*

Should the Project be approved, decommissioning is expected to be a condition of the wind farm's development consent forms a part of the Lease agreements between Neoen and its host landowners.

4.1.1.2 Social Impact Evaluation

Development of renewable energy projects aligns with both Federal and NSW commitments to increase renewable energy generation and reduce carbon emissions across the NSW and Australian economies (refer to Section 2.6 of the EIS).

The proposed Project will provide long-term, strategic benefits to the state of NSW, including:

- renewable energy supply to assist with fulfilling the current obligations under state and federal renewable energy targets
- providing for cleaner reliable electricity generation, assisting with meeting current load demand while reducing greenhouse gas emissions and the impacts of climate change
- providing regional investment in the NSW renewable energy sector.

The Economic Impact Assessment (Ethos Urban) also notes that the Project has the capacity to supply sufficient clean energy to power the equivalent of approximately 118,000 homes per annum, representing approximately 2.7 times the total annual residential requirements of the economic impact assessment study area (43,300 dwellings).

Regarding decommissioning and rehabilitation, (refer to Section 3.5 of the EIS), the WTGs have an expected operating life of approximately 25-30 years, with agreements with the host landholders providing for the operations to continue for 30 years. Following this time, three main options exist for consideration:

- continued use of the Project Area as a wind farm utilising the existing WTGs (subject to condition of equipment)

- replacement of the WTGs with technology current at that time and continue the use of the Project Area as a wind farm for a further term (subject to contractual agreement with landowners and further development consent for the ongoing operation)
- decommission the wind farm and remove the WTGs and associated infrastructure in accordance with the OEMP and the development of a decommissioning and rehabilitation strategy 2 years prior to closure of the wind farm.

Should decommissioning be required:

- Key stakeholders including relevant landholders would be consulted regarding the decommissioning and rehabilitation plan.
- All above ground structures, not required for the ongoing agricultural use of the land will be removed (some access tracks, for example, may be required to be retained by the landholder to enable ongoing access). The WTGs, hardstands and substation will be removed and land rehabilitated so that it can be returned to full agricultural use.
- Below ground infrastructure, including WTG foundations and some cabling will be left *in situ* and covered in clean fill material, with the area adequately graded to reflect the slope of the surrounding area and to mitigate the risk of soil erosion.

It is anticipated that the decommissioning and rehabilitation phase would take up to 12 months to complete, with the Project Area being returned, as far as practicable, to its condition prior to the commencement of construction. Neoen has entered into long-term lease agreements with the associated host landholders for the construction and operation of the Project. The terms of these agreements make express provision for Neoen's decommissioning obligations.

Neoen has indicated that most wind turbine materials are reclaimed or recycled due to the retention of significant value of these materials; with wind farm manufacturers currently in the process of investigating recycling of wind turbine blades in Australia. Neoen does not propose to bury wind turbine components on site. The environmental pay-back period (including the carbon footprint) for a wind turbine is typically 'repaid' within months of operation - over 30-years of operation contributing to a reduction in millions of tonnes of CO^2 (refer to Appendix 6 of the EIS).

A summary of the social impact identified in relation to the Project and proposed mitigation and enhancement measures in relation to sustainability and climate change are outlined in **Table 4.1**.

Table 4.1 Summary of Social Impacts – Sustainability and Climate Change

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Management Strategies
Renewable energy provision for the region	Broader community NSW community Australia	High (positive)	Almost certain	Major	Very High (positive)	
Impacts on surroundings and future land uses post decommissioning	Host landholders	Low	Unlikely	Minor	Low	Long-term lease agreements in place with associated landholders Development of a Decommissioning and Rehabilitation Strategy in consultation with key stakeholders. Condition of DA consent
	Neighbouring landholders Community and environmental groups	High				
	Broader community	Low				

4.1.2 Rural Character and Visual Amenity

4.1.2.1 Perception of Impact

For many participants, when asked about what they valued about the community, rural landscape and amenity (n=43) were frequently identified, with familial and community ties (n=34) and employment opportunities (n=23) also noted (refer to **Figure 4.4**).

> *Views from our property are very good, 360 views from up the top, we can see a long way to the coast – all the way around to the ranges and towards Armidale. Magnificent skies in summertime, love to watch the storm cells move around – FOKAG Representative*

> *Peace and quiet. I can hear the sheep tearing off grass at the moment – Online survey respondent*

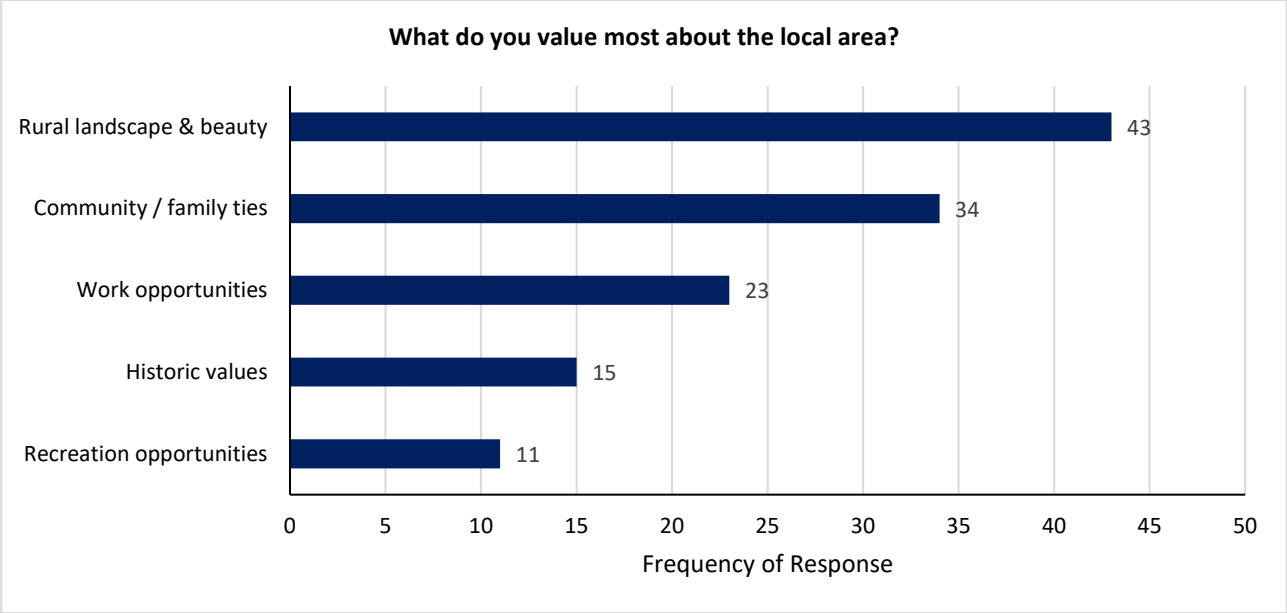


Figure 4.4 Community Values (Online Survey Responses)

N=70, multiple responses allowed.

For some of those consulted, proposed changes to the rural landscape and visual amenity were raised as a perceived impact (n=75), with a view that the presence of the turbines would change the visual amenity in the area and industrialise the landscape.

> *Worried about our own view – Landholder (Neoen Meeting)*
>
> *Visual pollution in our regions, that will be put in a fairly high-density area, as there are lots of lifestyle blocks (of 100 acres or so) – Landholder (Umwelt interview)*
>
> *Visual amenity impacts are a concern for small holdings in particular – Online Survey Respondent*
>
> *Not concerned about solar. Only concerned about visual impact with wind turbines – Landholder (Neoen meeting)*

Some stakeholders consulted also noted the potential for sunlight flicker from the turbines i.e., blades and the potential for flashing lights from the turbines at night (n=17).

> *Flickering of sunlight or the red lights at night – we don't know what it will be like – FOKAG Representative*
>
> *Light flickering from blades as this will be to the west of Kentucky village – Online Survey Respondent*

Such concerns appeared very individual, with other stakeholder consulted indicating no concern in this regard.

> *No, [I] like the look of them [the turbines] – (Neoen meeting)*
>
> *Not worried about visual – Landholder (Neoen meeting)*
>
> *No. Lots of hills and valleys, so not all in a big line – Landholder (Neoen meeting)*
>
> *No, only other direction (east). Don't think it will be bad to look at - Landholder (Neoen meeting)*

4.1.2.2 Social Impact Evaluation

A Landscape Visual Impact Assessment (LVIA) has been undertaken by Moir Landscape Architecture to assess the potential visual impacts associated with the Project. This assessment has involved consultation with near neighbours of the wind turbines. A photomontage or wireframe was also developed as part of the study to provide near neighbours with further information of the likely visual impact from their respective private dwellings.

Six photomontages were also created by Moir Landscape Architecture at public locations surrounding the Project Area and uploaded to the Thunderbolt Energy Hub website as 360-degree panoramas. Community members are able to pan 360 degrees within each panorama and zoom further into the panorama to gain an understanding of what the Project may look like from these six public vantage points. Two of the locations from which panoramas were created (Kentucky Village and Kentucky South near the railway crossing) were in direct response to some of the community's concerns about possible visual impact from these locations.

The LVIA notes that the Project would become a feature in the landscape, regardless of the visibility of the turbines from individual locations. However, the assessment determined that the character areas surrounding the Project Area that have been rated as having high landscape quality (associated with recreation and tourism) will not be impacted.

In summary, the report concludes that 5 non-associated dwellings are identified as having moderate visual impact, however through the application of screen planting and supplementary planting, the associated visual impact can be reduced to low-negligible. Visual impacts for the majority of non-associated properties within 5,100m of the wind turbines (27dwellings) was also considered nil, negligible or low.

The Aviation Assessment has also determined that night lighting of the turbines is not required, however if the Civil Aviation Safety Authority (CASA) requests lighting and Neoen agrees to install it, this would be of low intensity and only on selected turbines. Should night lighting be required appropriate mitigation would be developed during the detailed design phase. Night lighting would also be required to be installed on the ancillary infrastructure, this would be limited to low-level lighting for security, night-time maintenance, and emergency purposes. Due to the low-level of lighting required, visual impacts associated with this lighting will be negligible.

The Shadow Flicker Assessment indicates that no non-associated dwellings will experience shadow flicker durations above the applicable limits.

Regarding the impact on landholders and near neighbours, the LVIA has assessed the impact from curtilage of the dwelling and has indicated that this impact can be mitigated to low/negligible.

Despite there being limited views from neighbour dwellings, in relation to social impacts, as it is likely that the turbines will be visible from adjoining land, the SIA considers that this may still have an impact on visual amenity and sense of rural character for some neighbouring landholders and local residents.

A summary of the social impacts identified and the proposed mitigation and enhancement strategies in relation to rural character and visual amenity are provided in **Table 4.2**.

Table 4.2 Summary of Social Impacts – Rural Character and Visual Amenity

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Rural Character and Visual Amenity	Some neighbouring landholders	High	Possible	Moderate	Medium	Vegetation screening and supplementary planting is proposed for moderately impacted neighbouring dwellings to reduce the visual impact Ongoing consultation and information provision with impacted parties, including regarding mitigation measures
	Local community (Kentucky, Kentucky South, Wollun) Community and environmental groups	High	Unlikely (Stage 1)	Minor	Low	
	Broader community	Medium	Unlikely	Minor	Low	

4.1.3 Noise, Vibration and Dust/Air Quality

4.1.3.1 Perception of Impact

Impacts to social amenity due to potential noise and vibration was raised as a concern by some of those consulted (refer to **Figure 4.2**, n=64). Concerns related to impacts of construction noise (including blasting and traffic related noise) and ongoing noise and vibration from the operation of the turbines, including potential for low frequency noise (infrasounds) and blade thump, also identified as potentially effecting health and wellbeing (refer to **Section 4.3** for further discussion).

> *Only noise, both under construction and ongoing, plus disturbances during construction - i.e., power outages, traffic, noise etc – Online Survey Respondent*

> *Ground blasting – that will be required for foundations? This is granite country so it will be like living near a mine – FOKAG Representative*

Landholders in the local area also outlined that the noise of the turbines may impact their social amenity and, affect how they currently utilise their property (way of life) i.e., spending time outside.

> *Visual and noise impacts are considerable and will impact on the enjoyment of our properties – Landholder (Umwelt interview)*

> *Concerned about audible noise from the turbines… I spend a lot of time outdoors gardening, how is the noise going to impact my lifestyle? How will the noise impact on horses? – FOKAG Representative*

Some stakeholders also noted the cumulative impacts of noise given the potential for additional turbines to be proposed for Stage 2, as well as those located on and other wind farms in the area. Potential cumulative social impacts are further discussed in **Section 4.8**, with a cumulative impact assessment completed for the EIS (refer to Section 6.13 of the EIS).

> *Stage 1 – is basically located on one property. For stage 2 however there are lots of smaller holdings so the impact will be tenfold due to the density of properties around there – Landholder (Umwelt interview)*

Regarding additional turbines, it should be noted that Neoen has revised the Project to include two stages, because of community and key stakeholder feedback, and is not proceeding with a development application for Stage 2 at this time. Consequently, the impacts of Stage 2 have not been assessed in this SIA and will be subject to a separate assessment and approval process should Stage 2 proceed.

Dust, and its impacts on social amenity and way of life, were not raised very frequently during engagement, however a small number of participants did raise concerns about dust as a result of increased traffic, and during construction of roads and turbines. This issue is assessed in the EIS and appropriate management and mitigation measures are proposed to manage traffic and construction dust.

4.1.3.2 Social Impact Evaluation

An assessment of the potential Noise and Vibration impacts associated with the construction and operations phase of the Project has considered noise predictions of the wind turbine operation, the substation, traffic on local roads and all construction activities. Vibration predictions have also been established for construction activities, including blasting (if required).

Based on the predictions of the technical assessment, it is predicted that the relevant operation and construction noise, and vibration criteria, can be achieved under worst case meteorological conditions at all non-associated dwellings. Further detail in relation to the Noise and Vibration Impact Assessment is provided in Section 6.3 of the EIS.

In relation to social impact, it is acknowledged that while noise and vibration are estimated to be within the relevant criteria, noise during construction and operation may be audible to certain landholders and therefore may still impact their sense of social amenity. This is particularly the case for some community member who particularly value the 'quiet' nature of the area.

Air emissions associated with the Project would be predominately associated with the construction phase and include dust generated through disturbance activities, civil construction activities and plant/vehicle exhaust emissions, largely within the Project Area. These activities would be temporary (a duration of 18 – 24 months) and be subject to a range of management and mitigation measures through the implementation of the CEMP. The CEMP would be developed during the detailed design and pre-construction phase and would include all relevant management measures to limit off-site dust.

In operations, air quality emissions would be limited. The Operations Environmental Management Plan (OEMP), to be developed during the detailed design phase, would include onsite management measures to limit off-site air quality emissions.

For Stage 1 of the project, there is one entry point proposed into the Project site off the New England Highway. The majority of roads required for Stage 1 will be located on host landholders' properties under landholder agreements, and therefore the impact to neighbours is limited to vehicles entering and exiting the Project Area from the New England Highway (refer to Appendix 6 of the EIS)

A summary of the social impacts identified and proposed mitigation and enhancement measures in relation to social amenity impacts relating to noise, dust and air quality are outlined in **Table 4.3**.

Table 4.3 Summary of Social Impacts – Social Amenity from Noise and Dust / Air Quality

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Social amenity impacts due to noise during construction	Some neighbouring landholders	High	Possible	Minor	Medium	Development of a Construction Environmental Management Plan (CEMP) and Operations Environmental management Plan (OEMP)
	Residents along the transport route	Medium	Possible	Minor	Medium	
Social amenity impacts due to noise during operations	Neighbouring landholders	High	Possible	Minor	Medium	
	Local community (Kentucky, Kentucky South, Wollun)	Medium	Unlikely	Minor	Low	
Social amenity – dust/air quality due to construction and increased traffic	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	Low	Unlikely	Minor	Low	Development and implementation of the CEMP and OEMP CRP to include provision of information to local residents during construction around traffic works and movements.
Social Amenity – dust/air quality due to operations	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	Low	Unlikely	Minimal	Low	

4.1.4 Ecological Values and Natural Assets

4.1.4.1 Perception of Impact

During consultation concerns were raised about the impact of the Project on the surrounding environment and impacts to ecological communities and ground and surface water due to road and turbine base construction (refer to **Figure 4.2**, n=66).

> *Will groundwater be impacted from foundations? Bore was our lifeline in the droughts, and we won't be reimbursed for water loss – FOKAG Representative*

> *There are significant physical and environmental impacts that will take place because of the Project. There will be 50km of roads that will built on the Kyabra property. The roads will need to be dug out, compacted, gravelled, and made quite wide to accommodate the necessary trucks for construction. That will be a lot of hard surfaces on the property and will create additional run off and change the hydrology and sub-hydrology of the land. It will also further fragment biodiversity hotspots/the landscape – Special Interest Group.*

> *Soils in this region are very erodible granites. The project roads and infrastructure will cause significant erosion and there has been no indication of who will be responsible for maintaining those roads – FOKAG Representative*

Some concerns were also raised about the impact of the Project on local wildlife. Participants noted concerns about potential impacts on flying species including eagles, birds and flying mammals and threatened species including the Bell's Turtle and the koala population. Others, felt that any potential impacts on local ecology would be significantly less than other development e.g., mining.

> *Concerned about the destruction of the environment during construction and ongoing impacts on birds, bats, and koala populations – Landholder (Umwelt Interview)*

> *There is a healthy koala habitat and deserving of more respect and consideration than has been shown to it. I hear them at night and see them on the road, but the fact that there are koalas around is testament to the farmer looking after the land - FOKAG Representative*

> *Impact on birds and flying mammals – issue is to acknowledge this impact and turn them [the turbines] off in when birds are migrating. Has any threatened flora been identified in the Project Area? – Special Interest Group*

> *Effects on natural areas and habitats, but it's nothing like a mine or power plant – Online Survey Respondent*

Concerns were also noted regarding the impact on vegetation, biodiversity, and the fragmentation of habitat due to the construction of roads.

> *Level of vegetation clearing that may be needed – Online Survey Respondent*

> *We have serious concerns about the reduction of biodiversity values and the impact on our farming enterprise due to the carving up of the landscape with 50+ km of roads for Stage 1 alone… Roads will be massive. Roads will fragment the existing biodiversity and the wildlife corridors – FOKAG Representative*

As noted previously, the roads to be developed will be on host landholder properties under landholder agreements.

During the Online Q&A Sessions in September 2021, questions were also raised about whether the biodiversity assessment would address aquatic life as well as woodlands, given previous dieback issues in the area.

> *Have you done/do you intend to do surveys of aquatic habitat? – Online Q&A Session*
>
> *Given the loss of woodland in the Kentucky region from dieback, will the findings on [critically endangered ecological communities] CEEC woodlands have an impact on the design of the turbine placement? – Online Q&A Session*

4.1.4.2 Social Impact Evaluation

Neoen aims to minimise the impact on flora and fauna for all its projects by designing projects outside areas of high conservation significance, and through adopting control measures during construction. For example, Neoen has preferentially utilised already cleared and/or disturbed vegetation within the Development Corridor over intact patches of vegetation. Additionally, turbines will be micro-sited prior to construction which will provide the opportunity to further minimise the potential impact on fauna habitat. Neoen have also indicated that turbine heights have been selected to minimise the overlap between rotor swept area and bird flight heights.

A Biodiversity Development Assessment Report (BDAR) has also been prepared to assess the potential biodiversity impacts of the Project in accordance with the NSW Biodiversity Assessment Methodology (BAM). Since early 2020, ecological survey works has been completed to inform the design and layout of the Project resulting in a range of avoidance and impact minimisation project design elements and a refined Project layout to reflect these considerations. Aquatic studies have also been completed as part of the ecological assessment program (refer to Section 6.4 of the EIS for further details).

The BDAR report prepared for the Project concludes that while the Project will result in impacts to biodiversity values, Neoen has sought to carefully design the Project within the Subject Land so as to avoid and minimise impacts. Neoen has preferentially utilised already cleared and/or disturbed vegetation within the Development Corridor over intact patches of vegetation as a result of outcomes of the ecological surveys undertaken by Umwelt.

In relation to water impacts, the Soil and Water Impact Assessment completed for the Project identifies erosion and sedimentation as the primary risk to soil and surface water resources for the Project. The key mitigation measure applied during construction and operation of the Project include appropriately designed erosion and sediment controls (ESCs), designed and implemented following relevant guidelines (refer to Section 6.7 of the EIS).

Regarding the impact of foundations on groundwater, the Soil and Water Impact Assessment states that given the depths to groundwater in bores in the vicinity of the Project Area (in excess of 20 m), interception of the regional groundwater table is not anticipated. As such, no impacts on groundwater are expected due to the Project.

A summary of social impacts identified and proposed mitigation and enhancement measure in relation to community ecological values are outlined in **Table 4.4**.

Table 4.4 Summary of Social Impacts –Community Ecological Values

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Community ecological values (including water access)	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun) Community and environmental groups Broader community	High	Possible	Minor	Low	Communication of key management measures and outcomes to key stakeholders. Development of a Soil and Water Management Plan as part of the CEMP Inclusion of biodiversity mitigation measures in CEMP and OEMP. Development of a Bird and Bat Adaptive Management Plan

4.1.5 Public Safety

4.1.5.1 Perception of Impact

Public safety and the potential for increased fire risk, was raised by some participants. There was a particular concern that helicopters, and other firefighting and emergency aircraft may have reduced accessibility to the area, given the presence of the turbines.

> *Fire hazard of the style of turbine proposed – Online Survey Respondent*

> *Aerial firefighting ability, accessibility of rescue helicopters for highway accidents – Online Survey Respondent*

> *We are extremely concerned about the ability to fight fires aerially. This is a must in our area... Concerned that no one will want to fly to fight fires due to the height, location, and density of the turbines, especially in thick smoke and low visibility – FOKAG Representative*

Such concerns were also reflected in discussion with some CCC members, who proposed that 24-hour surveillance and monitoring of turbines would be needed as well as additional support for firefighting. However, as noted in the Community Q&A session (Pers comm, Aviation projects expert, 2021 Q&A Session), emergency support personnel can operate aircraft across a range of terrains, with aircraft of varying size and manoeuvrability. Some stakeholders also noted the addition of new roads, increasing access to manage bush fires if required.

> *I think the fire risk will diminish as the roads they build on properties will create natural fire breaks so there is better infrastructure to fight fires and access will be improved – Landholder (Umwelt interview)*

Other safety concerns raised in comments related to the turbines potentially causing distraction for drivers due to their presence and the potential for light flicker.

> *Distraction of the blades, I don't think seeing them will go away, light flickers it will distract while driving – FOKAG Representative*
>
> *Highway will become more dangerous as people will be looking at the turbines – FOKAG Representative*

4.1.5.2 Social Impact Evaluation

An Aviation Impact Assessment (AIA) for the Project has been undertaken by Aviation Projects. The Australasian Fire and Emergency Services Council (AFAC) has also developed a national position on wind farms in relation to bushfire prevention, preparedness, response, and recovery, which is detailed in the Wind Farms and Bushfire Operations (2018) guideline. The guideline advises that wind farm operators should be responsible for ensuring that the relevant emergency protocols and plans are properly executed in an emergency event. During an emergency, Neoen will therefore:

- liaise with the relevant fire and land management agencies
- ensure access is available to the wind farm site by emergency services response for on-ground firefighting operations
- ensure wind turbines are shut down immediately during emergency operations – where possible, blades are stopped in the 'Y' or 'rabbit ear' position, as this positioning allows for the maximum airspace for aircraft to manoeuvre underneath the blades and removes one of the blades as a potential obstacle.

The NSW Rural Fire Service (RFS) has been consulted in relation to the Project, and has indicated that regarding aerial firefighting, wind farms are treated like any other potential hazard to aircraft operations. Additionally, aerial firefighting strategies and tactics in relation to the area will continue to be selected based on the fire location, the area threatened by fire and potential hazards.

The Project Area is identified as bushfire prone land by the NSW RFS mapping (RFS, 2021), with land within the Project Area subject to extensive clearing. The Project design prioritises the placement of infrastructure within cleared areas where practicable. The northern end of the Project Area supports steep slopes and remnant woodland vegetation which extends into adjoining land and forms more densely forested vegetation to the north and west of the Project Area. These vegetated areas represent the most significant potential bushfire threat to the Project.

As outlined in the EIS, a Bushfire Emergency Management Plan will be developed for the Project in accordance with Planning for Bushfire Projection (PBP) 2019 and in consultation with the RFS (including any requirements in relation to aerial firefighting). The plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project.

The bushfire assessment (refer to Section 6.8 of the EIS) concludes that with the implementation of this plan, it is considered that potential bushfire risk associated with the Project can be appropriately managed.

Table 4.5 outlines that in relation to public safety, the predicted social impact is considered low. However, communication of relevant emergency plans and procedures to interested stakeholders may serve to reduce concerns regarding risks to near neighbours and the broader community.

Table 4.5 Summary of Social Impacts – Public Safety

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Public safety – bushfire risk	Host and neighbouring landholders Emergency services Community and environmental groups Broader community	High	Unlikely	Minor	Low	Development of a Bush Fire Emergency Management Plan in consultation with the RFS Communication of management plans to near neighbours and key stakeholders.

4.2 Livelihoods

The positive benefits of the project on local livelihood were frequently noted during consultation particularly regarding the opportunity for income diversification for local landholders, employment and procurement opportunities, and the potential for training/skill development of the local workforce. The project was also seen to provide industry diversification within the region.

Concerns regarding this category, related to the potential for declining property values due to the presence of the Project and associated uncertainties relating to future property development and/or sale; and the potential to impact farming practices and land use and management.

4.2.1 Employment and Procurement Opportunities

4.2.1.1 Perception of Impact

Community members and groups, businesses and service providers acknowledged the positive livelihood impacts of the Project (refer to **Figure 4.2**, n=91), noting that employment and procurement benefits would be provided to local contractors, businesses, and residents during construction, creating additional flow on impacts to the local and reginal economy.

> *The potential to expand my company and provide further employment in the local community [is a benefit of the Project] – Business / Service Provider*
>
> *People are generally in favour of it [the Project], as it will bring employment and reduce climate change – Special Interest Group*
>
> *The entire project is a potential opportunity along with other projects in the area, if managed correctly they can stimulate local small businesses and offer never seen before opportunity for growth – Business /Service Provider*
>
> *I think projects such as this will be a boost for the economy of our local area and provide opportunities for many locals – Business/Service Provider*
>
> *Ensuring local contractor and local employment opportunities are fully utilised – Online Survey Respondent*

Employ plenty of locals to work in the project – Online Survey Respondent

It would be great for the local economy and business market and very welcomed – Business/Service provider

It will be positive as it will have a flow affect to all businesses – Business/Service provider

This will be great for the local area, there has not been any big projects in this area for a long time – Business/Service provider

The area is constantly growing in population which means that there should be a positive response to employment opportunities created – Business / Service provider

The project will positively bring spending into the local area – Business/Service provider

The ability to utilise local labour, consultants, and contractors – Business/Service provider

While increased employment and procurement opportunities were noted by community members, some respondents noted several constraints to maximising local economic benefits, including limited local labour and material supply. However, it was also suggested that there was an opportunity to attract new skilled and professional workers to the region.

The type of personnel that will be attracted to this type of job will change the composition of the community by bringing in people with more skills. Armidale is a wealthy town, and an interesting cosmopolitan lifestyle. When you bring in REZ projects this could bring in more technical people and could lead to more start-ups? This is a positive thing – Special Interest Group

Being able to cater for the size of the project and finding capable persons to fill the roles required - Business/Service provider

Competition for skilled staff - Business/ Service provider

Service providers noted that the Project provided an opportunity to train and skill up local people and highlighted that the region already has a range of employment, training and education services in the region that could be utilised to facilitate project benefits, including the University of New England, TAFE and employment and training agencies.

Our local workforce has the ability and skills required for this kind of industry – Business/Service Provider

The local workforce would be able to fill the majority of the listed positions. Local job agency would be engaged to provide entry level workers who could access training from TAFE NSW for upskilling or reskilling – Business / Service Provider

Armidale has the digital hub for TAFE NSW … if you are looking for skilled workforce, you could work with digital hub… Are you going to work with UNE for research and training opportunities? – Special Interest Group

[Our business has] a training organisation that offers a range of pre-employment courses if they know what they [Neoen] need. We could organise training opportunities so that the local workforce is skilled in the relevant training before the project starts construction…. We can get all the people in the world the tickets and qualifications they need, but need the employer to be OK with hiring people who have the qualification but not necessarily the experience – Business / Service Provider

However other participants (n=20) were more sceptical as to whether the Project could increase local employment due to the specialist skillset required for renewable energy projects, and were concerned that Neoen may choose to use Fly-In-Fly Out (FIFO) or Drive-In-Drive Out (DIDO) workers, rather than up skilling locals.

> *These projects always seem to go to tier 1 or 2 contractors and locals get the crumbs if they are lucky – Business/Service provider*
>
> *I'm concerned that the employment opportunities won't go to local people and businesses – Online Survey Respondent*
>
> *I would like Neoen to follow through on employing locally. This needs to happen. People are sceptical of working for renewable companies as they have been promised things in the past and this hasn't happened – Business / Service Provider*

It was also noted that it was important that Neoen target employment for Aboriginal people in the region.

> *Will the project have any opportunities for Aboriginal people in the area? – Special Interest Group*
>
> *Aboriginal employment is important – Business / Service provider*

Neoen has committed to maximising local employment where possible, with a key objective of the CRP being to *Identify opportunities to maximise local business involvement and local employment in the construction and operations of the Thunderbolt Energy Hub.*

To support this commitment Neoen has also developed a job interest register and conducted engagement with employment service providers and local businesses, suppliers, and contractors, which will form the basis for the development of a Local Participation Plan (refer to Appendix 6 of the EIS for further details).

When asked *how Neoen could support the local community*, there was a desire to see the company work collaboratively with local businesses to help maximise employment and procurement opportunities.

> *Be sure to only use local contractors for everything – Business/Service provider*
>
> *Work with providers to ensure that all eligible locals have opportunity for employment – Business/Service provider*
>
> *Work with locals to create opportunity – Business/Service provider*

The Project was also seen to create flow on impacts to other industries, leading to a more diverse local and regional economy (n=26). It was noted that the area is currently quite dependent on agriculture and the Project would provide positive opportunity to diversify industry and labour skills.

> *Lots of people with varied skills in the area. People want to get more skills and projects like this will allow them to gain new skills and then take those new skills and find employment in other areas after – Business/Service Provider*

Other community members saw the potential to further develop tourism, through community investment programs and the wind farm providing an attraction for local visitors, resulting in further development of tourism infrastructure e.g., camping grounds; while others saw less benefit.

> *Do the windfarms have tourism potential? Could people visit one and look at how it works? – Special Interest Group*
>
> *Domestic tourism is getting bigger and we should try to do something with that – Landholder (Neoen meeting)*

We have experienced an increase in domestic tourism since COVID, a lot of grey nomads on the roads – Special Interest Group

Social impact is going to be very damaging – we don't see a lot of ecotourism potential – Landholder (Umwelt interview)

Other wind farm developments have noted benefits relating to tourism, with some farms associated with key community events (Iberdrola Australia). Other wind farms (e.g. Hepburn Wind Farm, Victoria), have used wind turbines as a basis to develop personalised public artwork, similar to what has been undertaken in the NSW, Victoria and WA on grain silos (silo art) to attract tourists to the area.

Therefore, there does appear to be a body of research relating to wind energy, landscapes, and tourism, presenting evidence that wind farms can have tourism potential. Consequently, such initiatives may potentially result in benefit for the community of Kentucky and the wider region.

In addition, the tourism industry in the locality may be impacted by the temporary influx of construction workers and the associated strain on accommodation providers, though this is considered a temporary impact and would need to be addressed in an accommodation and housing strategy for the construction phase. Further visitors to the area, may also contribute positively to the local tourism sector and associated service providers.

4.2.1.2 Social Impact Evaluation

The construction period of the Project is expected to generate employment opportunities for a workforce of up to 190 people, with further breakdown of the anticipated job types, goods and services outlined in **Table 4.6**. The Economic Impact Assessment (Ethos Urban 2021) predicts that up to 52 roles could be filled by apprentices and/or trainees.

Table 4.6 Construction Workforce and Procurement Requirements

Jobs	
Electricians	Telehandler
Electricity installation	Trucks
Electrical Trade Assistants	Pile Driver
Loader	Concreters
Excavator	Pipelayers
Grader	General Labour
Roller	Land manager
Dump Truck	Equipment maintenance
Watercarts	Administration
Forklift	General Labour
Suppliers	
Accommodation	Mechanical fitter/maintenance Operation and maintenance facility construction
Cleaners	Quarry products
Crane (minor lifts)	Septic pump out services
Concreters	Small equipment hire
Concrete supply (offsite supply)	Transport (minor)
Earthworks plant (wet and dry hire)	Waste management (liquid and solid)
Fencing and gates	Water (construction and potable)
Food and catering service	Welding and engineering fabrication (site services)
Freight	
Material testing	

Source: Neoen

The likely workforce and procurement profile for the Project has been cross-referenced with information gathered through the service provider and business survey, undertaken as part of the SIA, with existing local labour force data (skills, capabilities, qualifications), to ascertain the degree of local employment and procurement likely to eventuate because of the Project.

Neoen has committed to maximising local employment and procurement and have put in place a number of strategies, including:

- engagement with local business and interest groups including recruitment, employment, and training providers
- engagement with local businesses, contractors, and suppliers
- development of a job interest register.

In addition, Neoen has committed to developing a Local Participation Plan and ongoing engagement with local business and industry groups should the Project be approved (including facilitation of a local employment and supplier networking event during pre-construction). Additional information can be found in Neoen's CRP (refer to Appendix 6 of the EIS).

The Economic Impact Assessment (Ethos Urban 2021) has also concluded that:

- Construction of the Project may provide new short-term employment opportunities for the Study Area's [Tamworth Regional, Armidale, Walcha and Uralla LGAs] labour force participants (subject to suitable skills mix), with a small amount of ongoing employment also supported once the facility is operational.
- The Study Area's occupational and business structures indicate a good base exists to service the needs of the Project, with approximately 13,850 workers and 1,930 businesses in the Study Area involved in construction-related activities.
- The major regional cities/townships of Tamworth and Armidale have significant capacity to service many aspects of the Project, with smaller settlements such as Uralla, Bendemeer, Walcha, Kentucky, Moonbi and Kootingal, also likely to play a role in providing labour, accommodation and other general services to the Project.
- The Project will involve approximately $373 million in investment during the construction phase and will support a total of 495 FTE positions (direct and indirect) over the 18–24-month construction period. Once operational, a total of 20 FTE jobs (direct and indirect) will be supported by the facility.
- Employment generated for Study Area workers (direct and indirect) is estimated at approximately 210 FTE jobs during the construction phase and approximately 9 FTE jobs during the operational phase.
- The Project will provide significant participation opportunities for businesses and workers located in the Study Area, having regard for the good match of skills and resources available. The Proponent intends to be proactive in the development stage in coordinating the Engineering, Procurement and Construction (EPC) contactors with local business and workers.

A summary of social impacts and proposed mitigation and enhancement measures in relation to employment and procurement are outlined in **Table 4.7**.

Table 4.7 Summary of Social Impacts – Employment and Procurement

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Employment and Procurement	Local and regional businesses, contractors and suppliers Local and regional service providers Job seekers Local Government Broader community	Medium	Likely	Major (Construction Phase)	High (positive)	Preparation of a Local participation Plan, including an Accommodation, Employment, and Procurement Strategy, ahead of construction and in consultation with local stakeholders An Indigenous Participation Plan to be co-developed with Aboriginal stakeholders
Increased tourism activity	Tourism Providers Broader community	Low	Possible	Minor	Medium (positive)	Engagement with tourism providers and local government

4.2.2 Landholder Contributions and Community Investment

4.2.2.1 Perception of Impact

Project contributions to hosts and neighbours (through the neighbour and community benefits programs) and more general economic benefits from the Project were frequently raised across stakeholder groups (including the CCC, Special Interest Groups and landholders).

As outlined in **Figure 4.3**, positive impacts relating to host landholder payments included the opportunity for landholders to diversify their off-farm income (n=80). In addition, it was stated that the Project could contribute further investment in the local area (n=69).

> *[There] probably are benefits for those that are involved, they get a bit of extra cash. And these types of projects provide funding and support to the local community and businesses that's a positive – Landholder (Umwelt interview)*

> *It can only be a benefit for the Armidale region. The Project will have visual and noise impacts, but people receiving money through the neighbour program is a benefit – Special Interest Group*

> *I would like to see the project larger than it is, especially the solar farm (to be considered in Stage 2). Want to see the larger solar that would be better for the whole project. Could involve more landholders in the east if there was more solar. Good thing that there are more [wind farms proposed in the area], this is positive – economically its good for district and the local town. It will bring jobs and employment and income to the landholders and the neighbours' payments and the benefits sharing program – lots of positives of this project and other projects in the pipeline – Landholder (Umwelt interview)*

Other stakeholders suggested that only certain landholders receive benefits, while others do not (n=18).

> *As a near neighbour if we are not allowed to share in some of the royalties that our neighbours will receive, we will become severely disadvantaged going forward. We will be effectively locked out of the local rural land market as our neighbours will have greater purchasing power due to their passive income from the wind farm. Which means we will not be able to grow our agricultural business to a commercially viable size – Online Survey Respondent*

> *It will also have social implications, for those that are reaping the benefits and those that are missing out – Landholder (Umwelt interview)*

Some participants (including landholders and members of the CCC) also suggested that there should be opportunities for the community to buy into the Project and/or share in cheap energy for local consumers.

> *Would have liked to see greater benefit to the community through opportunities for the community to invest in the project – Neoen hasn't considered this to my knowledge. If they want to utilise the natural resources that are part of our life and environment, then they need to be willing to work with the community – allowing community buy in so there is true community ownership of the profits from the resource that has come out the community – Special Interest Group*

4.2.2.2 Social Impact Evaluation

Neoen's neighbour benefits program will provide neighbours, located up to 3.5 km from wind turbines, with direct annual payments throughout the operational phase of the Project. Payments are made on a sliding-scale based on the distance of the dwelling to the wind turbines. Such programs are considered important and afford landholders with some income diversification (RE-Alliance, 2021). In addition, Neoen have committed to contributing to a Community Benefits Fund throughout the operations phase of the Project to ensure benefits are also received in the wider community.

A summary of social impacts and proposed mitigation and enhancement measures in relation to landholder contributions are outlined in **Table 4.8**.

Table 4.8 Summary of Social Impacts – Community Contributions

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Income diversification for property owners through host and neighbour payments	Host landholders	Medium (positive)	Almost certain	Minor	Medium (positive)	Neighbour Benefits Sharing Program (direct annual payments to neighbours) and Community Benefit Sharing Program
	Near neighbours	Medium (positive)	Likely	Minor	Medium (positive)	
Distributive equity issues between host and neighbouring landholders	Host and neighbouring landholders	Medium	Possible	Minimal	Low	

4.2.3 Property Values

4.2.3.1 Perception of Impact

Some participants raised concerns about the potential for declining property values due to the presence of the Project (n=78), suggesting that Project impacts relating to noise and visual amenity may reduce property values particularly for those in proximity to turbines. Fear and uncertainty in relation to further developing or selling property was also expressed by some stakeholders.

> *Not sure of the impact on land values - probably depends on proximity to project – Online Survey Respondent*
>
> *Not going to impact us directly but for others in the area it will impact in the long term by lowering land values – Landholder (Umwelt interview)*
>
> *They are proposing to use our property as a buffer zone as the turbine will be just over the fence, and the 1.5km buffer zone will be on our property. For us this will mean that we won't be able to put any cabins or dwellings on that land. That's not right – FOKAG Representative*
>
> *Farm is the superannuation, and you will slash our super. Property prices near other wind farms have decreased. Our place will drop in value, and no one cares – FOKAG Representative*

Regarding the 1.5 km buffer zones, Neoen has sought to design the Project to include 2km buffers between turbines and non-associated private residences. This has been achieved for the current Project as proposed in the EIS.

However, other landholders were less concerned with this issue and felt that the Project may have a positive influence on property values.

> *Property values – I have no concerns I think they will increase due to the investment – neighbours will get payment and that will encourage investment into property – Landholder (Umwelt interview)*
>
> *As a near neighbour if we are not allowed to share in some of the royalties that our neighbours will receive we will become severely disadvantaged going forward. We will be effectively locked out of the local rural land market as our neighbours will have greater purchasing power due to there passive income from the wind farm. – Survey Respondent*

The issue of property values is further discussed below.

4.2.3.2 Social Impact Evaluation

It is difficult from a social impact perspective, to specifically ascertain the risks of the Project on property values, and the direct impacts of a Project. A report developed for the Office of Environment and Heritage (now DPIE), *Review of the Impact of Wind Farms on Property Values* (Urbis 2016) in 2016 highlights that there is '*limited available sales data to make a conclusive finding relating to impacts on the value of residential or lifestyle properties located close to wind farm turbines, noting that wind farms in NSW have been constructed in predominantly rural areas'*. This report also notes that a review of other studies shows that '*there is no impact or a limited definable impact of wind farms on property values'* (Urbis 2016, i).

Similarly, the NSW Valuer General (2009), *Preliminary Assessment of the Impact of Wind Farms on Surrounding Land Values in Australia*, report concludes that wind farms do not appear to have negatively affected property values in most cases. However, it should be noted that these reports were completed prior to the development of the REZ.

A review of property data for the area surrounding the operation suggests that property prices have increased over the past ten years. Median property prices in Kentucky have seen an overall increase since 2009[8], from $263,000 in May 2009, to $410,822 in November 2021 (SQM Research 2021), presenting a 2.7% pa increase over a 10-year period. The NSW Valuer General, *Report on NSW Land Values (1 July 2020)*, states that in the 12 months prior to 1 July 2020, residential land values for both the Tamworth Regional and Armidale LGAs remained steady. Rural land values increased moderately in Uralla (8.4%) and more strongly in Armidale Regional (10.7%) and Walcha (20.2%). Across the Northern Tablelands (Armidale Regional, Glen Innes Severn, Inverell, Tenterfield, Uralla and Walcha), rural land values also saw a stronger increase (11.2%), compared with residential land values (0.3%).

A summary of social impacts and proposed mitigation and enhancement measure in relation to property values are outlined in **Table 4.9**.

Table 4.9 Summary of Social Impacts – Property Value

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Perceived decline or increase in property values (due to the presence of the Project)	Neighbouring landholders	High	Unlikely	Minor	Low	Neighbour benefits sharing program

4.2.4 Disruption to Current Land Uses

4.2.4.1 Perception of Impact

Some landholders and community organisations noted concerns about the Project's impact on current land use e.g., farming (n=11), however this impact seemed to be a more general concern in relation to the REZ and cumulative project development.

In general terms, it was suggested that the Project and impacts of project construction may change how people farm and use their land. Community members and organisations were concerned that productive agricultural land (currently used for wool and livestock production) shouldn't be used for Renewable Projects within the REZ and should be relocated to areas that are less agriculturally productive.

> *Be aware that construction will severely affect our farm business and make every effort to minimise the impact – Online Survey Respondent*

[8] Data based on weekly asking property prices for all houses, source: https://sqmresearch.com.au/asking-property-prices.php?postcode=2354&t=1

This is good productive farming country that will be affected. Project could be in other areas where there isn't this productive farming land, this is some of the best wool production area in the world, a project like this will take productive land out of use – Landholder (Umwelt interview)

In respect to impacts of the Project on livestock, a review of research on the impact of wind turbines (and low frequency noise and electromagnetic fields) on livestock, suggests that there is no conclusive evidence to indicate any significant effects (Bairstow 2019; Lopucki et al 2017 and Centre for EcoTechnology 2016). Coexistence of wind farms and agriculture are common in other project contexts. As discussed in Neoen's CRP (refer to Appendix 6 of the EIS) available studies suggest that there is no conclusive evidence to indicate any significant effects on livestock.

4.2.4.2 Social Impact Evaluation

Regarding impacts to agricultural land, the Economic Impact Assessment (Ethos Urban 2021) indicates there will be no loss of employment associated with the Project Area is anticipated, either directly (on-site) or through the supply chain, as existing agricultural activity can continue across the Project Area noting the compatibility of both land uses. The remainder of the Project Area, not directly being used for wind farm infrastructure, will remain in agricultural land uses.

Consequently, while the loss of some agricultural land because of the Project will occur, this will occur in agreement with the host landholders and will enable continued agricultural use of the land. The Project is not expected to impact agricultural production on surrounding land or have any major effect on the regional agricultural industry.

Neoen are not proposing a lower blade edge below 70m above the ground, and while turbine rotation may cause some downstream wake effects (a type of turbulence) for a distance beyond the wind turbine, the effect is very high above ground, such that it is not noticeable at ground level and not to a degree that could draw up air to spread dust and seeds and result in land management issues.

A summary of social impacts and proposed mitigation and enhancement measures in relation to the potential for disruption to existing land uses and local livelihoods is outlined in **Table 4.10**.

Table 4.10 Summary of Social Impacts – Disruption to Current Land Uses

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Loss of agricultural land and impacts to land use resulting in impacts on livelihood	Host landholders/ farmers	Low	Unlikely	Minor	Low	Long-term lease agreements with associated landholders (also includes provision for Neoen's decommissioning obligations)

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Strategies
Disruption to existing land uses	Neighbouring landholders/ farmers Broader community Local Government Community and environmental groups	Medium	Unlikely	Minor	Low	Provision of information to interested landholders regarding key research outcomes relating to the coexistence of wind farms and agricultural activities Neighbour benefit sharing program will provide additional revenue for neighbours to invest in their agricultural endeavours

4.3 Health and Wellbeing

4.3.1 Perception of Impact

Health and wellbeing impacts include impacts to both physical and mental health and may include psychological stress resulting from financial and/or other pressures, as well as changes to individual and public health. During the engagement process, participants raised health and wellbeing concerns in relation to impacts of noise and vibration (including low frequency sounds) on community health (n=22); potential for sleep disturbance from noise and vibration (n=18); and increased stress and anxiety relating to the Project and uncertainty of Project impacts (n=28); others were less concerned with this issue.

> *Noise impacts on people with hearing aids – Landholder (Neoen meeting)*
>
> *Concerned about community health and noise pollution. Already the negative impacts on individual community members mental health are becoming apparent – Landholder (Umwelt Interview)*
>
> *I don't know how I will respond to the sound; infrasound could cause a panicking feeling – FOKAG Representative*
>
> *I don't think there is any health impacts – they just need to make sure the turbines are well maintained, and they get to anything that is broken as that is what can cause noise – Landholder (Umwelt interview)*

Some participants noted that the mental health impacts experienced by the community have been compounded by the cumulative impacts of a range of events that have occurred over the past few years, including severe bushfires, floods, mouse plague, drought, and the COVID-19 pandemic. In this regard, the Project was seen as a contributing factor causing stress in a community that was already experiencing a level of pressure and change.

It's without a doubt starting to impact on mental health [noted that there have been mouse plagues, fires, drought, floods, COVID] all of which are playing a role in impacting the stress of the community – FOKAG Representative

Other participants raised concerns about the unknown nature of whether the Project would be approved, with such fears commonly reported in large scale project developments of this kind.

It's the unknown – FOKAG Representative

We feel like we are on-hold and we can't make future plans about our property / lives – FOKAG Representative

4.3.2 Social Impact Evaluation

Stress and uncertainty can affect quality of life, and for individuals with an existing vulnerability to mental health issues, are added stressors. Regular sleep disturbance is also known to affect health outcomes. Research confirms that the impacts of major projects on those that oppose development can result in increased stress levels, a sense or feeling of things being out of one's control and distress induced by change (Albrecht 2007, cited in University of Melbourne 2017).

Research reported in the Australian Government's (2016) Community Health and Safety Handbook also reports that one explanation for the association between environmental disruption and stress is an individual's sense of 'place attachment' or 'place identity', whereby the environment becomes part of an individual's personal identity, thus influencing their attachment to place (Australian Government Department of Industry, Innovation and Science, 2016). This view supports Albrecht's (2005) concept of 'solastalgia', which describes a feeling of 'homesickness at home' that might be experienced when the home environment is significantly changed or changing. Such feelings have been linked to heightened levels of sadness, worry, fear and distress (McNamara & Westoby, 2011), and lower levels of perceived health and wellbeing among impacted persons (Connor L, 2004), underpinned by feelings of powerlessness.

A review of reports developed by the Chief Medical Officer of Health in Ontario (2010) and the Office of the National Wind Farm Commissioner suggests that:

- Infrasound and low frequency sounds from modern wind turbines are well below the level where known health effects occur (CMOH, 2006).
- Wind turbines are not considered a significant source of EMF [electromagnetic field] exposure since emissions levels around wind farms are low (CMOH, 2006).
- The photo flicker (shadow flicker) from blades is not sufficient to effect people with photosensitive epilepsy.
- While some people living near wind turbines report symptoms such as dizziness, headaches, and sleep disturbance, the scientific evidence available to date does not demonstrate a direct causal link between wind turbine noise and adverse health effects. This finding has been supported by the Office of the National Wind Farm Commissioner (2020), with research ongoing.
- Health conditions may also arise because of stress, annoyance or anxiety related to the presence of an operating wind farm or concerns about the potential effects of a proposed wind farm (The Office of the National Wind Farm Commissioner, 2020: 61).

Such findings have been supported by other research undertaken by the WHO, Australia's National Health and Medical Research Centre, the UK Health Protection Agency and the US National Research Council (refer to Neoen's CRP in Appendix 6 of the EIS for additional detail).

The SEARs require the EIS to consider and document any health issues having regard to the latest advice of the National Health and Medical Research Council (NHMRC), and identify potential hazards and risks associated with electric and magnetic fields (EMF) and demonstrate the application of the principles of prudent avoidance. An EMF assessment has been prepared for the Project and the outcomes of the assessment are summarised in the Section 6.8.3 of the EIS. This study found that EMF associated with the Project did not pose a risk to the community.

In relation to the potential for sleep disturbance (as outlined in **Section 4.3**), the Noise Impact Assessment has outlined that the relevant operation and construction noise and vibration criteria can be achieved under worst case meteorological conditions at all non-associated dwellings.

The research literature does not identify health risks for people living near wind farms. As noted above, dealing with change (such as a nearby wind farm development or any other material change to people's lives) can cause stress, annoyance, and/or anxiety for some people. Some of the participants consulted appear to have heightened levels of concern in relation to the Project that may possibly impact their health and wellbeing.

A summary of social impacts and proposed mitigation and enhancement measure in relation to health and wellbeing are outlined in **Table 4.11**.

Table 4.11 Summary of Social Impacts – Health and Wellbeing

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Perceived impacts of the Project causing stress, anxiety, and wellbeing effects on local residents.	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	High	Possible	Minor	Medium	Update to the CRP Continue to provide regular updates to alleviate uncertainty in relation to the Project
Impacts to physical health as the result of Project impacts (i.e. EMF)	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	Medium	Unlikely	Minimal	Low	

4.4 Community

Concerns about perceived impacts relating to community include changes to community composition, cohesion, character, how the community functions, resilience, and people's sense of place. Key perceived impacts identified during the Project engagement included concerns about community division, and potential changes to sense of place and community (n=26).

However, it was also acknowledged by some participants (n=41) that the project, and further local community investment, could result in a greater sense of social wellbeing, providing opportunities to skill the local workforce, bring new people to the area, and result in improved community infrastructure and services. These perspectives are further explored in the following sections.

4.4.1 Population Change

Changes to population are fundamental impacts 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 etc.

This section considers the potential impacts of population change because of the Project, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 5% in a local area is likely to result in a significant impact being experienced and as a result population change consequences are based on Burdge's threshold criteria.

Utilising workforce projections, existing ABS Census data relating to age, gender and household size, and assumptions in relation to source locations for the workforce, estimates of potential population changes in the Tamworth Regional, Uralla and Walcha LGAs due to the proposed Project are provided.

Population estimates are based on the assumptions that those migrating into the region for employment will be of working age. For the operational workforce, the breakdown of expected migration assumes that workforce family demographics will conform to current population age distribution trends within the LGA.

In relation to population change, it has been determined that the Project could influence population change in a number of ways:

- as a result of an influx of the construction workforce (most likely temporary and non-resident) during the construction period only
- as a result of an influx of a proportion of the operational workforce.

It should be noted that the Economic Impact Assessment has considered the likely workforce influx. This Assessment has assumed that 70% of jobs will be sourced from within the study area (and 30% will be from outside the study area). The SIA has considered three scenarios relating to the construction workforce, with the 80:20 rule, used frequently in SIA practice, with Scenario 1 representing a worst-case scenario.

These scenarios are outlined below:

- Scenario 1 – assumes 80% of the workforce will migrate into the region
- Scenario 2 – assumes 50% of the workforce will migrate into the region
- Scenario 3 – assumes 20% of the workforce will migrate into the region.

Population change estimations are provided at an LGA level only, given there is insufficient data available to accurately model how the incoming workforce (both construction and operational) will be distributed within specific communities in the LGAs. However, available data on current townships of residence within the LGA and capacity of relevant housing/accommodation options outlined in **Section 4.7**, has been considered to infer the communities where employees in the construction and operational phases could potentially be housed. Based on this data, comment is provided on the viability of each scenario given current availability of accommodation.

A range of scenarios are presented to illustrate the extent of population change that may occur because of the Project, with Scenario 1 representing a worst-case scenario in terms of realising local employment and causing changes to the broader community. Within the LGAs, the proportion of the current population who are unemployed is below the State average of 6.3%, Tamworth Regional LGA has the highest unemployment (5.8%), followed by Uralla LGA (5.2%) and Walcha LGA (3.2%) (ABS, 2016).

However, despite these figures, the population centres of Armidale (24,504) and Tamworth (42,872), exhibit relatively diverse economies and considerable construction sectors. Engagement with employment service providers and local businesses has further indicated that labour could be partially sourced from within the social locality for general construction and un-specialised roles.

Therefore, in considering population change associated with the Project, it is considered that **Scenario 2** (50% of the Project workforce may be sourced from within the locality, with 50% migrating into the area) is the most likely of the three operational scenarios assessed. This assumes that, as noted above, that a proportion of the existing population in the region may be likely to take up employment relating to the Project, based on the availability of suitable skills, qualifications, and experience. Scenario 3 is considered an aspirational scenario and will be dependent upon more focused strategies being put in place by Neoen to proactively facilitate local employment and training.

The Project aspects that have the potential to most significantly influence population change and subsequent impacts on access to community services are further considered below.

4.4.1.1 Construction Workforce

The construction phase of the Project is expected to last for a period of 18-24 months, with construction workforce estimates predicting a peak of 190 full time equivalent (FTE) employees.

Construction workforces can typically result in some specific social impacts to the communities in which they are housed, as construction work is transient, and workers often do not bring their families. Given the nature of the work being completed and the timeframe of the construction phase, the following assumptions have been made:

- It is not expected that any proportion of the construction workforce coming in from outside the LGA will choose to permanently relocate to a community within the council boundary.
- The workforce is likely to want to temporarily reside near the Project, as much as is practicably possible.
- It is unlikely that families will accompany these workers in migrating to the area.
- Construction workers that come from outside the region are expected to be housed in temporary commercial accommodation, or possibly rental properties (as required).

In considering the social impacts associated with the Project's construction workforce, **Table 4.12** summarises the population change estimates based on the three construction workforce scenarios, with the change representing the non-resident workforce.

Table 4.12 Construction Workforce Population Change Estimate – All Scenarios

	Tamworth Regional, Walcha, Uralla and Armidale LGAs (combined population of 98,244)	
	Population increase	%
Scenario 1 (80% migration into LGAs)	152	0.15
Scenario 2 (50% migration into LGAs)	95	0.1
Scenario 3 (20% migration into LGAs)	38	0.04

Across the social locality, the predicted temporary population influx into the LGAs has been assessed as a 0.15% population change (worst case Scenario 1) or less (Scenarios 2 and 3) and is consequently considered a **low social impact**.

4.4.1.2 Operational Workforce

During the operational phase of the Project, a total of nine (9) employees are anticipated who would permanently reside in the region. Given the Project operational phase is expected to be 30 years, it is assumed that family members of workers who relocate from outside the region, will also move to the area. The Economic Assessment (Ethos Urban 2021) assumes that five (5) of the nine (9) workers will be sourced from within the region. Given low workforce numbers required to operate the Project the social impact of operational workforce change has also been ranked as a low social impact.

4.4.2 Community Values and Sense of Community

Material changes to either built or natural features may occur because of a project. In turn, the effect of these changes may influence the values that people associate with these features, such as a sense of place or belonging, rural character, connection to Country, and the value of stories within the cultural landscape (DPIE, 2021). To understand potential impacts of this nature, it is appropriate to understand the values that people hold in relation to their community.

During engagement participants and community groups were asked what they valued most about their local area with rural landscape and beauty (n=43), community and family ties (n=34) frequently noted.

> *The community has bright, brainy, and passionate people and they have knowledge they want to contribute – Special Interest Group*
>
> *[We] enjoy that there are different people who live there for different reasons; some want to be off grid, others are running farms, there are also family generational properties. It is a great sort of Community – Landholder*
>
> *[We] enjoy the community, and we do feel very safe. The neighbours come and help, and I would do the same for them, it's a really strong community – Landholder*
>
> *It's a small community rural community. There are plenty of progressive people, that's a really positive thing – Landholder*
>
> *[I value] that it is completely isolated and that it very, very quiet. I value that it is an opportunity for me to connect with the broader family – Landholder*

Many respondents also reflected on the complexity of their connection to community, noting a deep physical and emotional connection to the area:

> *…Its complex for us, for me it's emotional connection to my ancestors, where my mother was born, where my grandfather was born, it's got a strong emotional connection – Landholder (Umwelt interview)*

> *The farm has been in the family for 3 generations, got a lot of history and sentimental value, the aesthetic looking over the hills – FOKAG Representative*

> *We enjoy that this is a working farm, it is a family property that we all share the responsibility for – Landholder*

> *Kentucky is a closely settled place.... They have come here for the rural lifestyle and buy small blocks where they can run a few sheep or cattle, this is why people are feeling the turbines will overshadow their lifestyle – Special Interest Group*

It was also perceived that discussion around proposed projects in the area was affecting residents' sense of community cohesion and a fear that this would result in community members relocating.

> *We have been here 10 years and what attracted us is the quiet rural lifestyle, we have wonderful views. And a very cohesive community, we have a few horses, a lifestyle block around 80 acres, and we breed horses and that is what attracted us here the lifestyle, the peace and quiet. And the community which is already being eroded – Landholder (Umwelt interview)*

> *The project is already dividing the community, its pitted people against each other. Neighbours who were once good friends are now no longer talking to each other, this is because of the division between those that are hosts and those that aren't, noting that not all properties in the area are suitable to host given their size – FOKAG Representative*

> *People will get used to the impacts, but some will get up and leave, sell cheaply and just leave. Its already happening – FOKAG Representative.*

4.4.3 Community Investment

When asked about the benefits of the Project, participants noted that the Community Benefit Fund was a key benefit to the community.

> *Positive – as it will mean additional money for the community – Landholder (Umwelt interview)*

> *Probably are benefits for those that are involved, they get a bit of extra cash. And these types of projects provide funding and support to the local community and businesses that's a positive – Landholder (Umwelt interview)*

Stakeholders noted that they would like to see the Community Benefits Fund focused on long term community benefits so that there was improved social infrastructure and a positive legacy once the Project has finished.

> *[Whether the] Community Benefits Fund can be channelled into larger long-term projects at some point, not just small grants – CCC minutes*

In the area we have UPC [New England Solar Farm] as well, to date they have only done two lots $50k rounds, which is good for some small jobs – is there a possibility of funnelling it into a larger fund for the town, i.e., have developed the Uralla future fund which looks at projects for the town or recycling or local food production projects. Something for Neoen to consider. Would like to see Neoen contribute to something larger for the community – legacy project – Special Interest Group

Limit social and economic disruption to local communities, ensure lasting social and economic benefits and behave as an honourable business – Online Survey Respondent

Making sure the local community benefits from it being here and that the benefits are fairly distributed across the local community – Online Survey Respondent

Consider how you can best contribute to the community for a longer-term outcome such as tree plantings and a community future fund – Online Survey Respondent

Leave improved infrastructure after construction to benefit the community in the long term – Online Survey Respondent

Questions were raised about how the Community Benefit Fund would be structured and distributed and which localities would be a focus. Some raised concern that the benefit of the fund would be diluted as it was assumed it would be divided between the three Council areas; with a view expressed that the fund should be directed to the immediate locality rather than larger towns such as Uralla, Tamworth or Armidale. Some also noted that the funds proposed were not sufficient to outweigh the negatives associated with the Project.

The developer constantly touts that they have the community fund – but from my perspective, no amount of money will compensate for losing the lifestyle we enjoy. Developers will make millions of taxpayer subsidies – Landholder (Umwelt interview)

Community fund should only be spent on the community in a 10km radius and it shouldn't be going to Uralla – Landholder (Umwelt interview)

Stakeholders also provided suggestions for how the funds should be administered, including administration by Local Government or an existing local organisation; or development of a working group/committee of community members.

Why not do a good thing by supporting an existing local community organisation through supporting them to manage the community fund. Indeed, why not band together with other renewable developers to support a region wide community led not for profit organisation to do this. It would have a bigger cumulative impact and be much more visible as a good deed done by these developers – Landholder /FOKAG Representative

When asked for suggestions for the community fund, several participants noted that they would prefer that Neoen engage with the community to decide on the most suitable projects and that the provision of funding should commence immediately before the EIS is submitted.

Would rather the community decide what projects to fund but it should have already started. Should have started a year ago – Landholder (Umwelt interview)

'some funding to keep it [the Kentucky Hall] afloat… with COVID recently we haven't been able to put on events as much as we would like but we are still paying rates, electricity and insurance. So its eating away at our funds'.

I've told Neoen that the fund should be starting right now. It should be $100k now. Even it if was $50k now. Should be indexed – get the community onside so they have a positive interaction with Neoen rather than a negative conversation. They need to be engaged with the community from the start – Landholder (Umwelt interview)

Table 4.13 summarises suggestions made by stakeholders for consideration for the Community Benefits Fund.

Table 4.13 Community Identified Suggestions for Fund

Suggestions	Frequency
Improved telecommunications/communication tower	10
Funding for Kentucky Hall and Progress Association	9
Community and recreation facilities (such as community events, toilets, Golf club, hydrotherapy pool, blue property signs (like Walcha Shire), off the grid retirement village, games room in Uralla (closer to town), cricket grounds, kids playground)	9
Subsidised power costs (including subsidised solar)	8
Funding the local school (Kentucky)	7
Road Improvements: Old Wollun Rd upgrade, Kentucky Rd from New England Hwy – upgrade, seal dirt roads around village, i.e. Westvale Rd, Brechts Lane, tree corridors along roads to stop dust and soil erosion	6
RFS funding (water tanks for RFS if there is a community fire, safe assembly areas for community fires, first aid, medical equipment, AED, chainsaws, smoke inhalation kits)	4
Conservation funding	4
Funding of wind farm tours	3
Building a community centre	3
Building a crafts centre	3
Building a swimming pool	2
Developing long term community plans	2
Preserve history and knowledge in the community 'protecting older stuff in a community (heritage tourism)'; 'Local knowledge - linking older community members with younger to help pass knowledge on (e.g. fruit picking, etc)	2
Emergency services: ambulance in Uralla (community service), something practical for droughts in future, e.g. trucks for potable water	2
Bike trails and tracks	2
Railway improvements (lights and infrastructure)	2
Better sewage system	1
Youth oriented centre or programs	1
Camping site	1

4.4.3.1 Social Impact Evaluation

As noted within **Section 3.0**, the Kentucky has lower than State average levels of mobility suggesting that people live within the same locality for longer, fostering a sense of identity and connection with place and community. In addition, Kentucky had higher rates of volunteering suggesting a greater level of community participation.

Neoen has committed to contributing $100,000 per annum (Stage 1 only) as part of the Community Benefits Fund. This fund will be administered throughout the operations phase of the Project and is designed to benefit the communities surrounding the Project.

Social impacts identified and proposed mitigation and enhancement measure in relation to sense of community and community values are outlined in**. Table 4.14**.

Table 4.14 Summary of Social Impacts– Community

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significant	Proposed Mitigation and Enhancement Measures
Population influx caused by the construction workforce resulting in temporary change in community composition	Broader community Local government Local service providers	Low	Unlikely	Minor	Low	Prepare accommodation, employment, and procurement strategy prior to construction (as part of the Local Participation Plan)
Impacts on sense of community, community cohesion and sense of place	Host and neighbour landholders Local community (Kentucky, Kentucky South, Wollun)	Medium	Possible	Minor	Medium	Update of the CRP Community Benefits Program
Increased social investment at the local level through provision of community benefits Fund	Local community (Kentucky, Kentucky South, Wollun) Broader community	Medium (positive)	Likely	Minor	Medium (+)	Targeting of the Community Benefit Fund to address local needs, priorities, and aspirations

4.5 Engagement and Decision Making

Impacts relating to decision-making systems consider whether people experience procedural fairness, can make informed decisions about a project, can meaningfully influence decisions, and are able to access complaint, remedy, and grievance mechanisms.

During engagement for the Project, participants raised several impacts relating to engagement and decision-making systems, specifically: the process of engagement, communication, and information provision; trust in the project development process; and the ability of community members to impact Project decisions

4.5.1 Perception of Impact

4.5.1.1 Engagement Process

Regarding the engagement process, some participants noted that they were satisfied with the level of engagement and information provided in relation to the Project, while others identified areas in which the engagement process could be improved.

> *Good that you have involved everyone in stakeholder consultation, the Aboriginal community have been involved. Happy with the engagement. It would be good to have some more informal information sessions, have a BBQ – Aboriginal stakeholder*
>
> *[The Community Engagement Officer] did a great job of briefing us – Online Survey Respondent*

However other participants noted some concern with the engagement process (n=34), expressing a desire for further information about the Project.

> *Wider community in our LGA doesn't seem to have much of an understanding of the project, maybe they think it's more relevant to the other shires and not ours. So, it is important to ensure you are sharing information and engaging with the broader community – Tamworth Regional Council*
>
> *I would like to be more aware of the project and want more detailed information. A little information was provided at the online Q&A session, but would like to more about it …Want to know finer details like where the substation will go – Landholder (Umwelt interview)*

Given COVID restrictions, some of the consultation for the Project was undertaken online and consequently this may have influenced some stakeholder perceptions of the engagement process particularly in regard to a desire for more two-way communication between the company and the community and the view that inadequate internet access prevented some community members from participating in the engagement process. As previously highlighted, Neoen recorded the Online Q&A presentation which was subsequently uploaded to the Project website. In addition, additional responses to the questions posed during the sessions have also been provided via the company's website.

Some participants also called into question the representativeness of the engagement program, with the majority of consultation primarily undertaken with potential hosts (of Stages 1 and 2) and not with the community more broadly. In this regard, it should be noted that the community drop-in sessions at the Kentucky Hall in September 2021 were open to all community members Neoen has also implemented additional engagement mechanisms to engage the broader community including an online survey, meetings with 72 community members, distribution of newsletters and website updates (refer to **Section 2.4** and Appendix 6 of the EIS for more detail on the engagement process).

4.5.1.2 Assessment Process and Trust

Some stakeholders raised concerns regarding a lack of trust in the development and assessment process and people's ability to influence project decision making (n=31). This is not an uncommon concern for development assessment of large Projects. In this regard, some concern about the broader REZ (as announced by the NSW government) and what this means for residents, appears to be further contributing to this issue.

Some stakeholders also raised concerns around transparency of information provision and proposed changes to Project staging, despite the project being separated into two stages due to key stakeholder feedback.

The feeling is that we don't have any decision-making capability at all the decision are being made for us, and the only options are to write to the wind farm commissioner and DPIE, which we are doing. The processes is flawed as the complaints [that we have made to DPIE] get passed to Neoen communicate very promptly often with multiple pages of repetitive info but the reality is they often do not address the specific concern – Landholder (Umwelt interview)

Splitting the project into two stages, it seems to be because Neoen want to be able to split the impacts so that the cumulative impact on the community (particularly for those in between the two stages) are not considered. This allows Neoen an easy pathway through the government legislation – FOKAG Representative

Concern was also expressed about the scope of various assessments, indicating some level of distrust by some participants relating to the studies undertaken for the Project:

Assessments, e.g., this noise, visual, SIA are all paid for by the developer. They cannot be considered impartial. If it's not in the interest in the developer to look for certain things the consultants' hands are tied. Process is flawed – Landholder (Umwelt interview)

As outlined in **Section 2.0** of the SIA, and Section 4.0 of the EIS, the EIS and contributing assessments have been completed to the requirements of the SEARs and relevant government policies, guidelines, and assessment requirements to provide a thorough assessment of the Project. In addition, Neoen have been engaging the local community through a variety of mechanisms throughout the development of the Project to respond to community concerns including information booklets and an FAQ section on the Project website (refer to Appendix 6 of the EIS).

As previously noted, Neoen has elected to proceed with Stage 1 only of the Project in response to feedback from the community and other stakeholders.

4.5.1.3 REZ Development Process

In relation to the NSW Government's development of the REZ, a number of stakeholders (n=14) outlined that there had been limited consultation with the community in regard to the determination of the REZ; and that since formal establishment of the REZ, there are a large number of companies concurrently seeking to establish projects in the region. While the consultation process for the REZ is not Neoen's responsibility, it is possible that this dissatisfaction with the REZ consultation process has led to heightened discontentment with consultation activities associated with the Project.

Frustrated and cranky not because it's not a good thing [the REZ] – but because these was no process for determining the REZ – no one approached the community from the Government, no one asked whether the community wanted it or thought it was a good idea, or to educate the community about what the REZ was. It was just a line on the map and there was no space for input. It was a decision before the discussion, and I say that you always need to have the discussion before decision in any project work – this was done the wrong way. It was simply imposed on our region with no discussion before decision – Community Group/Organisation

I am not anti-renewable, clean energy – the sooner we can get on with it, the better. However, it needs to be done responsibly within a strategic State land use plan – FOKAG Representative

Some stakeholders also noted that rural areas are not the largest consumers of electricity yet are most impacted by the development of renewable projects. Participants noted that they would prefer to see smaller microgrid renewable energy project developments.

Why do rural areas have to bear the impost and impacts of energy production when we are not the main users demanding it. Just imagine how much power could be generated off Sydney roofs - FOKAG representative.

Others however noted that the REZ was a very positive development for the region.

REZ – it's important that there are lots of projects and the local towns and community benefits from the projects – Landholder (Umwelt interview)

4.5.2 Social Impact Evaluation

Neoen has undertaken a range of engagement activities since 2019, to date meeting with approximately 88 neighbours and community members either in a group setting or on a one-on-one basis, facilitated by the Neoen's local community liaison representative. In addition, a range of other engagement mechanisms have been utilised including physical drop-in sessions, information booklets, newsletters, website updates and online meetings/presentations. Additional information can be found in Neoen's CRP (refer to Appendix 6 of the EIS).

As previously outlined, some participants raised concerns regarding trust in the assessment process and their ability to influence Project development, related to the REZ more broadly and the number of projects proposed in the region. The concern about the NSW governments assessment process and the implementation of the REZ program is outside of the control of Neoen, however, Neoen has focussed on developing a Project that fits within the strategic framework that the NSW government has put in place. Section 2.0 of the EIS, provides further context on the strategic context of the Project and REZ and further justification for the Project.

As outlined in **Section 2.0**, the SIA has been completed in accordance with the SIA Guidelines (NSW Government 2021), with the EIS also outlining further description of the assessment process and the relevant guidelines and policies that have been addressed. However, the cumulative nature of development in the region was still of concern to a number of those consulted.

4.6 Culture

4.6.1 Perception of Impact

Social impacts or changes to culture include effects on people's shared beliefs, customs, values, language, and dialect, as well as their local culture, heritage, as well as their ability to access cultural resources.

Organisations who expressed an interest in being consulted in the Aboriginal Cultural Heritage Assessment for the Project include: Nunawanna Aboriginal Corporation, AT Gomilaroi Cultural Consultancy, Didge Ngunawal Clan, Larissa Ahoy, Nyakka Aboriginal Cultural Heritage Corporation, Iwatta Aboriginal Corporation, Brain Draper, Corroboree Aboriginal Corporation, Armidale Local Aboriginal Land Council, Natasha Rodgers, Ngoorumba Tingha Elders Council Aboriginal Corporation, Armidale and New England Gumbaynggirr Descendants, Gunjeewong Cultural Heritage Corporation.

During engagement for the Aboriginal Cultural Heritage Assessment, key issues noted related to sensitivities of view lines from elevated landforms within the Project Area, to key landscape features (being elevated areas) located many kilometres outside of the Project Area; and potential location of additional artefact scatters and isolated artefacts present in the Project Area, but not visible due to current conditions. It was suggested that such issues needed to be considered when undertaking any future earthworks for the Project.

Similarly, during engagement for the SIA, an Aboriginal stakeholder noted similar concerns relating to construction activities:

> *Concern about road construction and the digging up of the roads, which has the opportunity to damage sites… Some of the sites are not registered – and if not recorded there are issues of what happens with the future sites in the area – Aboriginal Stakeholder*

4.6.2 Social Impact Evaluation

While not raised as a key concern relating to the Project, impacts to culture and to the local Aboriginal community were raised by some participants as a potential impact of the Project. In this regard, it was acknowledged that it was particularly important to engage openly with members of the Aboriginal community and protect significant sites that may be affected by the Project.

Further detail of Neoen's engagement with Aboriginal stakeholders is outlined in the CRP (refer to Appendix 6 of the EIS) and the potential impacts of the Project on Aboriginal cultural heritage was assessed in detail in consultation with the registered Aboriginal parties for the Project as part of the Aboriginal Cultural Heritage Assessment.

Social impacts identified and proposed mitigation and enhancement measures relating to cultural heritage are outlined in**Table 4.15.**

Table 4.15 Summary of Social Impacts – Culture

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Impacts on Aboriginal cultural heritage	Aboriginal stakeholders	Medium	Unlikely	Minor	Low	Aboriginal Cultural Heritage Management Plan for the Project will be developed in consultation with the RAPs, Ongoing engagement with Aboriginal Stakeholders

4.7 Accessibility

4.7.1 Housing and Accommodation

4.7.1.1 Perception of Impact

In relation to local infrastructure and service capacity, housing and accommodation provision for the construction workforce was noted as a concern by some respondents. Local accommodation providers surveyed to inform the SIA, indicated limited accommodation in towns nearest the Project Area to meet current demand, which is concurrent with the existing strain on the rental housing market across the social locality, as outlined in **Section 3.3.5**. Respondents also commented on the cumulative impact that multiple developments within the New England REZ may have on local accommodation providers, with some strategies such as the busing of construction workers suggested:

Accommodation is limited – Business and Service Provider

It is expected that undersupply of rental accommodation due to renewables projects will force tenants to move to areas with more affordable housing – Uralla Shire Council

There is insufficient staff and accommodation – Business and Service Provider

The New England REZ will put a strain on local accommodation providers – Business and Service Provider

Lack of accommodation, due to busy nature of travel and events – Business and Service Provider

Accommodation is really tricky, lots of people going into Airbnb, [Neoen] could also work with the community to see if anyone has a spare room to rent? … with other projects, when the workers were coming in for construction, they were looking for high quality accommodation and were willing to pay $1,000 a week in rent. Probably going to be a challenge. Could you have buses that transport the workers? – Special Interest Group

[The impact of the workforce on my accommodation business] depends how much they use the facilities and services here or bypass them for larger towns like Tamworth - Business and Service Provider

There will be some benefits to local businesses in accommodation – but this will be for Uralla not in Kentucky – Landholder (Umwelt interview)

*Housing shortage is serious at the moment (*Tamworth LGA*), properties get snapped up within two days after going on the market – Tamworth Regional Council*

4.7.1.2 Social Impact Evaluation

The Economic Impact Assessment for the Project has identified that:

> *The major regional cities/townships of Tamworth and Armidale have significant capacity to service many aspects of the Project, with smaller settlements such as Uralla, Bendemeer, Walcha, Kentucky, Moonbi and Kootingal, also likely to play a role in providing labour, accommodation, and other general services to the Project (Ethos Urban 2021, ii)*

According to the survey undertaken to inform the SIA, local accommodation providers felt that occupancy rates are usually steady, however in recent years this had been disrupted due to COVID-19 restrictions:

Accommodation has been severely impacted by COVID-19, but in a normal year, occupancy rates are low in the winter (very cold) and high in the Summer (Tamworth Country Music Festival). Access to other services remain steady all year serving the local customers. – Accommodation Provider

Occupancy rates are relatively stable, Covid to take into consideration. – Accommodation Provider

Seasonal variation in demand is offset by annual events such as the Tamworth Country Music Festival in January, being the main boost of demand, whereas the bitterly cold winters see a reduction in demand. – Accommodation Provider

As a result, it is unlikely that the construction workforce would be solely housed in small rural towns such as Kentucky and Bendemeer, and instead would access accommodation options in the major regional centres of Armidale and Tamworth, as both towns offer a range of housing/accommodation and other community services. However, given the presence of a small number of accommodation providers in townships nearest to the Project, with some having plans to expand their services and increase the number of rooms available, it is recommended that employment and projected population change associated with the workforce influx should be managed in consultation with local government and local service providers to facilitate early responses to accommodation and township infrastructure as required and to maximise benefits for local businesses/service providers.

Whilst the construction workforce for the Project would be temporary in nature and would be unlikely to utilise services such as education, the workforce is still likely to access a range of housing and accommodation, health, hospitality, and recreational services in local towns; therefore, having the potential to impact on service capacity.

The Economic Impact Assessment (Ethos Urban, 2021) also suggests that the cumulative effects on the local housing and accommodation market would be mainly associated with significant development of major renewable energy projects across the REZ in the coming years (including Stage 2).

Considering the outcomes of the Economic Impact Assessment and the consultation conducted to inform the SIA, it is recommended that a workforce accommodation strategy be developed to effectively utilise local capacity and avoid project impacts. This strategy would include

> *updated review of accommodation availability to ensure there is sufficient accommodation for the workforce associated with the construction phase of the Project and identification of any required management measures (Ethos Urban 2021, iv)*

Social impacts identified and proposed mitigation and enhancement measure in relation to housing and accommodation are outlined in **Table 4.16**.

Table 4.16 Summary of Social Impacts – Housing and Accommodation

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Strain on housing and accommodation services	Accommodation service providers Visitors and tourists Local Government Broader community	Low	Possible	Moderate	Medium	Development of Local Participation Plan, including an Accommodation, Employment, and Procurement Strategy in consultation with key stakeholders e.g., local accommodation providers, prior to construction

4.7.2 Road Access

Questions and concerns relating to increased traffic (disruption and congestion) and change in local road conditions were raised by some stakeholders during consultation. Property access was also noted by some landholders, particularly in relation to whether neighbours of host landholders would need to allow access for construction activities, and consequential safety (theft) and maintenance issues. Questions were also raised about the transport routes to be utilised for construction (including blade transportation), road development required and associated likely traffic congestion or delays.

> *Lots of the country is granite country – gets wet, goes boggy – will need lots of work to make the roads stable – Special Interest Group*
>
> *[Concerned about] road access to the public and if gates would be locked by maintenance personnel who will look after the project – Landholder (Neoen meeting)*
>
> *If roads are damaged, does Neoen repair them? – Landholder (Neoen meeting)*
>
> *I hope that they don't put that [bitumen road] on my farm, rural theft is bad enough. People will be speeding, there are some areas where there are no fences, I don't want a bitumen road, that shows no understanding of the area. If I want to protect my livestock will need to pay for fencing and security – FOKAG Representative*

A detailed transport and traffic assessment has been completed as part of the EIS including consideration of access routes, road upgrades required and traffic impacts and safety. The assessment has indicated that traffic and transport impacts can be appropriately managed. Furthermore, if the Project is approved, Neoen will only undertake road works on land where there is an appropriate landowner agreement in place.

4.7.2.1 Social Impact Evaluation

The Traffic and Transport Impact Assessment (TIA) has been undertaken to determine the level of potential impacts of the construction, operations, and decommissioning phases of the Project on the surrounding road network. The TIA indicates that the Project will increase traffic volumes across all Project phases, which is anticipated to have a minor impact on the traffic operation of the surrounding road network with the site having direct access to the New England Highway, a major regional transport route with a large capacity. These minor impacts are predominately applicable to the construction and decommissioning phases and relate to oversized delivery vehicles on the road network. The operations phase of the Project will only generate relatively low traffic volumes on the road network, due to negligible heavy vehicle movements, and is considered to have a negligible impact to the operation of relevant road links.

For Stage 1 of the Project, there is one entry point into the Project site off the New England Hwy. The majority of roads required for Stage 1 will be on the host landholders' properties under landholder agreements and therefore the impact to neighbours is limited to vehicles entering and existing the Project Area from the New England Highway (refer to Appendix 6 of the EIS).

Social Impacts and proposed mitigation and enhancement measure in relation to road infrastructure, access and social amenity are outlined in **Table 4.17**.

Table 4.17 Summary of Social Impacts – Road Infrastructure and Access

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Impacts relating to road access and way of life as a result of increased traffic movements during construction	Broader community Road users	Low	Likely	Minor	Medium	Preparation of a TMP in consultation with TfNSW Consultation with relevant councils regarding an agreement relating should works be required works to local roads for the Project. Project access via one designated access point, with no access via neighbouring properties

4.7.3 Infrastructure, Services and Facilities

4.7.3.1 Perception of Impact

In relation to other infrastructure, services and facilities, some participants raised questions about whether telephone and internet connections would be impacted by the Project; with others suggesting that improved telecommunications could be a benefit of the Project through the Community Benefits Fund.

> *Will it affect phone/internet connection (direct line to Telstra tower and wouldn't like it if it was blocked/disrupted) – Landholder (Neoen meeting)*

Some participants also raised concerns about waste generated from the Project, noting that if the waste was to be sent to the local landfill, there was a concern that this could cause service capacity issues.

> *Concerned about the waste from the project. [We only have a] small landfill. For Glen Innes [wind farm project] the landfill got fill by the wind farm so want to know what the plans are. Is it talked about in the DA?*
>
> *Waste in local dump. Need to make sure that waste is limited. Also recyclable materials – Landholder (Neoen meeting)*

4.7.3.2 Social Impact Evaluation

An Electromagnetic Interference Assessment has been undertaken as part of the EIS, to assess the potential impact of the Project on telecommunications, suggesting that the proposed turbines may interfere with point-to-area style services such as mobile phone signals, radio broadcasting, and terrestrial television broadcasting in some localised areas near to the turbines, particularly in areas with existing poor or marginal signal coverage. As noted in Electromagnetic Interference Assessment report: 'however, previous advice received from mobile phone network operators has generally indicated that they do not expect wind farm developments to interfere with their services' (DNV, 2021) No interference associated with the Project is likely to impact satellite television and internet signals within the vicinity of the Project Area (refer to Section 6.8.2 of the EIS).

As outlined in the EIS, a component of the detailed design and construction phase, a Waste Management Plan will be prepared which will include a detailed breakdown of waste types and quantities in accordance with relevant legislation and guidelines (refer to Section 6.10 of the EIS). The Waste Management Plan will outline the measures and strategies to be implemented on site to manage, reuse, recycle and safely dispose of waste including:

- separation and storage of recyclable and non-recyclable materials
- reuse and collection/transportation of waste
- procedures for tracking waste storage and disposal.

A decommissioning and rehabilitation plan will be developed for the Project prior to closure which will include a detailed review of the associated waste streams and recycling/disposal options available at the time.

Section 6.8 of the EIS outlines proposed management actions that may be used to manage different types of waste, for example general waste will be stored on site and transported to licensed regulated waste facility by appropriately licenced contractors.

Social impacts identified and proposed mitigation and enhancement measures are summarised in **Table 4.18**.

Table 4.18 Summary of Social Impacts – Infrastructure, Services and Facilities

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Impacts to access to services and facilities including waste services and telecommunications	Local community (Kentucky, Kentucky South, Wollun) Local Government Broader community	Medium	Possible	Minimal	Low	Consultation with telecommunication service providers and relevant landholders if required during the detailed design and operation phase Development and implementation of a waste management plan

4.8 Cumulative Impacts

A cumulative impact assessment has been completed as part of the EIS (refer to Section 6.13 of the EIS). This assessment notes that there are a total of 35 renewable energy projects within, or in the vicinity of, the REZ (extending up to approximately 165km from the Project Area) and two Battery Energy Storage System projects. Of the 35 renewable energy projects, 3 are operational, 4 are under construction and 13 are approved. Twelve projects are at various stages of the assessment process and 3 projects are in planning (scoping report yet to be submitted). Of the 12 Projects currently under assessment, 4 are wind farm developments and 8 solar farm developments.

Subject to planning approval, grid connection and financing, construction of the Project is anticipated to commence in 2024, with the facility expected to be fully operational by 2026. The construction phase of the Project is expected to be undertaken over an 18-to-24-month period.

Table 4.19 outlines the proposed SSD Projects within 100km of the Project area that have been considered in the assessment. There are many Projects in development, with at least two having the potential to overlap with the proposed construction timeline of the current Project. As outlined in the table, the exact timeframe and workforce numbers for each of the proposed projects is not yet clearly defined.

Potential cumulative impacts associated with the Project have been addressed in the relevant specialist assessments and are summarised where relevant in this EIS.

Regarding cumulative traffic impacts, the majority of other relevant projects in the region are not considered to contribute to cumulative traffic impacts. This is because the identified projects are not expected to lead to an increase in traffic volumes on the section of the New England Highway relevant to the Project (due to location) or the timing of the associated construction and decommissioning phase is expected to be prior to or following that of the current Project.

Table 4.19 Proposed State Significant Development Projects, within 100 km of the Project Area

Project	Development Type	Development Stage	Construction workforce numbers	Proposed construction timing
Sapphire Solar Farm (92.5 km north of Armidale – outside REZ)	Solar	Approved – construction expected to commence 2022	Unknown	2022
Orange Grove Solar Farm (60km west of Tamworth – outside REZ)	Solar	Approved	80 full-time equivalents (FTEs) during construction and three FTEs during the operational stage of the project.	9-month construction phase
Taminda Solar Farm (4.3 km north of Tamworth – outside REZ)	Solar	Approved	Unknown	No construction timeframe available
Tamworth Solar Farm (28 km west of Tamworth)	Solar	Approved	Construction phase – 200 jobs	12-month construction phase
New England Solar Farm (28 km northeast of Project Area)	Solar	Approved	Construction workforce: 500-800 (peak) Operational workforce: approximately 15	Pre-construction works approved in June 2021. Preparatory works ongoing.
Guyra Solar Farm (76 km northeast of Project Area)	Solar	Approved	Unknown	Q4 2023
5MW Solar Farm (58 km southwest of Project Area)	Solar	Approved	Unknown	Unknown

Project	Development Type	Development Stage	Construction workforce numbers	Proposed construction timing
Armidale Solar Farm (41.5km Northeast of Project Area)	Solar	Approved	Unknown	Unknown
Manilla Solar Farm (40km north of Tamworth – outside REZ)	Solar	Approved	Unknown	No construction timeframe available
Hills of Gold Wind Farm (57 km southeast of Tamworth – outside REZ)	Wind	Under Assessment EIS Exhibited	216 direct jobs, 430 flow-on jobs during construction, 31 long-term service and maintenance jobs in operation and 53 flow-on jobs	18-24 months
Doughboy Wind Farm (88.5km northeast of Project Area)	Wind	Under Assessment Prepare EIS	Construction workforce: 180 FTE jobs Operational workforce: 12 FTE jobs	18-month construction timeline, with initial construction activities commencing within 6 months of project approvals.
Rangoon Wind Farm (North and South) (93.9 km North of Project Area)	Wind	Under Assessment Prepare EIS	Unknown	Construction beginning in 2022
Winterbourne Wind Farm (38km east of Project Area)	Wind	Under Assessment Prepare EIS	Construction workforce: up to 300 Operational workforce: approximately 16	Construction expected to begin Early 2023
Oxley Solar Farm (50km northeast of Project Area)	Solar	Under Assessment EIS Exhibited	Construction workforce: approximately 300 jobs Operational workforce: approximately 5 FTE jobs.	Construction expected to commence in late 2022 and would be completed by 2024 subject to approvals.
Tilbuster Solar Farm (55km northeast of the Project Area)	Solar	Under Assessment EIS Exhibited	Construction workforce: 125 jobs Operational workforce: 5 FTE jobs	Q3 2023 construction begins
Middlebrook Solar Farm (25 km south of Tamworth – outside REZ)	Solar	Under Assessment Prepare EIS	Construction workforce: approximately 400 jobs Operational workforce: 12 jobs	No construction timeframe available

Project	Development Type	Development Stage	Construction workforce numbers	Proposed construction timing
Salisbury Solar Farm (32 km northeast of Project Area)	Solar	Under Assessment Prepare EIS	Construction workforce: 400-800 FTE direct, and 200-400 FTE indirect. Operational workforce: 10-15 FTE	Stage 1 construction commencement proposed for Q2 2021 Stage 2 construction commencement proposed for Q3 2022
Thunderbolt Energy Hub – Solar Farm (adjacent to the Project Area)	Solar	Under Assessment Prepare EIS	Construction workforce: over 250 jobs Operational workforce: 10-15 jobs	No construction timeframe available
5MW Solar Plant (40 km southwest of Project Area)	Solar	Under Assessment (DA Submitted – local Council)	Unknown	Unknown
Tamworth Battery Energy Storage System (8 km south of Tamworth)	Other	Under Assessment Prepare EIS	Unknown	Expected completion 2023
Armidale Battery Energy Storage System (45.54km Northeast of Project Area)	Other	Under Assessment Prepare EIS	Construction workforce: up to 150 jobs Operational workforce: 1 FTE job	Schedule for construction completion in 2023, pending approvals
Thunderbolt Energy Hub – Stage 2 (immediately south of the Project Area)	Wind	In Planning	Unknown	Development 3-5 years Construction 24-36 months
Bendemeer Renewable Energy Hub (30 km southwest of Project Area)	Wind and Solar	In Planning	Unknown	No construction timeframe available
Tara Springs Wind Farm (9.9km south of Project Area)	Wind	In Planning	Construction workforce: between 150 and 200 jobs Operational workforce: 8-10 FTE jobs	No construction timeframe available

Source: Ethos Urban 2021, updated by Umwelt

The Economic Impact Assessment (Ethos Urban 2021) concludes that there is a 'high likelihood that cumulative impacts will be manageable, however, it would be prudent to assume some cumulative impacts associated with the construction of the Project are likely to occur and appropriate/proportionate mitigation measures should be implemented recognising the timing uncertainty of other projects'.

Considering the large number of proposed projects and the likely workforce requirements during construction, it is likely that some of these will overlap with the Project, each of which are likely to have large construction workforces (in the hundreds). This influx in the local population will have varying degrees of impact on the use of community infrastructure and services including health, accommodation, and recreation, depending on where the workforce will be sourced from, and where they will be housed. However, it is likely that such workforces will rely on the same towns for services as the Project (including Tamworth, Armidale, and smaller towns in the region) indicating a temporary increase in pressure on housing and accommodation and local services as a result.

Social impacts identified and proposed mitigation and enhancement measure in relation to cumulative impacts are outlined in **Table 4.20**.

Table 4.20 Summary of Social Impacts – Cumulative Impacts

Social Impact	Affected Parties	Stakeholder Perceived Significance	Likelihood	Magnitude	Significance	Proposed Mitigation and Enhancement Measures
Cumulative impacts	Local community (Kentucky, Kentucky South, Wollun) Local Government Service providers and local businesses Broader community	Medium	Possible	Moderate	Medium	Development of Local Participation Plan, including Accommodation, Employment, and Procurement Strategy, in consultation with local stakeholders prior to construction. Plan to consider the cumulative impacts of other developments within the REZ to mitigate any negative impacts.

4.9 Summary of Social Impact

The following table provides an overall summary of the impacts identified in relation to the Project as discussed in the sections above. It should be noted that the residual social risk ratings represent the risk post implementation of mitigation measures, with proposed mitigation and enhancement strategies to address the residual significant social impacts summarised.

Table 4.21 Evaluation of Social Impacts

Social impact theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
Community/ Accessibility/ Way of Life	Project construction	Population influx caused by the construction workforce resulting in temporary change in community composition and township service capacity in select towns	C	Broader community Local government Local service providers	L	D	2	L	Prepare accommodation, employment, and procurement strategy prior to construction (as part of the Local Participation Plan)	L
Surroundings Livelihoods	Project construction and operations	Altered landscape affecting people's sense of place, rural character, visual amenity, and community values	C & O	Some neighbouring landholders	H	C	3	M	implement visual mitigation measures to address landholder concerns where possible, Communicate outcomes of the Stage 1 LVIA to interested stakeholders Avoid ecological sites where possible	L
				Local community (Kentucky, Kentucky South, Wollun) Community and environmental groups	H	D	2	L		L
				Broader community	M	D	2	L		L

[9] C = Construction Phase; O = Operations Phase
[10] Level of concern or interest from the perspective of the affected party
[11] 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 theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
	Project decommissioning	Impacts on surroundings and future land uses post decommissioning	C & O	Host landholders	L	D	2	L	Decommissioning plan to be develop pre-closure of the wind farm in consultation with relevant stakeholders	L
				Neighbouring landholders	H	D	2	L		L
				Community and environmental groups	H	D	2	L		L
				Broader community	L	D	2	L		L
	Project operation	Perceived public safety and health risk due to reduced access for bushfire management	C & O	Host and neighbouring landholders Emergency services Community and environmental groups Broader community	H	D	2	L	Development of a Bush Fire Emergency Management Plan in consultation with the RFS Ongoing engagement with local community regarding concerns	L
	Project construction and operations	Social amenity and way of life impacts due to noise, vibration, lighting due to changes in how people experience their surrounds	C	Some neighbouring landholders	H	C	2	M	Construction management planning to consider proximity of activities to residential properties, including active engagement during construction	L
				Residents along the transport route	M	C	2	M	Construction management planning to consider activities affecting local community, including active engagement during construction	L
			O	Neighbouring landholders	H	C	2	M	Feedback mechanisms for community to submit questions/ complaints	L
				Local community (Kentucky, Kentucky South, Wollun)	M	D	2	L		L

Social impact theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
	Project construction and operations	Social amenity and way of life impacts due to air quality / dust	C	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	L	D	2	L	Construction management planning to consider proximity of activities to residential properties, including active engagement during construction	L
			O	Neighbouring landholders Local community (Kentucky, Kentucky South, Wollun)	L	D	1	L	Feedback mechanisms for community to submit questions / complaints	L
Accessibility / Surroundings	Project operation	Renewable energy provision reducing effects of climate change	O	Broader community NSW community Australia	H (+)	A	4	VH (+)	Consideration of local energy provision projects through Community Benefit sharing program	
Livelihood	Project construction and operations	Decline in property values due to proximity of the Project	C & O	Neighbouring landholders	H	D	2	L	Community benefits sharing program Neighbour Benefits Sharing Program	L
	Project construction	Provision of employment, training and upskilling of local people. Commercial benefit through procurement opportunities for local business and service providers	C	Local and regional businesses, contractors and suppliers Local and regional service providers Job seekers Local Government Broader community	M	B	4	H (+)	Prepare Accommodation, Employment and Procurement Strategy prior to construction in consultation with local stakeholders Indigenous Participation Plan co-developed with Aboriginal stakeholders	

Social impact theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
	Project construction and operations	Loss of agricultural land and impacts to land use	C & O	Host landholders/ farmers	L	D	2	L	Long-term lease agreement with the associated landholders includes provision for Neoen's decommissioning obligations Provision of information to landholders regarding key research outcomes Ongoing engagement with neighbouring landholders	L
		Disruption to farming practices and land use	C & O	Neighbouring landholders/farmers Broader community Local Government Community and environmental groups	M	D	2	L		L
	Presence of the Project	Increased tourism activity	O	Tourism providers Broader community	L	C	2	M (+)	Engagement with tourism providers	
	Project construction and operations	Distributive equity issues between host and neighbouring landholders	C & O	Host and neighbouring landholders	M	C	1	L	Proactively consult with Project neighbours to collaboratively develop Community Benefit Strategy and associated programs targeted to nearby residents	L
	Project construction and operations	Income diversification for property owners through host and neighbour payments	C & O	Host landholders	M (+)	A	2	M (+)	Ensure Project benefits are equitably distributed, including community grant program funding and neighbour benefit scheme	
				Near neighbours	M (+)	B	2	M (+)		

Social impact theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
	Project construction	Strain on accommodation and housing market due to construction workforce demand, affecting accessibility and availability for other users	C	Accommodation service providers Visitors and tourists Local Government Broader community	L	C	3	M	Develop Accommodation, Employment and Procurement Strategy (as part of the Local Participation Plan) in consultation with local stakeholders ahead of construction	L
	Project construction	Impacts relating to road access and way of life as a result of increased traffic movements during construction	C	Broader community Road users	L	C	2	M	Construction Management Plan to include traffic management measures and local road changes	L
Community	Project construction and operations	Increased social investment at the local level through provision of Community Benefits Fund	C & O	Local community (Kentucky, Kentucky South, Wollun) Broader community	M (+)	B	2	M (+)	Ensure targeting of Community Benefit Strategy to local needs, priorities, and aspirations Ensure neighbouring landholders and other sensitive or vulnerable groups are considered as a discreet recipient	
Decision-Making Systems/ Community	Presence of the Project	Impacts on sense of community, community cohesion and sense of place		Host and neighbour landholders Local community (Kentucky, Kentucky South, Wollun)	M	C	2	M	Proactive, thorough, and transparent consultation process through Project planning, assessment, and development phases Community benefit sharing program Neighbour Benefits Sharing Program	L

Social impact theme	Project aspect	Social impact description	Duration[9]	Extent/affected parties	Stakeholder Perceived significance[10]	Significance rating[11]			Social mitigations/ enhancement measures	Residual significance
						L	M	S		
Surroundings	Presence of the Project	Impacts on community ecological values (including access to water)	C & O	Host and neighbour landholders Local community (Kentucky, Kentucky South, Wollun) Community and environmental groups Broader community	H	C	1	L	Communication of key management measures and outcomes to key stakeholders	L
Accessibility	Project construction and operations	Impacts to access to services and facilities including waste services and telecommunications	C & O	Local community (Kentucky, Kentucky South, Wollun) Local Government Broader community	M	C	1	L	Engagement with local council and service providers	L
	Project construction	Cumulative impacts on community services as a result of construction workforce in the region	C	Local community (Kentucky, Kentucky South, Wollun) Local Government Service providers and local businesses Broader community	M	C	3	M	Develop Accommodation, Employment and Procurement Strategy (as part of the Local Participation Plan) in consultation with local stakeholders ahead of construction	L
Health and wellbeing	Presence of the Project	Perceived effects of the Project development causing stress, anxiety, and health effects on local residents.	C & O	Neighbour landholders Local community (Kentucky, Kentucky South, Wollun)	H	C	2	M	Ongoing engagement with local community	L
		Impacts to physical health as the result of Project impacts (i.e. EMF)	O	Neighbour landholders Local community (Kentucky, Kentucky South, Wollun)	M	D	1	L		L
Culture	Project construction and operations	Impacts on Aboriginal cultural heritage	C&O	Aboriginal community	M	D	2	L	Ongoing engagement with Aboriginal Stakeholders	L

4.10 Community Suggested Impact Mitigation Measures

Table 4.22 outlines the community suggested management and enhancement strategies to address social impacts in relation to the Project as expressed from the perspectives of those consulted. It is also acknowledged that there are a range of other management and mitigation strategies proposed in the EIS and SIA that will also assist in addressing impacts of the Project. These strategies are further discussed in the EIS.

These community suggested management measures have been considered by Neoen and the Project team in the development of the EIS, with **Table 4.22** outlining a summary of Neoen's response to these suggestions. It should be noted that it is not Neoen's intention to conduct all the community suggested impact mitigation measures listed.

Table 4.22 Community Identified Mitigation Strategies

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
Livelihood	Equitable distribution and implementation of host and proximal landholder payments	• Ensure landholder payments are available to future property owners • Develop a landholder benefit program for solar farm neighbours (note no solar farm proposed as part of the current Project) • Landholder benefits program to consider potential loss of property values • Landholder payments to be indexed annually	Host landholder contracts are between Neoen and the owner of the property on which the wind farm is to be constructed. If the property is sold, the agreement is transferred to the new owner of the property. Neoen have committed to the implementation of a Neighbour Benefit Sharing Program throughout the operations phase of the Project, the program applies to all dwellings within 3.5 km of the proposed turbines and would see these neighbours receive direct annual payments for the life of the Project. Payments are made on a sliding-scale based on the distance of the dwelling to the wind turbines. Neighbour benefits associated with Stage 2 (including the solar farm) would be investigated as part of those stages of the development. Neoen has committed to a strong starting payment, without indexing, as a more transparent way of guaranteeing a certain payment to neighbours.
	Employment and procurement	• Maximise local employment and procurement opportunities • Provide training and employment opportunities to local workers • Provide entry level positions for potential workers with limited skills or experience • Ongoing engagement with key stakeholders (including local council, employment, recruitment and education service providers) • Facilitate local workshops and information sessions to educate local communities of potential employment and procurement opportunities associated with the Project – a communication strategy could be implemented to ensure that people are aware of potential opportunities and that these are locally advertised first • Consider partnerships with the University of New England, local recruitment and training providers and TAFE to provide upskilling and training opportunities for potential workers in the local area	Neoen have committed to developing and implementing a Local Participation Plan, including an Accommodation, Employment and Procurement Strategy. This strategy will address workforce accommodation, any potential impacts to services and include efforts to maximise benefits to the local economy and business community.

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
		• Provide a support mechanism to assist local contractors in the tendering process, and provide early opportunities for contracting to local businesses and suppliers	
	Future land use	• Wind turbine foundations to be included in land title maps • Ensure that buffer zones surrounding turbines are included on the host property rather than on neighbouring land so that potential future developments are not adversely impacted by the Project	Neoen's view is that wind turbine foundations do not need to be included in land title maps. A decommissioning strategy will be developed prior to the end of life of the wind farm to identify the works to be undertaken and the management actions required. The Project has been designed to minimise impacts on surrounding residences as far as practicable. Where impacts have been identified on surrounding residences, Neoen has proposed management and mitigation measures to address these impacts as outlined in the EIS. Neoen have committed to the implementation of a Neighbour Benefit Sharing Program, the program applies to all dwellings within 3.5km of the proposed turbines and would see these neighbour receive direct annual payments for the life of the project. Payments are made on a sliding-scale based on the distance of the dwelling to the wind turbines.
	Disruption to farming practices	• Consider appropriate fencing on host landholder sites to minimise potential safety concerns for grazing livestock • Ensure workers and contractors travel at safe speeds and implement vehicle safety protocols when present on host or neighbouring properties • Project to be moved to areas that are not such fertile agricultural land • Ongoing engagement with landholders to minimise disruption to farming practices for host and neighbouring properties	• Ancillary infrastructure will be appropriately fenced, turbines can be locked to prevent unauthorised access and do not require fencing • The CEMP and OEMP will include appropriate site safety controls • The Project has been designed to minimise disturbance to existing agricultural land and the agricultural use of the land will continue outside the direct Project impact area • While Neoen does not consider there to be an agricultural impact on neighbouring landholders, Neoen will have ongoing consultation with host and

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
			surrounding landholders during construction and operation of the Project.
Surroundings	Changes to the rural landscape and visual amenity	• Paint turbines green or use appropriate colour to minimise visual impacts • 3D models developed to provide the community with a better understanding of the visual impacts of the Project • Additional photo montages to be developed from landholder's homes/ prominent view locations • Consider larger buffer distances	• The proposed turbines will have a matt-white non-reflective finish to reduce visibility • A detailed Landscape and Visual Impact Assessment has been prepared for the Project including the development of a digital 3D model and preparation of photomontages at locations most impacted and as agreed with specific landholders (refer to Sections 5.4.2 and 6.2 of the EIS).
	Biodiversity impacts	• Disable blade movement during key bird migration periods • Implement a tree planting program to offset loss of local natural habitat areas • Coordinated environmental support plan – integration of threatened species, habitat protection to make the environment is protected	• To address biodiversity impacts, Neoen have committed to the implementation of: o A Bird and Bat Adaptive Management Plan; o Implementation of relevant biodiversity management controls as part of the CEMP and OEMP • Neoen will also offset the biodiversity impacts of the Project in accordance with NSW Government policy.
	Biosecurity	• Implement appropriate mitigation and management measures to minimise the spread of pests and weeds onto landholder's property	• Site survey works undertaken to date have been subject to strict biosecurity measures • The CEMP and OEMP will include appropriate biosecurity control measures applicable to the construction and operations phase of the Project
	Decommissioning and sustainability of the Project	• Investigate material usage with lower overall environmental impact, such as 'green' cement • Investigate options for material recycle and reuse of construction material, equipment, and infrastructure • Ensure appropriate waste management planning to minimise landfill utilisation	Neoen have committed to the development of a decommissioning and rehabilitation strategy A Waste Management Plan will be developed for the Project including measures regarding recycling and reuse.
	Access and use of water resources	• Ensure appropriate land care management practices are designed and implemented to minimise erosion from the Project Area and protect local water catchments	Appropriate sediment and erosion control measures have been developed for the Project, as outlined in Section 6.9 of the EIS. These measures will be applied to the Project

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
			through the development and implementation of the CEMP and OEMP
	Public safety/fire risk	• Provide ongoing supervision and monitoring of turbines • Ongoing engagement with local Rural Fire Service to implement fire management plans • Viewing areas/pull-in bays to be established to provide viewing areas of turbines, to reduce road safety impacts • Additional support for local firefighting services	• The WTGs will be controlled by a central control system located at Neoen's Operations and Control Centre which is currently based in Canberra. The control system will be monitored 24/7 and will allow remote operation of all WTGs and will provide the ability to shutdown individual or all WTGs if required • On site operational staff will also undertake maintenance and undertake general management and operational requirements • Neoen have committed to the development and implementation of a Bushfire Emergency Management Plan, in consultation with the RFS
Accessibility	Traffic impacts and public safety	• Implement a bus service from key housing and accommodation centres to Project Area to minimise private worker car usage on local roads • Consider appropriate traffic management plans and measures to lessen Project related impacts to local road network	• Neoen have committed to the development and implementation of a Traffic Management Plan, to be developed in consultation with local Council and TfNSW
	Telecommunications	• Investigate opportunities to improve telecommunications in the area	If any interference to existing services is experienced during operation of the Project, Neoen have committed to investigating the issue and developing appropriate mitigation in consultation with the relevant service provider and the landowner if required
	Workforce accommodation	• Provide specific needs and workforce numbers to service providers in advance of construction to assist in managing impacts on local services • Coordinate plans with local industry groups and Council	Neoen have committed to developing and implementing an Accommodation, Employment and Procurement Strategy. This strategy will address workforce accommodation, any potential impacts to services and include effort to maximise benefits to the local economy and business community
	Project rational and suitability	• Consider alternative projects including increased solar and micro-grid projects	• The Project is a direct response to the NSW Government's commitment to transition to renewable electricity generation. The EIS and

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
Decision-making systems		• Develop smaller scale, community led approach to energy development • State or Commonwealth government implement a code of conduct for renewable energy development to ensure consistent, appropriate, and accountable outcomes from projects • Additional legislation regarding decommissioning process	relevant specialist studies have been developed in accordance with relevant legislation and guidelines. • The extent of the Project has been subject to continual refinement in response to community feedback, including the decision to proceed only with Stage 1 at this time. • The Project has also been designed using an iterative approach. The conceptual layout of the WTGs, electrical reticulation infrastructure, Project Area access, internal access roads and other supporting infrastructure has been subject to ongoing refinement with the aim of minimising associated environmental impact. • The recommended measures for government legislation and policy are noted but are outside of Neoen's control.
	Community engagement and participation	• Develop a long-term, holistic, and well implemented community development program that extends beyond the initial development of the Project. • Ongoing engagement with the community including public community meetings, smaller group discussions and workshops, and establish a presence or identity within the community • Share information with councils, business community, industry groups locally as early as possible • Ensure website has clearly accessible information • Conduct Wind farm site tours	• Neoen have committed to the implementation of Community Benefit Sharing Program which will be developed and implemented in consultation with the community • Neoen have committed to the implementation of a Neighbour Benefit Sharing Program, the program applies to all dwellings within 3.5km of the proposed turbines, with neighbours receive direct annual payments for the life of the project. Payments are made on a sliding-scale based on the distance of the dwelling to the wind turbines. • Neoen will continue to undertake ongoing consultation with the community and continue to update and implement their CRP – this will include consultation with Councils, the business community, local groups and the community • Continuation of the CCC. • Neoen will continue to run a website throughout the assessment process, construction and operation of

	Impacts Addressed	Community Identified Mitigation Strategy	Neoen's Response
			the Project and will keep this website updated with relevant information. • Neoen will consider the potential for and interest in wind farm tours as part of the CRP
Community	Community benefits fund	• Community fund committee formed to determine how the fund is allocated • Network with community organisations to determine how the fund is allocated – understand community needs • Develop a larger regional / future focused strategic fund in collaboration with other companies • Target the local (Kentucky) area for funding, given impacts experienced locally • Implement Voluntary Planning Agreements with local councils	Neoen have committed to the implementation of Community Benefit Sharing Program which will be developed and implemented in consultation with the community. Neoen will consider feedback on topics such as administration, areas to benefit, collaboration with others as part of the Community Benefit Sharing consultation.
Culture	Impacts to connection to Country and Aboriginal culture	• Aboriginal community representative on the Community Benefits Fund Committee • Ongoing engagement with Aboriginal community regarding management of sites of significance • Informal information sessions/BBQs with Aboriginal stakeholders	Neoen will continue to consult with the Aboriginal community as part of the continued implementation of the CRP

5.0 Social Impact Management Planning

This section provides further detail on the proposed strategies to be implemented in response to the predicted social impacts associated with the Project, and relate to those impacts that have been evaluated as significant and ranked as moderate or high social impacts. Both positive and negative social impacts have been considered in the management planning approach outlined below.

The strategies proposed include the management measures (mitigation and enhancement) committed to by Neoen, as well as those raised by community stakeholders during consultation for the SIA. In addition, consideration has been given to industry benchmarking from other technical studies undertaken for this Project, and the application of sound SIA practice.

The strategies suggested in this section include measures to address some of the perceived social impacts that were of particular concern from participants' perspectives. In addition, as discussed in **Section 4.0**, these strategies have been developed in consideration of the range of management-based strategies (including environmental management plans) and approaches in place that would be implemented should the Project be approved. These approaches/strategies further defined in the EIS.

As noted in the SIA Guideline, strategies need to be developed to ensure that there is a clear connection between the measure proposed and the social impact being mitigated or enhanced. Strategies to be implemented may differ in their effectiveness and/or ability to alleviate impacts, with some residual social impacts remaining, in the case of negative impacts. Furthermore, certain measures may collectively address several negative social impacts and potentially enhance a number of positive impacts.

SIA guidance (NSW DPIE 2021) outlines that mitigation measures to respond to project impacts may be:

- **Performance-based** – identify performance criteria that must be complied with to achieve an appropriate outcome, but do not specify how the outcome is to be achieved, demonstrating why the performance criteria are appropriate.
- **Prescriptive** – that outlines actions that need to be taken or things that must be done, with justification as to why this approach is appropriate by providing scientific evidence or referencing relevant guidelines or case studies.
- **Management-based** - where potential impacts can be satisfactorily avoided or mitigated by implementing known management approaches.

It is likely that a Community Relations Plan, Community Benefit Sharing Program, Local Participation Plan and Accommodation, Employment and Procurement Strategy be prepared for the Project and that each of these will be a requirement of the conditions of consent.

A framework for social impact management is presented in **Figure 5.1**, with guiding principles and key components to be considered in the development of these plans further outlined below.

Figure 5.1 Framework for Social Impact Management

These plans will include the social impact management measures outlined in **Section 4.0** as well as the relevant measures suggested by the community and adopted by Neoen as outlined in **Section 4.8**. These social impact management and mitigation measures will work in combination with the environmental management and mitigation measures identified in the EIS, many of which address issues raised by stakeholders as outlined in this SIA.

Another key mitigation measure for the Project is that Neoen has sought to enter into agreements with the most affected near neighbours to the Project to address the predicted impacts of the Project. These agreements include commitments to appropriate mitigation and management measures. Agreements are in place with the most affected nearby landowners. These agreements are in addition to the agreements in place with the host landholders and collectively ensure the effective mitigation and management of the impacts of the Project on the most effected nearest neighbours.

5.1 Community Relations Plan

Consistent and consultative engagement with communities throughout the Project's planning, construction, and operations is critical in ensuring social acceptance of the Project, to assist in the development of strong local partnerships and to ensure sustainable environmental and social Project outcomes. Fairness in the Project development process requires the establishment and management of processes to ensure that people have meaningful opportunities to influence the design, plans, and outcomes of a development, as well as in realising the benefits of the Project.

Proactive consultation and the formation of strong working partnerships throughout the Project lifecycle with the following stakeholder groups is critical:

- Host and neighbouring residents
- Local community and environmental groups
- Local businesses, industry groups and service providers
- Local Government
- Broader community.

Neoen have developed a Community Relations Plan (CRP) that has been implemented throughout the development of the EIS. It is recommended that in the remaining development phase of the Project, and throughout the construction and operation phases, that Neoen continue to implement the CRP. This should be led by an internal resource, and identify mechanisms and methods to be utilised to engage with key stakeholders, periodic action plans, targets, responsibilities for implementation, as well as a monitoring and evaluation framework throughout the life of the Project.

The approach for community engagement and public participation should be guided by industry standards and frameworks including the International Association for Public Participation (IAP2)'s *Spectrum of Public Participation* (2018) and the Clean Energy Council's *Enhancing Positive Social Outcomes from Wind Farm Development: Evaluating community engagement and benefit sharing in Australia* (2018).

Objectives of the CRP should include:

- ensure that those potentially affected by the Project understand the Project and how it will affect them
- understand stakeholder interests and how impacts may be experienced (from their perspective)
- provide opportunities for people to collaborate on relevant Project design matters related to key community issues and input to preferred solutions to address impacts
- ensure people know how their input has been considered, and what strategies will be put in place to address their concerns
- inform the development and implementation of impact management strategies
- track and monitor community issues and perceptions of the operation over time and evaluate the success of strategies to manage and /or enhance social impacts
- provide access to monitoring data and detail of management strategies to reduce impacts
- share regular and transparent information on the Project.

5.2 Local Participation Plan

To directly address and respond to the social impacts and opportunities of the Project as they relate to construction workforce matters, Neoen has committed to developing and implementing a Local Participation Plan (LPP) prior to the construction phase of the Project. The Plan will also include an Accommodation, Employment, and Procurement Strategy and will be developed in consultation with key stakeholders.

Regarding workforce accommodation, it is proposed that the construction workforce would be partially sourced from within the social locality, and partially would comprise an incoming and temporary population to the area for the purposes of working on the Project. In accordance with the outcomes of the Economic Impact Assessment (Ethos Urban, 2021), the Accommodation, Employment, and Procurement Strategy will consider:

- Management of the potential cumulative impacts on the local housing market that the Project could contribute given other users, sectors/industries and/or other development projects in the social locality
- Efforts to maximise benefits to the local economy and business community.

The Strategy will involve the following components as it relates to workforce accommodation:

- Identify measures to ensure there is sufficient accommodation for the required workforce.
- Development of the Strategy prior to the construction period, in response to regional demands at that time.
- Development of the Strategy in consultation with local stakeholders and service providers.
- Consider options such as dispersing workers across multiple locations/towns and across numerous providers, or by sourcing long-term accommodation as early as possible in the lead up to construction.
- Include a program to monitor and evaluate the effectiveness of the measures developed during the construction period.

A critical first step in the development of the Strategy will involve detailing the workforce requirements and job profile for the construction phase, to ascertain the planned proportion of locally sourced versus incoming workers. The development of the Strategy is dependent on the number of incoming workers and their staging, in that the more people employed from within the social locality, the less need for local workforce accommodation. Consequently, coordination is likely to be required during the planning of workforce accommodation requirements and local employment plans for the construction period.

Relating to local participation planning, this assessment has documented and understood the impacts and community expectations around employment and procurement and has focussed on understanding existing capabilities within the social locality and the potential for the Project to contribute to building capacity in new areas. The Plan swill contain initiatives to proactively facilitate enhancement of local employment and procurement to meet the Project's construction and operational needs, and could include the following:

- Options for prioritising the employment of local workers.
- Supplier and servicing opportunities for local businesses.
- Up-skilling, re-skilling and training opportunities for local people.
- Jobs, supplier, and servicing opportunities that target partnerships with local and active social enterprises.
- Actionable targets with associated responsibilities should be contained within the Strategy, including mechanisms to involve local stakeholders in its development and implementation. Key stakeholder groups should include Council, industry associations or business groups, employment and training service providers, community committees or representative bodies and regional development organisations.
- Information provision relating to the Project's construction requirements in the pre-construction phase (post development approval) is critical in embedding a planned and proactive approach to local participation and should therefore also comprise a component of this Strategy.
- Mechanisms for local businesses, job seekers and services to register their capabilities and interest in working with the Project should also be formalised and widely shared within the social locality.

5.3 Community Benefit Sharing Program

Neoen has committed to the development and implementation of a Benefit Sharing Program which includes two elements:

- A dedicated Community Benefits Fund, focused on the funding of wider community initiatives or programs in the form of sponsorships or grants at the local and regional level throughout the operations phase of the Project
- A Neighbours Benefits Sharing Program, focused on the needs and interests of the Project's closest neighbours, and in line with the recommendations contained within the Economic Impact Assessment (Ethos Urban, 2021). This would entail the provision of direct annual payments throughout the operations phase of the Project to neighbouring dwelling-owners, whom are not directly associated with Project infrastructure. This measure is designed specifically to address the impacts of the Project on those most affected landholders that are near to the Project.

Community benefit sharing in the context of the renewable energy sector in Australia, relates to the establishment of an integrated model within projects to share the rewards of the development proactively and purposefully with local communities (Clean Energy Council 2019). Outcomes of such a model are seen to contribute positively to the development and sustainability of a region.

Further, the renewable energy industry is increasingly recognising the need to ensure realisation of benefits to local communities and, often those most affected by projects, prior to any disruption or impact caused through the construction and operation project phases. Consequently, Neoen's Community Benefit Sharing Program for the Project will formally support the realisation of these principles, in line with the Clean Energy Council of Australia's key components for developing a Benefit Sharing Strategy for renewable energy projects:

- establishment of benefit sharing objectives in partnership with community representatives
- research into community needs and aspirations
- defining community benefit and calculating costs
- planning community engagement and developing criteria and 'negotiables'
- commencing community consultation and building local networks and relationships
- assess, refine, and decide on key components, parameters, criteria, and governance arrangements
- establishment of the strategy and implementation
- governance and administration in collaboration with key stakeholders and members of the community
- monitoring, evaluation, and continual improvement.

It is recommended that the governance structure of the Community Benefits Fund, and the associated administration processes, are developed and designed in collaboration with the local community.

In addition, the Fund will be targeted at benefiting the locally affected community surrounding the Project through:

- working collaboratively with near neighbours/proximal landholders and key stakeholders to develop environmental and community benefits for the local area that enhance local values
- facilitating enhancement initiatives for those residents living in proximity to the Project
- contributing to the local community and better targeting community investment spend locally.

Establishing these types of programs can ensure consistency in the approach to community enhancement and benefit sharing across various stakeholder groups.

5.3.1 Community-Identified Needs and Opportunities

Through community consultation on the Project to date, members of the community have identified and suggested a range of ideas, needs and opportunities which, in their view, can help to address some of the social impacts that they predict the Project may cause. Such suggestions will be used to inform the development and implementation of the Community Benefit Sharing Program.

For instance, during the online community survey, implemented by Neoen, participants were asked to identify community needs. The most frequently raised needs identified related to community infrastructure, and in particular roads and road upgrades.

In relation to the community benefit fund, participants were also asked in the survey to identify focus areas for funding in the community. **Figure 5.2** identifies the frequency of cited responses by category, noting that the most frequently cited desire related to benefiting local community groups, followed by electricity subsidies for local households.

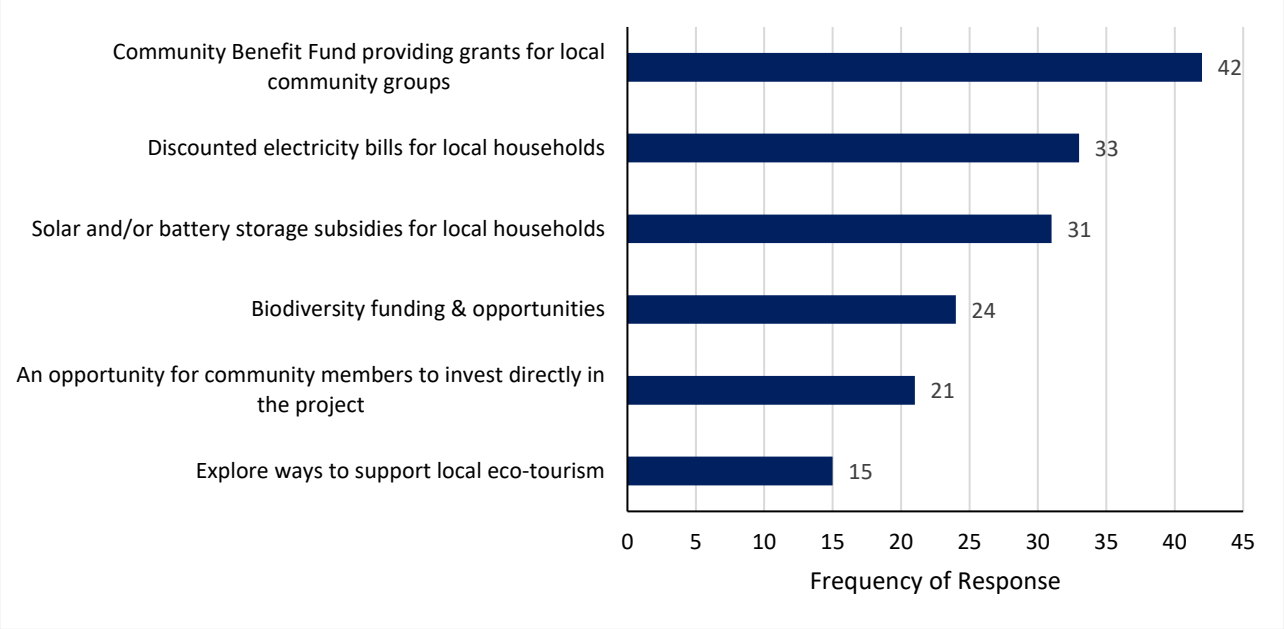


Figure 5.2 Community Benefits Fund Suggestions (Neoen Online Survey Responses)

N=70, 5 no responses. Multiple responses allowed

Other suggestions put forward included:

Roads between towers to be made available for RFS training

Installation of a fixed wireless NBN tower located at Kentucky to address poor local internet connection

Support for Kentucky community infrastructure such as for the Kentucky Hall, the school and fire brigade, improved telecommunications infrastructure e.g., mobile service and internet coverage

Local education scholarships

Part Community-ownership of the Project

Funding for an indoor sports centre, which could be combined with government funding

Education, training, and skills development programs to bring long-term benefits to community members and local businesses

Investment in community-level energy infrastructure, such as improved renewable energy efficiency and provision to local people, including support for low-income households

Strategic investment in community development, economic growth, and sustainability projects such as through funding for improved or more appropriate housing stock.

Coordinated environmental support plan – integration of threatened species, habitat protection e.g., koalas.

6.0 Conclusion

The SIA has documented the social baseline, social impacts and social impact management measures associated with the Stage 1 Thunderbolt Energy Hub Project and forms part of the EIS for the Project.

This assessment has included the compilation of a social baseline profile for the Project, consolidation of community consultation outcomes to inform the assessment of and evaluation of Project-related social impacts and opportunities and provides an outline of preliminary social impact management planning. The perceived impact evaluation has been undertaken to inform and support the plans to reduce negative project impacts and achieve greater positive project benefits.

Stakeholder engagement with the community, businesses, interest groups and other interested stakeholders has indicated that there is both support and opposition for the Project. This situation is common for large State significant project such as wind farms where they elicit a diversity of views and stakeholder responses. An online survey (conducted July 2020 to October 2021, involving 70 participants) found that on average participants rated their support for the Thunderbolt Energy Hub Project as 7.3 out of 10 (where 0 reflected limited support/opposition and 10 indicated a high degree of support), with the majority of these participants being from Kentucky/Kentucky south. With regard to local residents, there is a mix of support and opposition/concern.

Neoen has taken the approach of separating the originally proposed Thunderbolt Energy Hub project into two stages based on feedback from landholders, local community groups and local Members of Parliament, who have requested more time to consider what is now known as the Stage 2 area. This approach allows Neoen to undertake further consultation and planning for Stage 2 whilst allowing Stage 1 (this Project) to progress. The separation of the Project in two separate stages with only Stage 1 being progressed as part of the current development application is a tangible response by Neoen to some of the stakeholder engagement feedback which identified some issues requiring further consideration regarding the Stage 2 area but identified less concern regarding the Stage 1 area. Neoen's plan to only progress Stage 1 (the Project) in this current development application represents an approximate 50% reduction in the scale of the Project originally planned to be progressed, in response to stakeholder feedback.

As is typical for any large scale development, the assessment has identified a range of social impacts both positive and negative and identified management measures to assist with managing these impacts. Throughout the EIS and SIA process, management and mitigation strategies have been identified to minimise negative social impacts and enhance positive impacts.

In summary, key perceived *positive social benefits* of the Project that have been identified include:

- Renewable energy provision for the region supporting efforts to reduce effects of climate change.
- Provision of training and upskilling for local people and commercial benefit through employment and procurement opportunities – enhancement of human and economic capital.
- Income diversification for property owners through payments for hosting Project infrastructure.
- Provision of ongoing Community Benefit Program funding, resulting in improved social / community outcomes.
- Consistency with State, regional and local strategies and plans that support the development of renewable projects within the region.

Potential *perceived negative social impacts* of the Project that have been identified by community stakeholders and which have been rated as high or medium social impacts, include:

- Changes to rural character and visual amenity.
- Social amenity due to noise, vibration and lighting.
- Impacts to sense of community and community division with regard to Project development.
- Potential increased stress and anxiety relating to the Project.
- Temporary increased traffic congestion during construction.
- Cumulative impacts on community services, as a result of construction workforce influx to the region (including additional strain on service providers).

As identified throughout the SIA and the EIS, there have been a number of Project design changes and a range of management measures developed to address potential negative and enhance positive impacts of the Project, on the community where possible (refer to relevant sections of the EIS for further discussion of measures proposed), reducing levels of residual risk.

In addition, the SIA has recommended a social impact management planning framework to manage negative and enhance positive social impacts that includes the following key components:

- A range of social mitigation and management measures as outlined in this SIA.
- A Community Relations Plan (CRP) updated to include all community engagement measures to manage and enhance social impacts.
- A Community Benefit Sharing Program, including
    - a Neighbours Benefit Program under which near neighbours receive a direct annual payment from the Project, and
    - a Community Benefit Sharing Program to provide benefits to the broader local community.
- A Local Participation Plan which includes an Accommodation, Employment, and Procurement Strategy.

Given proposed development within the New England REZ over the coming years, and the number of projects approved or in a planning phase; the cumulative social impacts of development on local communities within the region, particularly impacts associated with the influx of construction workers, subsequent impacts on local community services, as well as impacts associated with construction related activities, will remain a key challenge for developers, such as Neoen, and other key stakeholders (Government, local businesses and service providers, community groups and landholders/residents). Such impacts will require proactive engagement and effective collaboration, to ensure appropriate social and environmental impact management, and the enhancement and augmentation of benefits for local communities. The suite of plans to be prepared by Neoen for the Project will include measures to address potential cumulative impacts (both positive and negative) and provide an appropriate platform for Neoen to manage the contribution of the Project to these issues.

Collectively these measures provide a robust social impact management and mitigation plan for the Project that aims to enhance the positive social impacts and mitigate the potential negative impacts.

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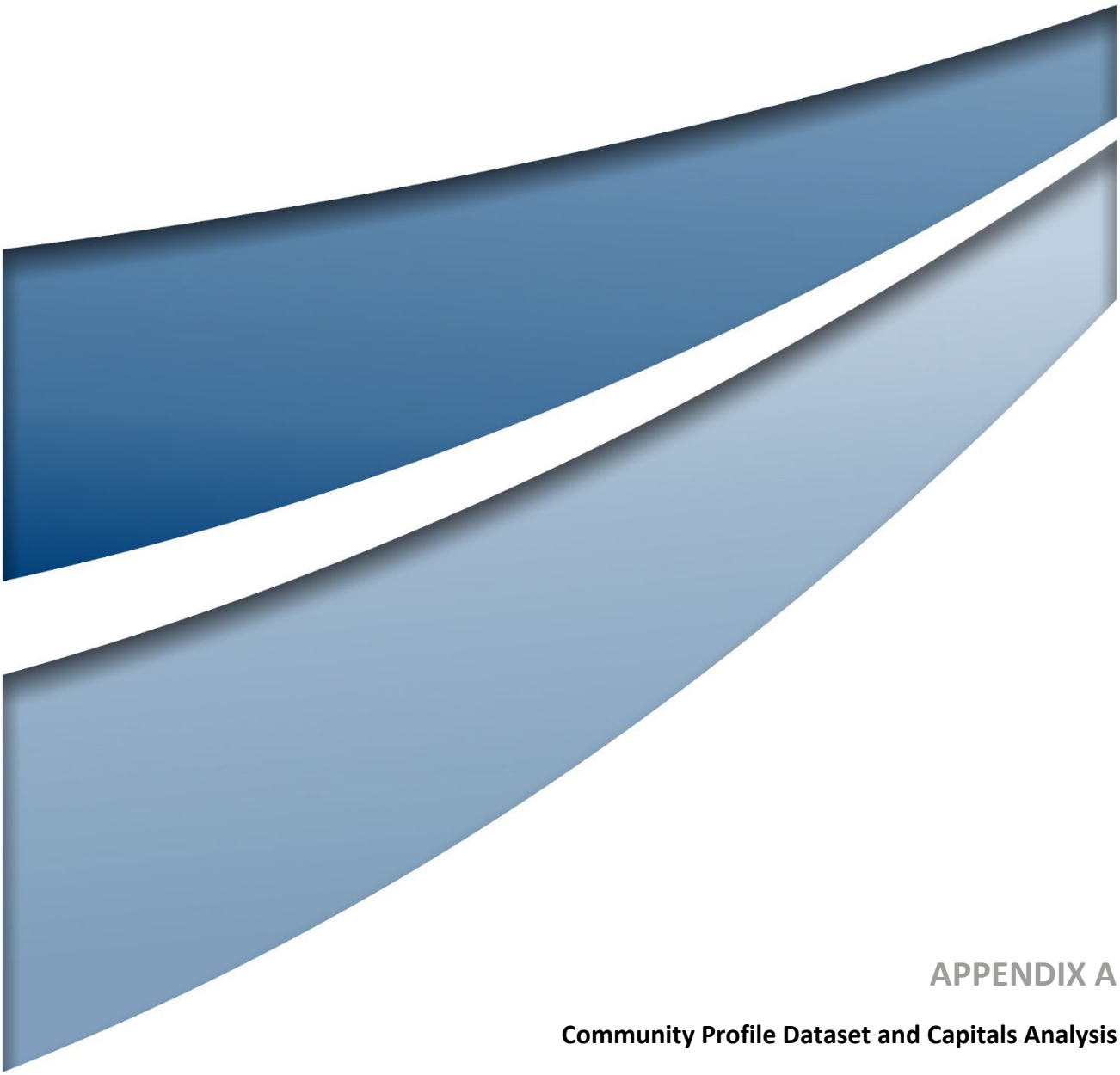


APPENDIX A

Community Profile Dataset and Capitals Analysis

Social Baseline Indicators and Capitals Analysis

A.1 Timeseries Social Indicators for Selected LGAs and NSW (2006, 2011, 2016)

Indicators	Tamworth Regional LGA			Uralla Shire LGA			Walcha LGA			NSW		
Year	2006	2011	2016	2006	2011	2016	2006	2011	2016	2006	2011	2016
Community												
Population Size	53,590	56,292	59,658	5,735	6,032	6,046	3,189	3,022	3,091	6,549,178	6,917,660	7,480,231
Proportion Indigenous Population (%)	7%	8%	10%	6%	6%	7%	6%	7%	6%	2%	2%	3%
Median Age	38	39	40	41	43	46	42	44	48	37	38	38
Male Population (%)	49%	49%	49%	49%	49%	48%	51%	50%	50%	49%	49%	49%
Female Population (%)	51%	51%	51%	51%	51%	52%	49%	50%	50%	51%	51%	51%
Proportion of population with a different address 1 year ago (%)	17%	16%	15%	13%	12%	10%	13%	12%	9%	15%	14%	14%
Proportion of population with a different address 5 year ago (%)	45%	38%	39%	38%	32%	31%	33%	29%	24%	41%	37%	39%
Proportion of Population with the same address 5 years ago (%)	55%	55%	52%	62%	63%	62%	67%	67%	63%	59%	57%	54%
Proportion of population aged 15+ who volunteer (%)	22%	21%	22%	28%	29%	30%	31%	32%	33%	17%	17%	18%
Proportion of population born overseas (%)	-	6%	7%	-	7%	7%	-	5%	6%	-	27%	30%
Proportion of single parent families (%)	18%	19%	19%	14%	13%	14%	11%	12%	12%	16%	16%	16%
Proportion of family households (%)	72%	71%	69%	73%	75%	71%	72%	70%	69%	72%	72%	72%
Proportion of group households (%)	-	3%	3%	-	2%	2%	-	1%	2%	-	4%	4%
Proportion of lone person households (%)	-	27%	27%	-	23%	27%	-	28%	30%	-	24%	24%
Way of Life												
Proportion of occupied private dwellings that are fully owned (%)	37.3%	34.9%	33.9%	43.6%	43.1%	41.7%	48.9%	45.9%	49.7%	34.8%	33.2%	32.2%
Proportion of occupied private dwellings being purchased/ owned by a mortgage (%)	31.4%	32.1%	31.1%	32.5%	33.4%	33.3%	22.9%	22.5%	20.6%	31.9%	33.4%	32.3%
Proportion of occupied private dwellings that are being rented (%)	27.6%	29.0%	30.9%	20.0%	20.4%	20.9%	23.5%	25.9%	24.3%	29.5%	30.1%	31.8%
Total occupied private dwellings (%)	88%	90%	89%	84%	86%	88%	80%	80%	82%	85%	90%	90%
Separate house (%)	88%	87%	87%	96%	95%	96%	94%	94%	95%	71%	70%	66%

Indicators	Tamworth Regional LGA			Uralla Shire LGA			Walcha LGA			NSW		
Semi-detached, row or terrace house, townhouse etc. (%)	3%	4%	8%	0%	0%	1%	1%	1%	0%	10%	11%	12%
Flat or apartment (%)	9%	7%	2%	3%	3%	1%	3%	3%	2%	18%	19%	20%
Year 10 highest year of schooling (%)	38%	38%	35%	37%	36%	33%	36%	36%	34%	29%	26%	23%
Year 12 highest year of schooling (%)	32%	36%	41%	36%	41%	46%	33%	35%	41%	47%	54%	59%
Bachelor degree (%)	7%	8%	9%	9%	10%	11%	6%	7%	8%	12%	14%	16%
Certificate (%)	20%	23%	24%	20%	22%	24%	18%	20%	21%	17%	18%	18%
Proportion of the labour force employed full-time (5)	59.3%	59.7%	59.8%	57.9%	56.5%	55.8%	63.4%	62.2%	60.5%	60.8%	60.2%	59.2%
Proportion of the labour force employed part-time (%)	28.0%	28.6%	29.0%	29.4%	32.5%	33.6%	26.2%	28.4%	30.9%	27.2%	28.2%	29.7%
Proportion of the labour force who are unemployed (%)	6.8%	5.8%	5.8%	6.6%	5.1%	5.2%	3.8%	4.0%	3.2%	5.9%	5.9%	6.3%
Accessibility												
Travel to Work (Car as Driver %)	-	67%	71%	-	61%	65%	-	49%	51%	-	58%	58%
Proportion of dwellings with internet access (%)	52%	71%	77%	56%	73%	78%	48%	65%	70%	61%	79%	85%
Livelihoods												
Median household income ($/week)	818	958	1,180	784	933	1,058	686	826	1,054	1,036	1,237	1,486
Median mortgage repayment ($/month)	1083	1430	1500	867	1230	1346	852	867	1083	1517	1993	1986
Median rent ($/week)	150	200	260	110	150	190	83	100	148	210	300	380
Median rent as a proportion of median household income (weekly)	18%	21%	22%	14%	16%	18%	12%	12%	14%	20%	24%	26%

A.2 Social Indicators for Selected SSCs and NSW (2016)

Indicators	Kentucky SSC	Kentucky South SSC	Bendemeer SSC	Balala SSC	Woolbrook SSC	NSW
Community						
Population Size	159	126	494	145	184	7,480,231
Proportion Indigenous Population (%)	5%	8%	8%	0%	18%	3%
Median Age	49	46	49	52	39	38
Male Population (%)	48%	52%	50%	49%	47%	49%
Female Population (%)	52%	48%	50%	51%	53%	51%
Proportion of population with a different address 1 year ago (%)	4%	14%	6%	7%	7%	14%
Proportion of population with a different address 5 year ago (%)	19%	24%	26%	19%	25%	39%
Proportion of Population with the same address 5 years ago (%)	72%	67%	61%	59%	54%	54%
Proportion of population aged 15+ who volunteer (%)	36%	26%	23%	25%	15%	18%
Proportion of population born overseas (%)	9%	6%	8%	18%	3%	30%
Proportion of single parent families (%)	23%	17%	16%	10%	10%	16%
Proportion of family households (%)	69%	63%	67%	72%	72%	72%
Proportion of group households (%)	0%	0%	2%	0%	6%	4%
Proportion of lone person households (%)	32%	44%	36%	28%	18%	24%
Way of Life						
Proportion of occupied private dwellings that are fully owned (%)	35.4%	45.8%	44.9%	54.3%	41.1%	32.2%
Proportion of occupied private dwellings being purchased/ owned by a mortgage (%)	36.9%	31.3%	30.5%	37.0%	37.5%	32.3%
Proportion of occupied private dwellings that are being rented (%)	20.0%	20.8%	20.3%	21.7%	30.4%	31.8%
Total occupied private dwellings (%)	84%	81%	89%	72%	82%	90%
Separate house (%)	97%	102%	98%	93%	96%	66%
Semi-detached, row or terrace house, townhouse etc. (%)	0%	0%	0%	0%	0%	12%
Flat or apartment (%)	0%	0%	0%	0%	0%	20%
Year 10 highest year of schooling (%)	29%	32%	44%	40%	34%	23%
Year 12 highest year of schooling (%)	55%	52%	34%	45%	36%	59%
Bachelor degree (%)	14%	11%	7%	10%	7%	16%
Certificate (%)	18%	30%	21%	24%	14%	18%

Indicators	Kentucky SSC	Kentucky South SSC	Bendemeer SSC	Balala SSC	Woolbrook SSC	NSW
Proportion of the labour force employed full-time (5)	67.0%	61.5%	61.0%	49.1%	69.8%	59.2%
Proportion of the labour force employed part-time (%)	25.3%	27.7%	29.0%	45.5%	31.7%	29.7%
Proportion of the labour force who are unemployed (%)	0.0%	4.6%	6.1%	7.3%	4.8%	6.3%
Accessibility						
Travel to work car as driver (%)	68%	43%	60%	56%	57%	58%
Proportion of dwellings with internet access (%)	80%	68%	70%	76%	76%	85%
Livelihoods						
Median household income ($/week)	1,187	788	905	1,042	900	1,486
Median mortgage repayment ($/month)	1337	1274	1000	1100	725	1986
Median rent ($/week)	-	110	150	25	-	380
Median rent as a proportion of median household income (weekly)	-	14%	17%	2%	-	26%

A.3 Capitals Analysis

A.3.1 Political Capital

Political capital refers to the governing and organisational structures of the population, including formal and informal systems, and the existing means for public participation in various aspects of civil life. The following sections outline the governance arrangements of relevance to the Project.

Federal Government

The Project Area is located within the Australian Commonwealth Electoral Division of New England. Barnaby Joyce of the Nationals Party was elected to the House of Representatives for New England in 2017 and re-elected to the position in 2019 (Australian Electoral Commission, 2019). Mr Joyce is also the Deputy Prime Minister, Leader of the National Party, and Minister for Infrastructure, Transport and Regional Development.

State Government

The Project is located within the boundaries of the Tamworth State Electorate, and Northern Tablelands Electorate.

The Tamworth State Electorate covers four LGAs: Tamworth Regional, Gunnedah Shire, Walcha Shire, and Liverpool Plains Shire. Kevin Anderson of the National Party is the incumbent member for Tamworth, serving in this position since the 2011 State Elections (NSW Electoral Commission, 2021). Kevin Anderson serves as the Minister for Better Regulation and Innovation, incumbent April 2019.

The Northern Tablelands Electorate covers six LGAs: Uralla, Armidale Regional, Glen Innes Severn, Inverell Shire, and Moree Plains Shire. Adam Marshall of the National Party in the incumbent member for Northern Tablelands following the 2013 Northern Tablelands state by-election (NSW Electoral Commission, 2021). Adam Marshall serves as the Minister for Agriculture and Western NSW, incumbent April 2019.

Local Government

The town of Uralla, and locality of Kentucky is represented by the Uralla Shire Council, consisting of nine councillors including the Mayor. An election was held on 4 December 2021, having been postponed in September 2020 and September 2021, due to the COVID-19 Pandemic restrictions in place throughout NSW.

The town of Bendemeer, and the Tamworth Regional LGA is represented by the Tamworth Regional Council which comprises nine councillors including the mayor. As previously mentioned the Walcha LGA has also been included in the profile as Stage 2 (if progressed) is likely to be located in this area. The Town of Walcha, and the Walcha LGA (located in proximity to the Project Area) is represented by the Walcha Council which comprises eight councillors including the Mayor. The town of Walcha, and the Walcha LGA is represented by the Walcha Council which comprises eight councillors including the Mayor.

An overview of elected councillors representing the study LGAs are provided in **Table A.1**.

Table A.1 Uralla, Tamworth and Walcha Regional Mayors and Councillors

Role	Councillors
Uralla	
Mayor	Robert Bell
Deputy Mayor	Robert Crouch
Councilors	Time Bower, Sarah Burrows, Leanne Doran, Bruce McMullen, Lone Petrov, Tom O'Connor, Tara Toomey

Role	Councillors
Tamworth Regional	
Mayor	Russell Web
Deputy Mayor	Mark Rodda
Councilors	Bede Burke, Brooke Southwell, Helen Tickle, Judy Coates Marc Sutherland, Phil Betts, Steve Mear
Walcha	
Mayor	Erin Noakes
Deputy Mayor	Scott Kermode
Councilors	Mark Merry, Kevin Ferrier, Nena Hicks, Anne0Marie Pointing, Aurora Reilly, Gregory Schaefer

Source: Uralla Shire Council, 2022; Tamworth Regional Council, 2022; Walcha Council, 2022

Traditional Owners

The land of the Project Area was traditionally occupied by the Kamilaroi, and Anēwan (Nganyaywana) Nations.

LALCs operate under the *Aboriginal Land Rights Act 1983* (NSW) and aim to improve and foster the best interests of all Aboriginal persons within or surrounding their Council areas. Two LALCs represent the land and people within the social locality, these are:

- Tamworth LALC
- Armidale LALC

Services offered by these LALCs include cultural education, housing assistance, aid in legal matters and advocate on behalf of individuals within the community. Whilst services tend to be local to each LALC, services may extend Council boundaries.

The identified cultural values of Traditional Owners is addressed in Cultural Capital at **Section A.3.2** below.

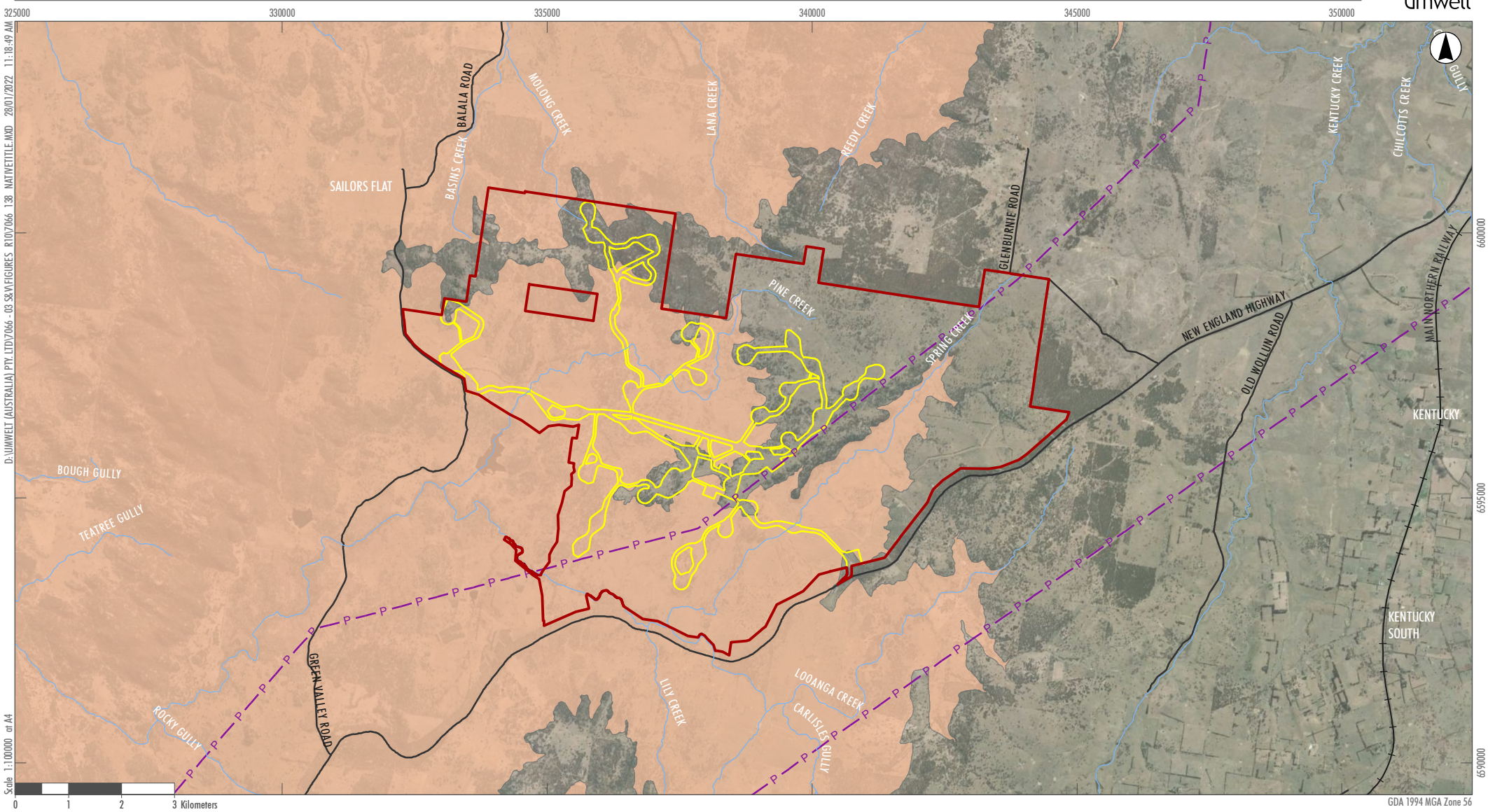
A.3.2 Cultural Capital

Cultural capital refers to underlying factors that provide human societies with the means and adaptions to maintain themselves in their environment (Cochrane, 2006). It includes the way people know and understand their place within the world. It may also refer to the extent to which the local culture, traditions, or language, may promote or hinder wellbeing, social inclusion and development (International Association for Impact Assessment, 2015).

The following provides a summary of the key characteristics of the area of social influence from a cultural capital perspective.

Land Rights

The land of the Project Area was traditionally occupied by the Kamilaroi, and Anēwan (Nganyaywana) Nations. At the time of writing, one Native Title claimant application has been registered on land comprising the Project Area (refer to **Figure A.1**). The application is registered as NSD37/2019 Gomeroi People (NC2011/006) (20 January 2012) (National Native Title Tribunal, 2019). Determinations for the subject claimant applications have not been made.



Legend

- Project Boundary
- Stage 1 Development Corridor
- Registered Native Title Claim – Gomeroi People
- P Existing 330kV Power Lines
- Road
- Railway
- Watercourse

FIGURE A.1

Registered Native Title Claimant Applications in the Social Locality

Image Source: ESRI Basemap Data source: NSW DFSI (2020), Neoen (2021)

Aboriginal Cultural Values

As documented in the Aboriginal Cultural Heritage Assessment undertaken as a part of the EIS (Umwelt 2021), there are often issues with using ethnohistoric accounts to identify specific boundaries for Aboriginal nations or clans. This report notes:

> *[A] portion of the Project Area is within a registered Native Title Claim held by the Gomeroi People. For the purposes of this assessment, it is assumed that this boundary approximates the extent of Gomeroi (or Gamilaroi) Country in this area. Based on mapping provided by Tindale (1974) and the knowledge held by Aboriginal people in the region today, the remaining portion of the Project Area is within the country of the Anaiwan people of the language group Nganyawana. This is supported by Belshaw (1974) who described the New England Tablelands (hereafter the Tablelands) as a boundary area between 'strong tribal groups in the east and west' and referenced the central section of the Tablelands as being occupied by the Anaiwan.*

Within the local area that was searched as part of the Aboriginal Cultural Heritage Assessment (Umwelt 2021), one of each of the following sites have been recorded in the Aboriginal Information Management System (AHIMS) register: Aboriginal resource and gathering, burial, carved tree, engraving, potential archaeological deposit (PAD), scarred tree and artefact scatter, shelter with art, quarry and stone arrangement and quarry. The following were found with greater frequency: shelter with deposit - 2, isolated artefact – 3, scarred tree - 5 and artefact scatter - 9 (Aboriginal Cultural Heritage Assessment Umwelt 2021).

Prior to Umwelt's assessment of Aboriginal Cultural Heritage, a number of other assessments had been undertaken in the local area. Outcomes of these include:

- Rock art: 'Godwin (1990:184) references art at sites on the Tablelands as primarily wet pigment pictographs including human figures, geometric shapes, animal tracks and items of material culture and some depictions of animals' (30).
- In 2018 EMM recorded '25 stone artefact scatters containing a total of 238 artefacts', 'Six grinding groove sites were recorded' (33).
- In 2014 Hudson 'reviewed the distribution of axes from the Salisbury axe quarry located approximately … 11 km east of the Project Area' (33).
- Suzanne R Hudson Consulting (2010) noted 'Six Aboriginal archaeological sites were recorded during the survey for this project, all of which were scarred trees' (34).
- Gorman (1998) noted 'The survey resulted in identification of nine potential scarred trees, including a scar on a felled tree, and a possible stone arrangement being identified for further consideration' (34).
- Navin Officer (1995) noted 'Two sites were identified. Both were low density artefact scatters containing three and five artefacts respectively.' (34).
- Archaeological Associates (1982) noted 'three isolated artefacts were identified. These consisted of a quartzite flake, a silcrete flake and a silcrete core' (35).

More broadly, the social locality has a significant and rich history of Aboriginal occupation and representation. Uralla LGA contains over 191 recorded Aboriginal sites (Uralla Shire Council, 2020) and Walcha contains 142 recorded Aboriginal sites (Walcha Council 2019). These include ceremonial sites, burials, art, artefacts, grinding groove, stone arrangements, modified trees, stone quarries, ceremonial rings, conflict sites, and waterholes.

Celebrating Aboriginal cultural heritage through partnerships, a purpose-built performing arts centres, an Aboriginal cultural centre, and key events such as NAIDOC week and reconciliation week have been considered in the development of the Tamworth Region Cultural Plan 2018-2023 (Tamworth Regional Council 2018).

The New England North West Regional Plan 2036 (NSW Government, 2017) includes actions to collaborate and partner with Aboriginal communities. It suggests that engagement with Aboriginal communities should be ongoing to support to address current constraints to economic participation and to ensure their culture is shared broadly with the community. Strategic planning priorities for Aboriginal cultural protection and representation are further given planning support and priority in the Uralla Local Strategic Planning Statement (LSPS), and the Walcha LSPS.

European Cultural Heritage

Properties that possess a unique historical, scientific, cultural, social, archaeological, architectural, natural, or aesthetic value are recognised through the heritage listing as being worthy of conservation and retention. The State Heritage Register (Heritage NSW, 2021) lists no heritage items of state or local significance on the Project Area. However, there are three heritage items of State significance located along the New England Highway, approximately 4 km north of the township of Kentucky. These three sites are part of the Captain Thunderbolt Sites and are sites which have a significant association with the infamous 18th century bush ranger known as Captain Thunderbolt. There are also four sites listed on the State register in Uralla, one in the small township of Walcha Road, and one in Woolbrook. In addition, there are 23 items of local significance within the Bendemeer township, two in the surrounding areas of Wollun and Kentucky, 39 in Uralla and surrounds, eight in Walcha Road and Woolbrook, and 20 in Walcha.

The cultural significance of the area is summarised in the Uralla Local Strategic Planning Statement (Uralla Shire Council, 2020):

> *Our landscape is composed of vivid contrasts, an ancient history, and a bright future. [Covering] terrain that contains World Heritage listed areas, spectacular gorges and rainforests to productive agricultural lands. It is truly a unique part of Australia.*

A.3.3 Natural Capital

Natural capital refers to the natural assets and resources that contribute to community sustainability. Natural capital can include resources such as minerals, land, forests, and waterways, which provide benefit to the community, as well as environmental assets that provide social, cultural, or recreational value.

A summary of the natural capital in the Project's social locality is provided below.

Land Use and Ecosystem Services

The social locality has a mixed mild-temperate climate characterised by a hot summer and cool winters, providing favourable conditions for rural industry. Land within and surrounding the Project Area has been subject to extensive vegetation clearing associated with historic agricultural land uses and is predominately utilised for grazing activities. Agriculture (primarily grazing and crop growing) is also the dominant land use in the surrounding area, with large extends of land across the social locality being mapped as biophysical strategic agricultural land.

The land within the Project Area is owned by two separate landowners as well as portions of Crown land. Land within and surrounding the Project Area has been subject to extensive vegetation clearing associated with historic agricultural land uses and is predominately utilised for grazing activities, horticulture and crop growing.

Watsons Creek National Park and Watsons Creek Nature Reserve, managed by the NSW National Parks and Wildlife Service are located approximately 20 km west and northwest of the Project site. Attunga State Forest is located approximately 30 km southwest of the site. However, across the broader social locality, these reserves represent a relatively small proportion of the total land areas. More extensive conservation lands are located approximately 70 km east of the project site within the Oxley Wild Rivers National Park.

As identified in the review of proximal developments **Appendix C of the SIA**, concerns over competing land-uses between agricultural uses and energy generation projects have continued to emerge.

Whilst the study communities are not currently in drought, the area has experienced historic extended periods of intense drought, most recent of which was the period from 2017 until 2020. The implications of climate change on agricultural viability are particularly relevant. Changes to growing seasons, impact of water availability, and higher temperatures may place significant demand on natural resources in the area.

The New England North West Climate Change Snapshot (Office of Environment and Heritage, 2014) projections indicate a warmer climate will result in altered rainfall patterns and more intense bushfires, droughts and floods to 2050 and beyond. Equipping communities with the right tools and access to the best available information will help people and businesses to meet the challenges of the future (NSW Government, 2017).

A.3.4 Human Capital

The level of human capital within a community is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of at-risk groups within the community. The following sections characterise the human capital of the study communities.

Settlement Pattern

The Project is located in the locality of Kentucky which is largely comprised of rural lands straddling the New England Highway between the towns of Uralla and Bendemeer. Kentucky has a small rural village consisting of residential homes, a general store and café, a school, distillery, and a Rural Fire Service.

The nearby towns of Bendemeer (15 km south of the Project Area) and Uralla (25 km north of the Project Area) have a wider range of service provision and more diverse land uses, with both providing recreation facilities, schools, churches, accommodation facilities, cafes, hotels and restaurants, and petrol stations.

The larger regional centres of Tamworth (47 km south of the Project Area), and Armidale (40 km north of the Project Area), both provide a full range of services commensurate for a regional centre. Land usage in these towns consists largely of detached housing, commercial retail and business lands, and light industrial.

Population Characteristics and Trends

In 2016, there were 59,658 people living in the Tamworth Regional LGA, 0.83% (494) of which lived in Bendemeer, the closest town to the Project Area, and 29,449 people within the Armidale LGA. The LGAs of Uralla and Walcha have much smaller populations of 6,046 and 3,091 respectively.

Walcha Road SSC, Wollun SSC, Balala SSC, Kentucky South SSC, Kentucky SSC, and Woolbrook SSC each contain populations of approximately 50-200 people. The population of proximal SSCs to the Project totalled 1,229 persons at the 2016 Census.

As shown in **A.2**, key population change projections across the social locality are summarised:

- The population in Tamworth Regional LGA is expected to increase from 60,990 in 2016, to 68,910 in 2041, representing an average annualised rate of change of 0.38%.
- The population in the Uralla LGA is expected to decrease from 6,147 in 2016, to 5,426 in 2041, representing an average annualised rate of change of -0.42%.
- The population in Walcha LGA is expected to decrease from 3,130 in 2016, to 2,650 in 2041, representing an average annualised rate of change of -0.52%.

Figure A.3 depicts population differences in age projections between 2021 and 2041 across the LGAs, highlighting an increase in the proportion of the population aged 75 and over and a decrease in the proportion of the population aged under 45 years across all LGAs.

There is a proportionally higher Aboriginal population across all localities when compared to NSW (3% of the total population) with Woolbrook SSC and Tamworth Regional LGA contained the highest proportional Aboriginal population within the social locality, with 18% and 10% of their populations identifying as Aboriginal and/or Torres Strait Islander (ATSI) in 2016. Around 6-7% of people in the Uralla and Walcha LGAs identify as ATSI.

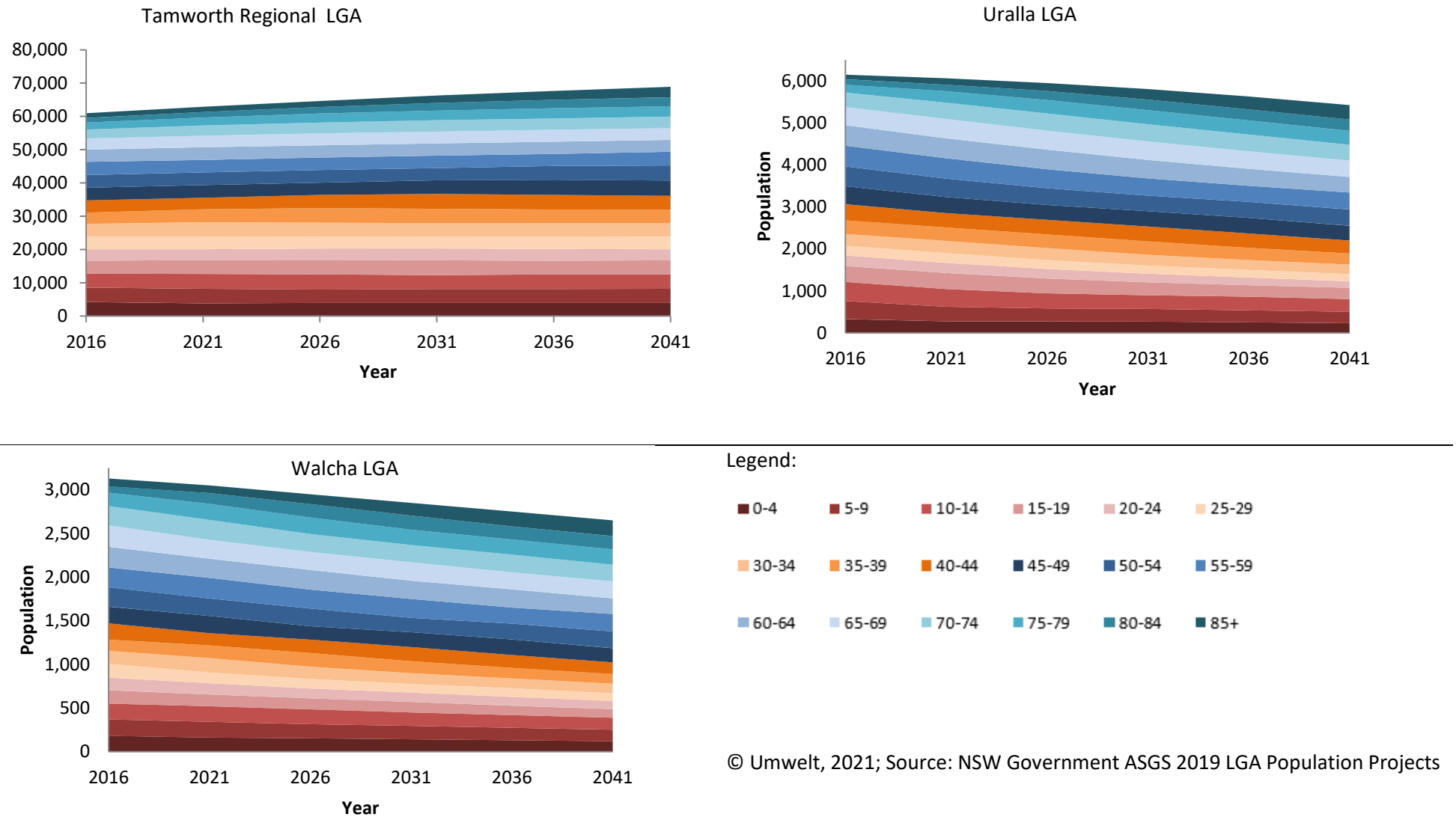
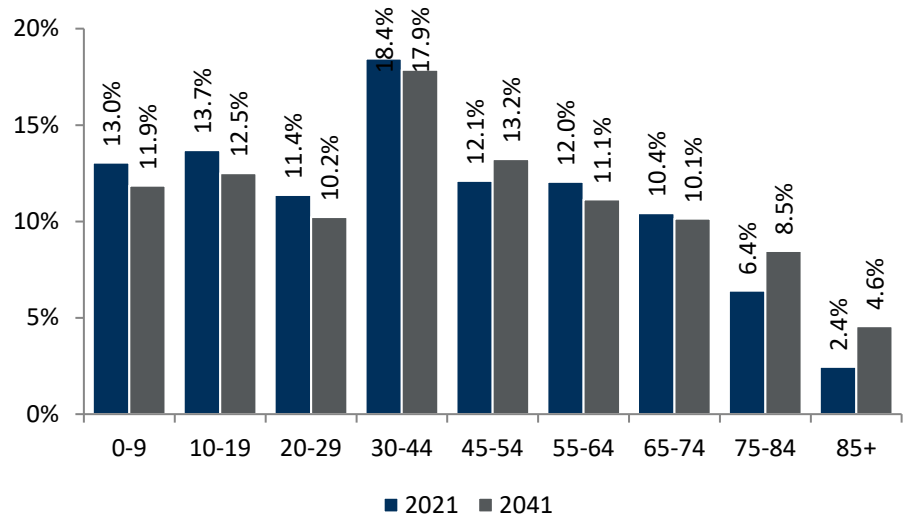
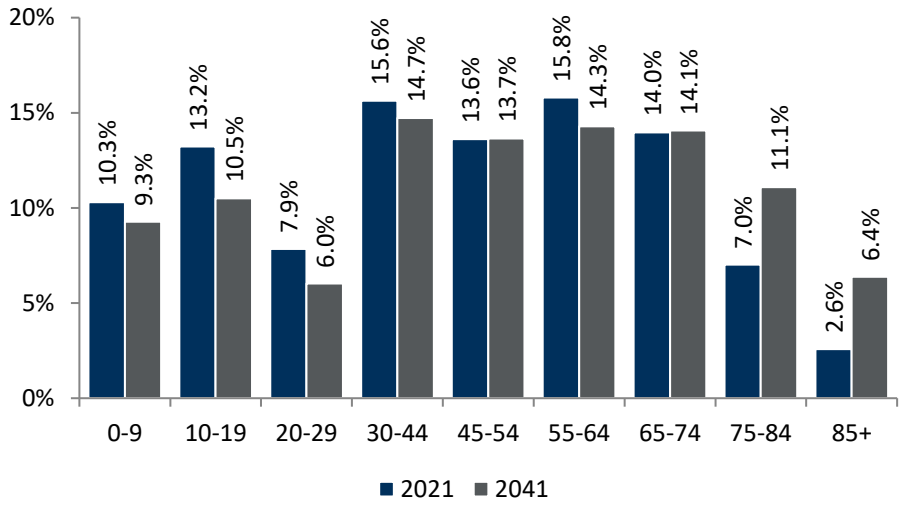


Figure A.2 Population Change Projections by Selected LGA (2016-2041)

Tamworth Regional LGA



Uralla LGA



Walcha LGA

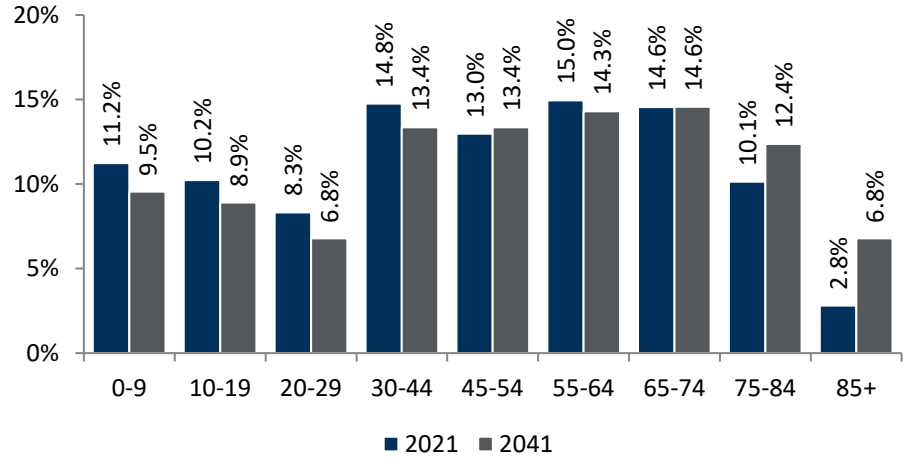


Figure A.3 Proportional Age Projections by Selected Ages for Selected LGAs (2021 0 2014)

Interestingly, across both the Tamworth Regional and Uralla LGAs, the Aboriginal population has increased at a higher rate than the general population. In Walcha LGA, the Aboriginal population remained consistently proportional to the wider population at 6%. Tamworth Regional LGA experienced the highest growth in its Aboriginal population relative to the general population, increasing proportionally from 7% to 10% of the total population over the 2006 to 2016 census period.

The median age across the social locality is from 49-52 years, which is moderately to significantly higher than the NSW State median of 38 years. Woolbrook SSC recorded the lowest median age of the study communities at 39 years. In comparison, the Aboriginal population is substantially younger than the non-Aboriginal population, with a median age of 21 years in Tamworth Regional LGA, 24 years in Uralla LGA, and 25 years in the Walcha LGA. Across the LGAs, children of school-age (5-14 years) comprise 12-14% of the total population, lower than the State at 18%.

The number of Tamworth Regional LGA residents in the 65+ year age bracket is predicted to increase by 31.7% between 2016-2041, and it is estimated that this cohort will comprise 23.2% of the Tamworth Regional LGA by 2041. In the Uralla LGA and Walcha LGA, resident populations over 65+ years are expected to increase by 19.7% and 6.6% respectively to 2041. Interestingly, this growth in older persons will occur concurrently with the general population decreasing. By 2041, the proportion of the population aged over 65 years will be 31.5% in Uralla LGA, and 33.7% in Walcha LGA.

With the exception of the Woolbrook SSC (47% male: 53% female), the communities within the social locality all contain a largely consistent relative ratio of males to females when compared to the NSW State average (50.7% female: 49.3% male).

Education Attainment

Year 12 is the highest year of school completed for 41% of residents in the Tamworth Regional LGA, 46% of Uralla LGA residents, and 41% of Walcha LGA residents. Bendemeer and Woolbrook had the lowest level of year 12 completion at 34% and 36% respectively. Kentucky contained the highest level of year 12 completion, at 55% of the population. Year 12 completion figures across all LGAs are lower than the State at 59%.

Levels of post-secondary education (includes Certificate III & IV, Diploma and bachelor's degrees) differ across the social locality with almost half of all people in Uralla LGA (44%) holding a post-secondary qualification. Lower rates of post-secondary education were recorded in Tamworth Regional (40%), and Walcha (35%). Across the study SSCs rates of post-secondary education vary widely, with Kentucky South recording the highest completion rates (52%) and Woolbrook recording the lowest completion rates (28%). Levels of post-secondary educational attainment are lower amongst the local Aboriginal population, with approximately a quarter of all Aboriginal people in the Tamworth Regional (28.3%), Uralla (25.8%) and Walcha LGAs (25.5%) attaining a qualification. In addition to lower qualification achievement, qualification types for Aboriginal people are heavily weighted towards technical certificates (21-24%), with lower levels bachelor's degree level and above completion rates (3.3-4.2%).

A lower proportion of young adults are engaged in education, training or employment in the Tamworth Regional, Uralla, and Walcha LGAs, with 79.2%, 82.4%, and 83.5% of young adults respectively, participating in 'learning or earning' compared to 85% for young adults across the State. Young people who fail to engage in school, work or further education/training run a significant risk of school failure, unemployment, risky health behaviours and mental health problems, social exclusion, and economic and social disadvantage over the longer term (PHIDU, 2016).

Physical Health Conditions

In 2018/19 there were approximately 39,000 hospital admissions per 100,000 people in the Tamworth Regional LGA, 30,500 in the Uralla LGA, and 27,500 in the Walcha LGA, compared to the State average of approximately 36,000 per 100,000 people.

There are a comparable number of hospital admissions amongst the Aboriginal population in the Tamworth Indigenous Area (IARE) and the Uralla-Walcha IARE (comparative to Uralla and Walcha LGA), with approximately 38,000 hospital admissions per 100,000 people and 31,000 hospital admissions per 100,000 people respectively.

Rates of presentation to emergency departments amongst the general population is more than double the State average (36,000 per 100,000 people), at approximately 43,000 per 100,000 people in Uralla LGA, 56,500 per 100,000 people in Walcha LGA, and 67,500 per 100,000 people in Tamworth Regional LGA. It is not possible from relevant datasets to specifically identify the reasons as to the reasons why for these higher presentation rates.

Rates of presentation to emergency departments are higher proportionally again for the Aboriginal population, with 60,500 admissions per 100,000 people per year in the Uralla – Walcha IARE. Rates in the Tamworth IARE were 111,000 admissions per 100,000 people per year in Tamworth. These figures indicate that, on average, most Aboriginal and/or Torres Strait Islander people in the Tamworth IARE visit the emergency department for treatment at least once per year.

Life expectancy for a person born in the 2017-2019 period is 81.3 years in the New England and North West Region, which is slightly lower than the total for NSW at 82.8 years. Consistent with this finding, rates of avoidable deaths are higher in the Tamworth Regional, Uralla, and Walcha LGAs (152.1, 146.3, and 189.6 avoidable deaths per 100,000 people) compared to the State average (118.1 per 100,000 people) and regional and rural NSW (146.6 per 100,000 people). Rates of avoidable deaths amongst the Aboriginal population were slightly lower than the non-Aboriginal population in the Tamworth IARE (126.0 avoidable deaths per 100,000 people). However, they were considerably higher in the Uralla – Walcha IARE at 225.1 avoidable deaths per 100,000 people.

Table A.2 Summary of Selected Physical Health Conditions (2017 – 18)

Indicator	Tamworth Regional LGA	Uralla LGA	Walcha LGA	NSW
Harmful use of alcohol (% of population) [1]	19.6	24.1	26.8	15.5
Current smokers (% of population)[2]	20.2	16.4	18.6	14.4
High or very high psychological distress (% of population) [3]	10.4	9.7	8.5	10.8
Obesity rates (% of population)	43.6	38.6	38.8	30.9
Low or no exercise (% of population)[4]	69.6	69.9	65.8	64.9
Fair or poor self-assessed health (% of population)[5]	15.8	17.1	14	14.1

Source: PHIDU, 2021

[1] Estimated No. of males aged 18 years and over who consumed more than two standard alcoholic drinks per day on average (modelled estimates)
[2] Estimated No. of people aged 18 years and over who were current smokers (modelled estimates)
[3] Estimated No. of people aged 18 years and over with high or very high psychological distress, based on Kessler 10 Scale (K10) (modelled estimates).
[4] Estimated population, aged 18 years and over, who undertook low, very low or no exercise in the previous week (modelled estimates)
[5] Estimated No. of people aged 15 years and over with fair or poor self-assessed health (modelled estimates)

In addition, Closing the Gap data published by the Hunter New England Health District (HNE Local Health District, 2019), provides an important measure of disaggregation between the health outcomes of Aboriginal and Non-Aboriginal people. A number of indicators are provided which track the performance of health outcomes. A summary of key indicators is provided as followings:

- Smoking during pregnancy (% of pregnancies at any time); Aboriginal: 46.5%, Non-Aboriginal: 15.0%.
- Birth weights at term (% <2500g); Aboriginal: 4.0%, Non-Aboriginal: 2.1%.
- Patients who did not wait to be seen in emergency department (%); Aboriginal: 4.5%, Non-Aboriginal: 2.9%
- Inpatients who were discharged against medical advice (%); Aboriginal: 1.7%, Non-Aboriginal: 0.6%.
- Mental Health: Acute post discharge community care-follow up within 7 days; Aboriginal: 60.0%, Non-Aboriginal: 71.0%

Vulnerable Groups

The following population groups within the social locality have been identified as having existing vulnerabilities, potentially being more sensitive to changes to their environment, surroundings, or circumstances, or more broadly may have lower levels of adaptive capacity to cope with change.

Young persons

Figures from the Australian Early Development Index (AEDI) report that children across the Tamworth Regional and Uralla LGAs were similarly developmentally vulnerable in one or more AEDI domains (physical health and wealth being, social competence, emotional maturity, language and cognitive skills, communication skills and general knowledge) at a rate of 21.9-23.5% of all children (PHIDU, 2021). Rates of developmental vulnerability in one or more domains was higher in Walcha, at a rate of 30.6%. These values are higher to the State average with 20.8% of all children being developmentally vulnerable in one domain.

Rates of children who are developmentally vulnerable in two or more domains is also high across the communities compared to the State (9.6% of all children), at 11.3% of children in Tamworth Regional LGA, 17.2% of children in Uralla LGA, and 16.7% in Walcha LGA.

People living with a disability

There were a smaller proportion of residents living with a profound or severe disability in Walcha LGA (4.9%) compared to the State average (5.6%). In comparison, higher proportions of the Tamworth Regional and Uralla LGA residents were living with a severe or profound disability at 5.9% and 6.2% of the total population respectively (PHIDU, 2021).

Elderly people

The number of people aged 65 years and older is higher than the State average (16.3%) in the Tamworth (18.7%) and Walcha (25.9%) LGAs and is slightly lower than average in the Uralla LGA (15.8%). Excluding Balala SSC (25% of persons aged over 65 years), the study SSCs had a comparable number of young people aged over 65 years at 16-19% of all persons. This suggests that the social locality has a high proportion of aged residents, with the elderly at greater risk of vulnerability.

Aboriginal and/or Torres Strait Islander people

Tamworth Regional LGA and Woolbrook SSC contained the highest proportional Aboriginal population across all study areas with 10% and 18% of their populations respectively identifying as Aboriginal in 2016. Approximately 6-7% of the 6,046 and 3,091 persons counted in the Uralla and Walcha LGAs reported that were Aboriginal identifying.

Closing the Gap data indicates that Aboriginal people in the social locality generally experience a higher level of health and disease burden when compared to the non-Aboriginal population, lower levels of educational attainment and proportionately lower levels of household income.

Socio-economic Advantage and Disadvantage

In summary, **Figure A.4** outlines the Socio-Economic Indexes for Areas (SEIFA), prepared by the ABS, with a low score indicating a greater degree of disadvantage (the lowest 10% of areas receiving a decile of one, and the highest, a ten). It should be noted that no comparison can be made between LGAs and state suburbs on ranking, as rankings are only comparative within each geographic classification.

The SEIFA Index of Education and Occupation (IEO) for each of the SSCs reflects the general level of education and occupation-related skills of people within an area, indicative of relative disadvantage compared to other areas in NSW. Approximately half of the study communities are in the fifth decile or above, indicating that they have a reasonably high level of education and occupation-related skills in comparison to other communities in NSW. Specifically, Kentucky and Kentucky South SSCs have the highest level of education and occupation-related skills compared to the other study communities, whilst Bendemeer SSC has the lowest level of education and occupation-related skills and is within the lowest 20% of NSW. The Tamworth Regional LGA is within the fourth decile, indicating it is relatively disadvantaged in comparison to other LGAs across the state.

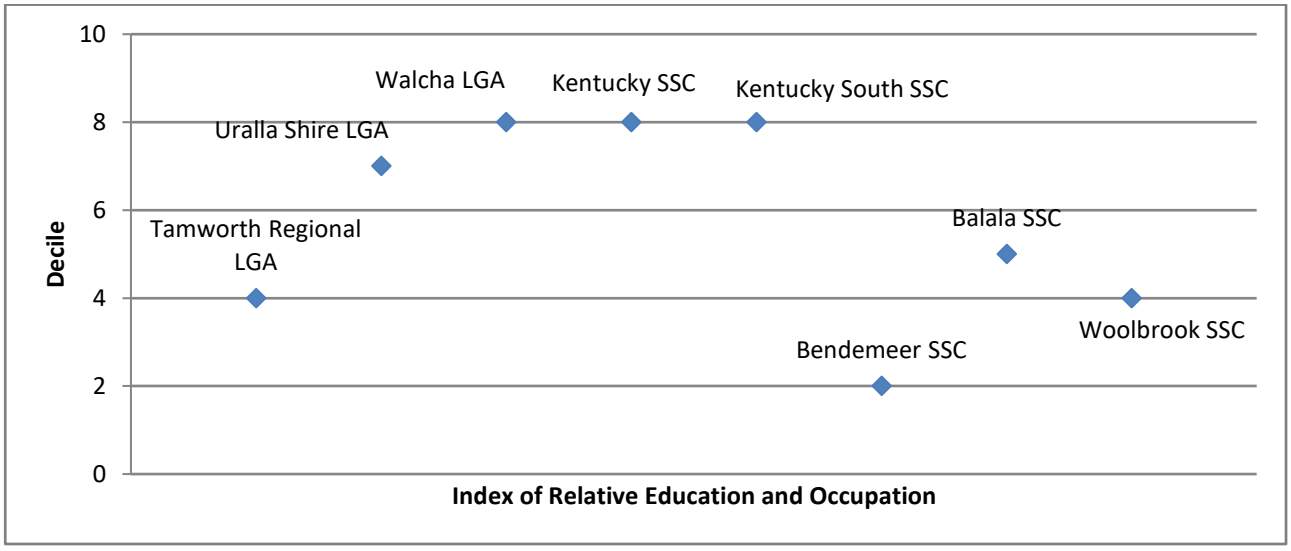


Figure A.4 SEIFA Index of Education and Occupation

Source: SEIFA (ABS, 2018)

A.3.5 Economic Capital

Examining a community's economic capital involves consideration of characteristics which could include industry and employment, levels of workforce participation, household income and cost of living, such as weekly rent or mortgage repayments. The following provides a summary of the key characteristics of the study areas from an economic capital perspective.

Labour Force Participation

As at the 2016 Census, approximately 58.1% of Tamworth Regional residents, 56.9% of Uralla LGA residents, and 57.0% of Walcha residents were participating in the labour force, with most being employed full-time (55.8 - 60.5%). This figure is slightly lower than the State labour force participation levels (59.2%). High levels (54.9 – 66.9%) of labour force participation were recorded across the Kentucky, Kentucky South, and Bendemeer SSCs. The lowest levels of labour force participation were recorded for Balala and Woolbrook at 45.8% and 46.0% respectively.

Industries of Employment

With the exception of Tamworth Regional LGA, agriculture, forestry and fishing are central to livelihoods in the study community and is the top, and by far most significant industry of employment. In Uralla LGA, and Walcha LGA, 16.3% and 40.5% of all people were employed in agriculture, forestry and fishing. Similarly high proportions are recorded in Kentucky (35.7%), Kentucky South (23.0%), Bendemeer (21.5%), Balala (35.1%) and Woolbrook (43.3%).

Key industries of employment across the social localities are summarised as follows:

- In **Tamworth Regional LGA**, health care and social assistance (15.0%) was the largest industry of employment, followed by retail trade (11.1%), and construction (7.8%). 6.7% of the labour force were engaged in agriculture, forestry and fishing. Greater labour force diversity in Tamworth Regional compared to the Uralla and Walcha LGA is reflective of its role as a large service town to the region.

- In **Uralla LGA**, following agriculture, forestry and fishing (16.3%), education and training (14.5%), health care and social assistance (11.8%), and retail trade (8.4%) were significant industries of employment.

- In **Walcha LGA**, employment is dominated (by a significant margin) by agriculture, forestry, and fishing (40.5%). This is followed by healthcare and social assistance (8.2%), education and training (7.0%), and retail trade (6.2%).

In the broader New England North West region, the agriculture and agribusiness sector is the most significant employer, representing almost half of all businesses in the region. Agriculture and agribusinesses are worth an annual $1.8 billion to the regional economy, which is approximately 20% of the gross value of agriculture and agribusiness for the entire state (NSW Government, 2012).

Challenges associated with the region revolve around maintaining and growing agricultural productivity whilst also supporting the development of other industries (particularly mining) that are competing for land. Key regional challenges include (NSW Government, 2012):

- Ensuring an appropriate balance between competing land uses - particularly achieving coexistence where possible between mining, coal seam gas development and agriculture

- Maintaining or enhancing future opportunities for environmentally responsible mining, including developing strategies to manage the projected growth of the coal and coal seam gas industries to effectively deliver reliable energy in a carbon constrained economy

- Maintaining or enhancing future opportunities for sustainable agriculture

- Defining and protecting strategic agricultural land.

Unemployment and Unpaid Work

At the time of the 2016 Census, unemployment in Tamworth Regional LGA (5.8%), Uralla LGA (5.2%), and Walcha LGA (3.2%) was lower than regional NSW (6.2%) and State levels (6.3%). Unemployment rates vary widely across the social locality, with the highest levels in Balala (7.3%) and lowest levels in Kentucky South (4.6%). Unemployment is substantially higher for Aboriginal residents, standing at 16.0% in the Tamworth Regional LGA, 13.6% in Uralla LGA, and 14.3% in Walcha LGA.

Figure A.5 indicates that unemployment rates across the social locality have been trending downwards over the past five years. It is understood that the COVID-19 economic shock increased unemployment across the community by approximately 2% however is currently recovering.

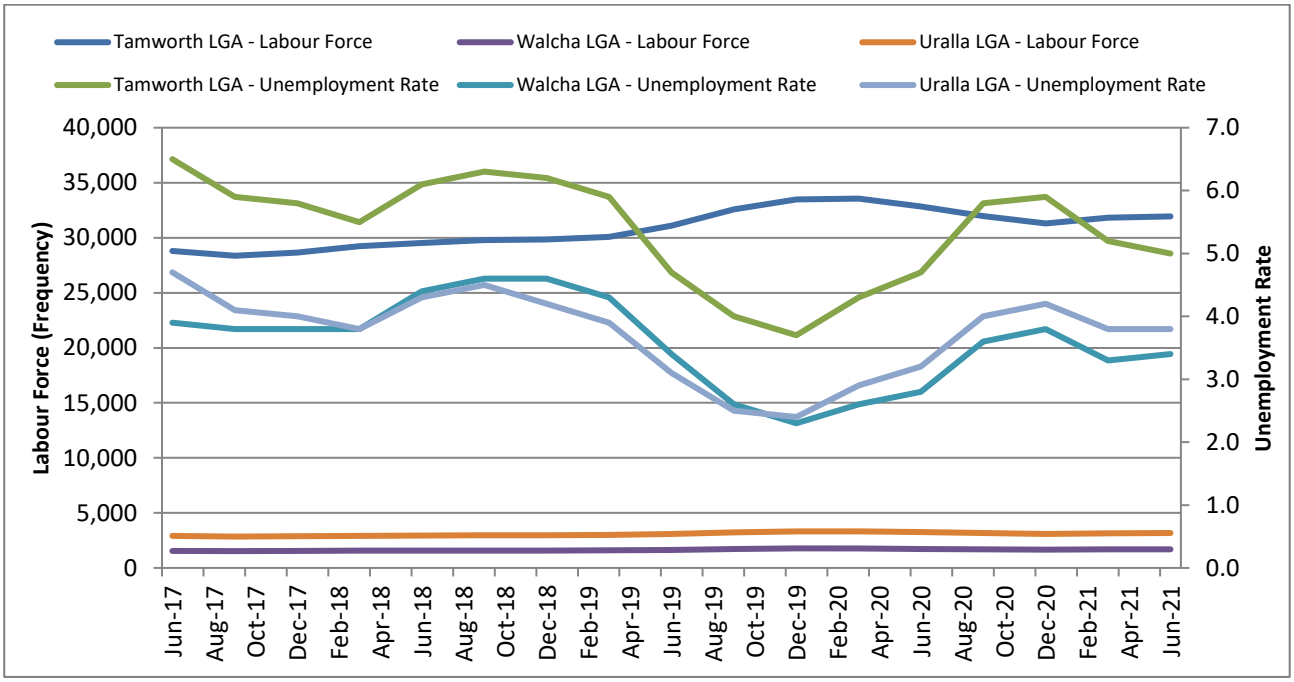


Figure A.5 Labour Force and Unemployment Rates for Selected LGAs

Source: SALM Smoothed LGA Datafiles (ASGS 2021) June quarter 2021

A higher proportion of Uralla LGA residents are involved in unpaid domestic work (73.5%) compared to the State average (67.7%), whereas rates in the Tamworth Regional LGA (68.7%), and Walcha LGA (65.6%) were comparable to the State. Across the social locality there is also a slightly higher proportion of people doing 15 hours or more of unpaid domestic labour work when compared to the total State average (20.3%).

Household Income and Housing Stress

The cost of living across the social locality is lower than the NSW average, but household incomes are also lower than the State average. The median household incomes for Tamworth Regional LGA, Uralla LGA, and Walcha LGA are $1,180, $1,058, and $1,054 per week respectively, which is consistent with regional median incomes ($1,107 per week in the New England and North West Region) and notably lower (26% less) than the State average ($1,486 per week). Kentucky South and Woolbrook had significantly lower household income per week at $788 and $900 respectively.

Differences in median household incomes between the Aboriginal and non-Aboriginal population are also present. For instance, Aboriginal households in the Tamworth Regional LGA received 6% less than the general population ($1,106 compared to $1,180). Similar discrepancies were observed in Uralla LGA (15% less; $900 compared to $1,058), and Walcha (16% less; $887 compared to $1,054).

The median mortgage repayments (per month) in the Tamworth Regional, Uralla, and Walcha LGAs are $1,500, $1,346, and $1,083 respectively. These values are subsequently, lower than the State average repayment per month ($1,986) (24%, 32%, and 45% respectively).

Rent costs are similarly low, with median rent at 68% ($260 per week), 50% ($190 per week), and 39% ($148 per week) in the Tamworth Regional, Uralla, and Walcha LGAs compared to the State average ($380 per week).

Financial stress from mortgage or rent amongst low-income households[6] in the social locality are slightly lower than State levels (29.3% of under financial stress), with 24.6% of low-income households in Tamworth Regional under financial stress. Lower rates of financial stress were recorded at 19.0% in Uralla LGA, and 14.5% in Walcha LGA.

Despite this, a much higher proportion of households living in rented accommodation are experiencing housing stress compared to those living in homes with a mortgage. For instance, of the households living in private mortgaged dwellings in the Tamworth Regional LGA, 8.4% were experiencing mortgage stress in 2016, compared to 12.6% in Uralla LGA, 10.6% in the Walcha LGA, and 9.6% in NSW. In contrast, 30.5% living in private rented dwellings in Tamworth Regional LGA were experiencing rental stress in 2016, 32.8% in Uralla LGA, compared to 27.3% in Walcha LGA and 27.9% in NSW overall.

The demand for and cost of housing in the social locality is likely to have changed over the past two years due to intrastate migration from cities to regional towns across much of NSW, as a result of the COVID-19 pandemic. Demand for housing is estimated to be greater than current supply with rental vacancies across the Tamworth region remaining low at 1.0% in July 2021, and 1.2% in June) (SQM Research, 2021). Across the broader New England Region, residential vacancy rates remained similarly low at 2.0% on June 2021, increasing from a low of 1.3% in April 2021 (REINSW, 2021).

Despite declining populations in smaller rural localities and towns, major service centres such as Armidale and Tamworth are anticipated to experience sustained population increases over the medium to long term. The New England North West Regional Plan 2036 (NSW Government, 2017) has identified that 9,700 additional homes will be required to support future growth and provide for changing household types, household structure and household sizes. Housing an ageing population is also an ongoing and emergent concern for the region and surrounding areas, particularly as younger people migrate away from the regions and as more older people migrate to the regions in search of a ‘tree change’ (Department of Planning & Environment, 2017).

Demand for housing is therefore anticipated to be high in the coming years with the market already under strain.

Economic Resources

As identified in the review of proximal developments (Appendix C of the SIA), concerns over competing land-use between agricultural uses and energy generation projects are an emerging issue. Effective engagement and planning for cumulative change to the landscape is therefore warranted given the number and scale of other projects proposed in the social locality.

The Herfindahl Index provides an indication of market concentration within a region, and specifically provides an indication of how many industries are competing for market share within a given locality. The higher the index, the closer the market is to a monopoly, demonstrating a low level of economic diversity, while a low index indicates a greater number of industries and occupations being serviced within the social locality.

[6] Low-income households are those in the bottom 40% of the income distribution, i.e., those with less than 80% of median equivalised income. Households under financial stress are those in spending more than 30% of their income on mortgage repayments or rent.

The Herfindahl Index for New South Wales is 0.0092, suggesting a high degree of economic diversity and market competitiveness. The Tamworth Regional LGA and the Uralla LGA have considerable economic diversity, consistent with the greater New England and the North West Region. However, industry and employment markets in Walcha are much less diverse compared to the wider social locality (**Figure A.6**).

In Uralla LGA and Walcha LGA, beef cattle farming is the dominant occupation, followed by mixed sheep-beef cattle farming, local government administration, and education.

In Tamworth Regional LGA, hospital workers is the dominant occupation. Other significant contributors to economic diversity were supermarket and grocery stores, beef cattle farming, meat processing, secondary and primary education, road freight transport, aged care, and other social assistance services.

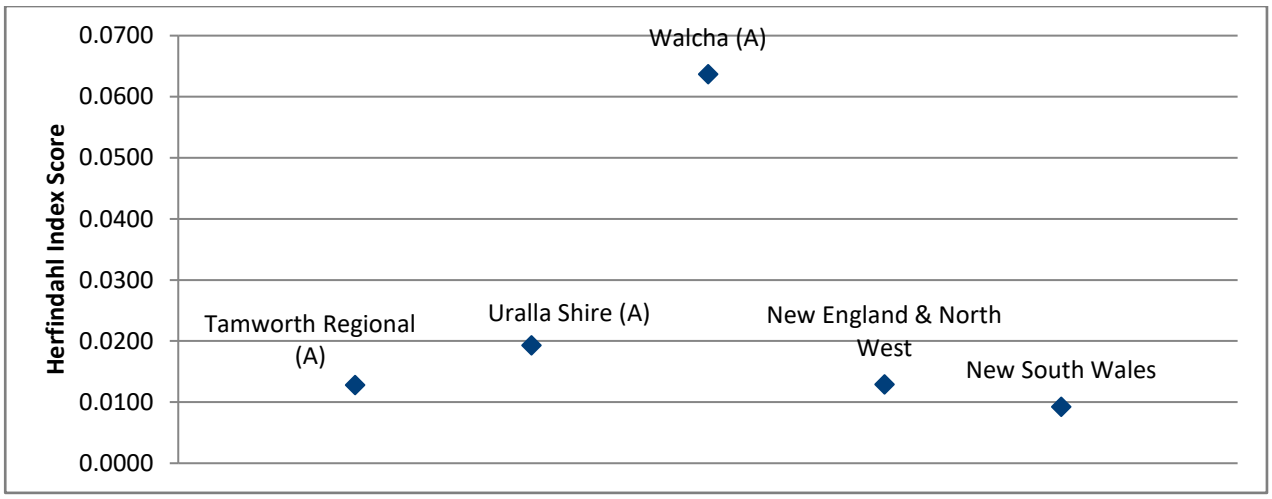


Figure A.6 Herfindahl Index

Source: ABS Table Builder Pro (2016)

The SEIFA Index of Economic Resources summarises variables directly related to income and wealth, whereby a low score indicates a relative lack of access to economic resources in general, and vice versa for a high score (ABS, 2018). Access to economic resources and economic disadvantage varied widely across the study communities (**Figure A.7**). Uralla LGA, and Walcha LGA residents have greater economic advantage relative to Tamworth Regional LGA residents. Despite higher rates of advantage in Uralla and Walcha LGAs, the selected SSC communities experience higher relative rates of disadvantage when compared to the broader social locality.

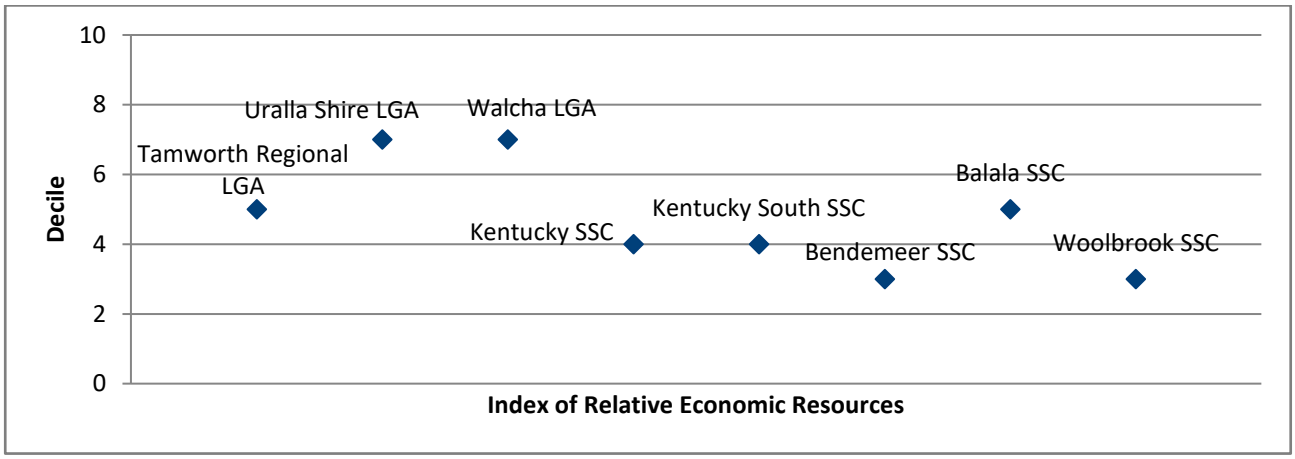


Figure A.7 SEIFA Index of Relative Economic Resources

Source: SEIFA (ABS, 2018)

A.3.6 Social Capital

Various indicators can be used to examine and assess social capital. Such indicators include the level of volunteering, population mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas and language proficiency. The following provides a summary of the key characteristics of the social locality from a social capital perspective (refer to **Sections A.1** and **A.2** for the complete dataset).

Community Mobility

The residents of Tamworth Regional LGA have comparable levels of mobility to the wider State average, with 52% of residents living at the same address in 2016 as in 2011 (compared to the average of 54% for the State). In comparison, Walch and Uralla LGA residents had lower levels of mobility, with 62% and 63% of residents living in the same address in 2016 as in 2011. Lower levels of mobility suggest that people live within the same locality for longer, fostering a sense of identity and connection with place and community.

The lowest level of mobility was recorded in the Kentucky SSC with 72% of residents living in the same address in 2016 as in 2011. The highest level of mobility was recorded the Woolbrook SSC with 54% of residents living in the same address in 2016 as in 2011.

Community Participation

The proportion of people who did voluntary work is 22% in Tamworth Regional, 30% in Uralla LGA, and 33% in Walcha LGA, which is much higher than the State average (18%). Kentucky SSC recorded the highest proportion of its' population engaged in volunteer work at 36%. The lowest rates of people who did voluntary work were recorded in Woolbrook at 15% of the population.

Community and Household Composition

The proportion of people born in Australia in the area is very high compared to the State average (65.5%), with 93% of Tamworth Regional, 93% of the Uralla LGA, and 94% of Walcha residents born in Australia, indicating a low level of cultural, ethnic, or linguistic diversity.

The social locality is home to a lower proportion of couples with children when compared with the State (46%). Bendemeer recorded the lowest proportion of households containing a couple with children at 30%. In comparison, Woolbrook recorded the highest proportion of households containing a couple with children at 51%. Across the social locality, comparatively lower rates of households comprising children were recorded (**Figure A.8**).

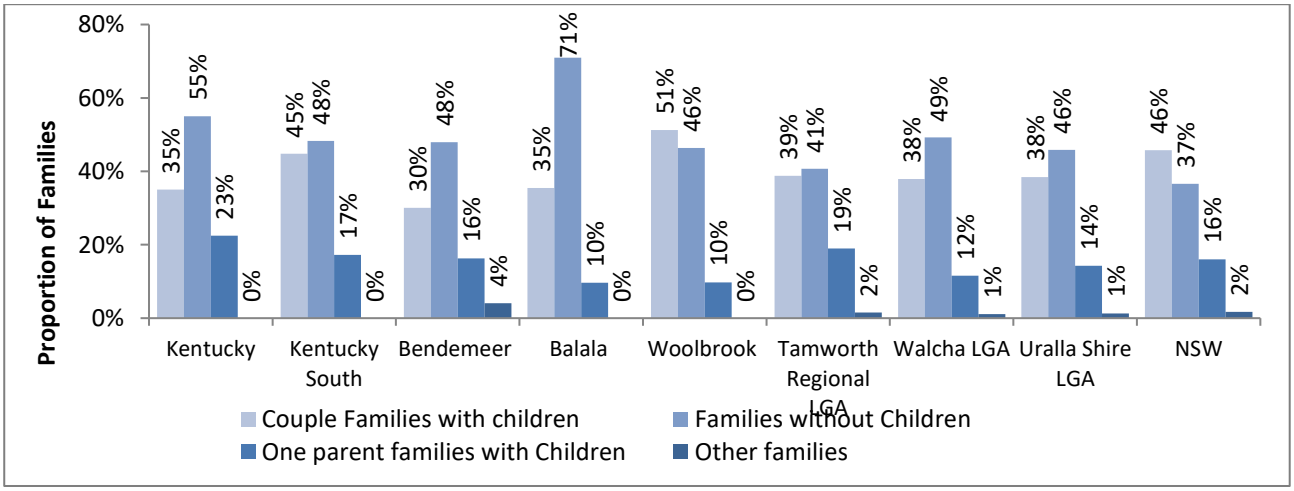


Figure A.8 Family Composition by Selected Study Areas

Source: ABS Community Profiles 2016

Lone person households in Kentucky (32%), Kentucky South (44%), and Bendemeer (36%) were high when compared to the proportion of households across the State (24%). Slightly higher proportions of lone person households were also recorded across the subject LGAs 27-30%. Household sizes in the study communities are slighter smaller than the State average (2.6 people). Average number of people per household in Bendemeer and Balala were the lowest at 2.2 people.

Levels of Crime

Regarding criminal activities in the region, malicious damage to property is by far the most reported crime in the Tamworth Regional LGA (1,196 incidents per 100,000 people), Uralla LGA (599 incidents per 100,000 people), and Walcha LGA (670 incidents per 100,000 people).

Excluding rates of malicious damage to property, the top three offence types by rate of incidence, and the highest ranked offence type by NSW LGAs in 2020 is summarised in **Table A.3**. These figures show that rates of crime are generally higher in the Tamworth Regional and Walcha LGAs, compared with Uralla LGA.

Table A.3 Top Recorded Incidents and Highest Ranked Offence Type by Selected LGAs (2020)

#1. Offence Type	#2. Offence Type	#3 Offence Type	Highest Ranked Offence Type by NSW LGAs
Tamworth Regional LGA			
Breaching Bail Conditions (1,092 incidents per 100,000 people)	Break and Enter Dwelling (792 incidents per 100,000 people)	Harassment, threatening behaviour, and private nuisance (764 incidents per 100,000)	Break and Enter Dwelling (8 out of NSW LGAs)
Uralla LGA			
Fraud (333 incidents per 100,000 people)	Domestic Violence Related Assault (316 incidents per 100,000 people)	Harassment, threatening behaviour, and private nuisance (229 incidents per 100,000 people)	Break and Enter Dwelling (72 out of NSW LGAs)
Walcha LGA			
Breach Bail Conditions (2,936 incidents per 100,000 people)	Harassment, threatening behaviour, and private nuisance (542 incidents per 100,000 people)	Sexual Assault (511 incidences per 100,000 people)	Sexual Assault (1 out of NSW LGAs)

Source: NSW Recorded Crime Statistics 2016 – 2020, NSW Bureau of Crime Statistics and Research

Relative Advantage and Disadvantage

Figure A.9 provides the overall socio-economic status and level of disadvantage within each community, as determined by the Index of Relative Socio-economic Disadvantage (IRSD) - a SEIFA score prepared by the ABS which ranks areas in Australia according to their relative socio-economic disadvantage. A low score indicates a greater degree of disadvantage, with the lowest 10% of areas receiving a decile of one, and the highest, ten. It should be noted that no comparison can be made between LGAs and state suburbs on ranking, as rankings are only comparative within each geographic classification.

When considering the relative socio-economic disadvantage of the study communities, Tamworth Regional, Uralla, and Walcha LGAs placing in the 5th, 6th, and 7th deciles respectively. However, inequalities are present spatially across the social locality. As shown, the smaller rural communities of Bendemeer, Balala, and Woolbrook had a higher level of disadvantage compared to the LGAs.

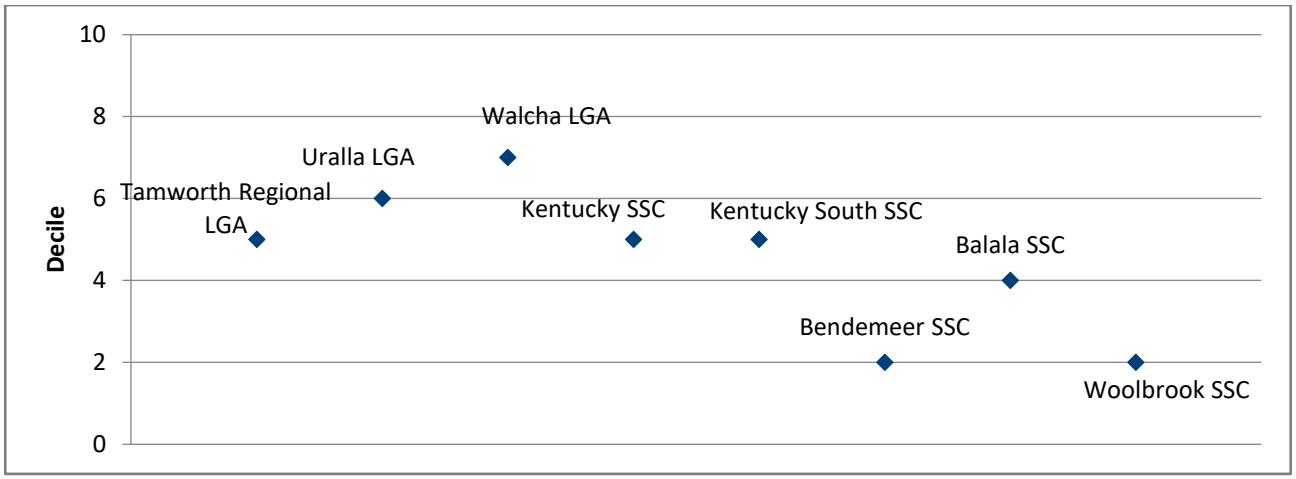


Figure A.9 SEIFA Index of Socio-Economic Advantage and Disadvantage

Source: SEIFA (ABS, 2018)

A.3.7 Physical Capital

Physical or built capital includes the provision of infrastructure and services to the community and what is currently available or accessible to people. Within this, it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, facilities, services, and utilities) as well as the provision of, and diversity of, housing (refer to **Sections A1 and A2** for the complete dataset).

Housing Typology and Tenure

The vast majority (>87%) of homes across the social locality broadly, are standalone houses, with Tamworth Regional LGA being the only study community to record a significant number of semi-detached/terraced homes and apartments (10%). All other communities recorded <1% of the housing stock as being semi-detached/terraced homes or apartments.

The proportion of households that own their home outright was consistent with the State average of 32.2% for Tamworth Regional at 33.9%. Higher rates of outright home ownership were recorded in Uralla LGA 41.7% and Walcha 49.7%. Similarly high levels of home ownership outright were recorded across the study SSCs.

The number of dwellings owned with a mortgage is largely consistent with the State average (32.3%) for all social localities. Walcha recorded lower rates of home ownership with a mortgage at 20.6% of all home occupied. Similar levels of home ownership with a mortgage were recorded across the study SSCs.

Residents in the study community generally have homes with enough rooms to meet housing needs, with Tamworth Regional LGA has on average 1 person per bedroom, Uralla LGA has 0.9 persons per bedroom, and Walcha has 0.8 persons per bedroom. This is concurrent with levels of overcrowding in dwellings across Tamworth Regional and Uralla LGA being lower than the State (9.1% of people living in crowded dwellings), with 4.1-4.3% of people living in crowded dwellings. However, in the Tamworth Regional LGA, the prevalence of overcrowding amongst the Aboriginal population was three times higher, with 12.6% of persons living in crowded dwellings. Levels of overcrowding in Walcha amongst the general population were also higher than the State average, at 9.5% of persons living in crowded dwellings (PHIDU, 2021).

This suggests that the current housing stock is appropriate for the region's demographic composition, with smaller family sizes, a higher proportion of bedrooms to people, and generally lower levels of overcrowding when compared with the State.

Internet Access from Dwelling

Approximately 77%, 78%, and 70% of households in the Tamworth, Uralla, and Walcha LGAs respectively have internet access from their homes. This is comparably lower than State average of 83%. Kentucky South had the fewest proportional number of households with internet access at 68%, followed by Bendemeer at 70%. Internet access from home for Aboriginal households is slightly lower compared to the non-Aboriginal population, at 73% for Tamworth, 76% for Uralla LGA, and 64% for in Walcha.

Car Ownership and Use

Similar levels of car ownership were recorded across the social locality, with 89-91% of households in Tamworth Regional LGA, Uralla LGA, and Walcha LGA owning one or more cars.

71% of people employed in the Tamworth Regional LGA travel to work by car as a driver, compared to 65% in Uralla, and 51% in Walcha LGAs. Less than 0.8% of all people across the social locality use public transport to access their place of employment. Uralla and Walcha LGAs had a proportionally higher number of people who worker from home (11.1% and 20.5% respectively) compared to the State (4.8%) and the Tamworth Regional LGA (5.6%).

The average commuting distance in the Tamworth Regional LGA is 12.81km, which is comparable to the Uralla LGA at 15.44km. Residents in the Walcha LGA travelled further, commuting on average 23.03km. However, it is likely that many people have much shorter commutes than the average, as the median commuting distance is 5.66 km in Tamworth Regional LGA, and even less in Uralla LGA at 2.63 km and Walcha LGA at 1.86 km (ABS, 2018). Higher averages and low median commuting distances suggests that there may be a small number of people living in Walcha and Uralla LGAs who travel long distances to reach their place of work.

Higher rates of car ownership and usage across the social locality is likely linked to the predominantly rural land use pattern of the surrounding areas and limited public infrastructure or transport solutions.

Transport Infrastructure and Networks

Inter-regional connectivity between the main settlement centres is provided by road via the Oxley and New England Highways and by train on the North Western NSW regional transport network, with stations stopping at Tamworth, Kootingal, Walcha, Uralla, and Armidale. The area is also serviced by Tamworth Regional Airport and Armidale Airport both operating regular scheduled flights to Sydney and Brisbane.

Future state and federal funding for major and minor infrastructure development in the region is planned to support industry and development along important regional road and rail routes. Improving connections to Inland Rail and facilitating new intermodal facilities, as well as improving east-west connections across the Great Dividing Range were identified as key opportunities in the Future Transport Strategy 2056 (NSW Government, 2018).

These statistics and the surrounding land use characteristics suggest that traffic volumes may be high during peak periods across the social locality, especially along key transport routes such as the New England Highway. This data also indicates an overall high level of road use in the region especially along main roads connecting workers to sites of employment.

Community Services and Facilities

The scale of the social locality is broad and therefore consists of several parks, community recreation facilities, gardens, historic villages, and nature reserves. There are a range of community halls, clubs, pubs, sports and show grounds in Uralla LGA and Walcha LGA that are used for making art, teaching, live music, exhibitions and festival and events. The respective Community Strategic Plans for Walcha (Walcha Council, 2017), and Uralla (Uralla Shire Council, 2017), place particular emphasis on enhancing and maintaining community infrastructure, assets and open spaces to meet the growing and changing needs of the community.

Despite their relatively smaller population sizes, Walcha and Uralla LGAs are well serviced with a very strong network of community support groups, clubs, and services.

Walcha is home to the Walcha Community Care Services (WCCS) initiative, a Council managed support network for people who are frail aged, or people with disabilities and their carers. They provide support in day programs, voluntary driver transport, and meals on wheels. Community based organisations such as the Walcha Community Hub also provide a vibrant space and support to develop the community's capacity. The Hub hosts local markets, community events such as meetings and information sessions, dance classes, play groups, and youth activities. In addition to these community-based organisations, the Walcha Community Strategic Plan (Walcha Council, 2017) identifies over 80 community groups across a wide range of interests within the LGA.

Uralla is also home to community support and transport services for people who require additional care. Uralla Neighbourhood Centre is a community led group providing social support and assistance to people within the Uralla and Walcha LGAs. They organise community events, information sessions, community meetings, emergency preparedness support, and operated a community food pantry during the 2019-2020 bushfire season.

Whilst community networks and services are strong in the Uralla and Walcha LGAs, a diverse range of community services and support is also provided primarily though the larger regional centres of Armidale and Tamworth. Here there are support groups and organisations specifically for targeted demographics, including the Aboriginal community, young people, people living with a disability, migrant and refugee settlement services, children and families, farming and drought relief support, and housing services.

Numerous government agencies, such as the National Disability Insurance Scheme, Department of Veterans' Affairs, and the Department of Communities and Justice also operate in Tamworth and Armidale, providing support and services to the broader region.

There is a multi-sports and recreation centre located in Uralla which supports a golf, cricket, netball, football, and soccer club. Walcha is similarly serviced, with a bowling club and recreation centre, football club, soccer, cricket, and tennis club. Walcha is also home to the Walcha Racecourse a horseracing track with regular open meets.

Health Facilities

Continued improvements in health services, access, and facilities were identified as a key focus area in the Walcha LGA (Walcha Council, 2017), Uralla LGA (Uralla Shire Council, 2017), and Tamworth Regional (Tamworth Regional Council, 2017) LGAs. Approximately 3.2% of adults within the Tamworth Regional LGA experienced a barrier to accessing healthcare, with the main reason being the cost of the service, higher than the State average at 2.5%. Residents of Uralla and Walcha LGAs faced less barriers overall to healthcare, with 1.7-2.0% of residents experiencing a barrier to accessing healthcare.

In 2018, the availability of general medical practitioners was 75.6 per 100,000 people in the Tamworth Regional LGA, which is lower than the State average (91.8 GPs per 100,000 people). In Armidale Regional LGA, was a slightly higher than average rate of general medical practitioners when compared to the State at 104.2 per 100,000 people (PHIDU, 2021). Rates of general medical practitioners in Uralla and Walcha LGAs are not provided in the PHIDU datasets due to low population numbers. However, generally the number of GPs proportional to the population is lower in outer-regional and remote localities compared to Inner regional and Metropolitan centres (RACGP, 2018). Health outcomes and access to health and hospital services in rural, regional and remote NSW is also currently subject to a State Parliamentary Inquiry following multiple reports of poor-quality healthcare outcomes (Parliament of New South Wales, 2020).

The health network, including emergency health services within the social locality is managed by the Hunter New England Local Health District. The surrounding areas of Walcha and Uralla are serviced by the Walcha Multipurpose Service (MPS), a 9-bed acute emergency department service. The broader social locality is further serviced by the 288-bed Tamworth General Hospital in Tamworth, and the 95-bed Armidale General Hospital (Australian Institute of Health and Welfare, 2021). There is one general practice service and pharmacy located in Walcha, and two general practice services and a Pharmacy located in Uralla.

Uralla and Walcha LGAs support very limited specialist health services through the Walcha MPS, these include domiciliary care, nursing home care, and obstetric/maternity services (Australian Institute of Health and Welfare, 2021). A much wider array of services such as hearing specialists, several dentists, physiotherapists, chiropractors, imaging and radiography services, and specialist medical professionals are provided in Tamworth and Armidale.

Tamworth Regional and Armidale Regional also contain the Tamworth Aboriginal Medical Service and the Armajun Aboriginal Health Service, centres specific to the provision of health care for the local Aboriginal population.

Two aged care facilities, the Apsley Riverview Hostel, and the Walcha MPS Aged Facility, are located in Walcha. One aged care facility, the McMaugh Gardens Aged Care centre, is located in Uralla. Domiciliary aged and disability services are also provided by the Walcha MPS and the Tablelands Community Support located in Uralla.

Education Facilities

There are three schools located within a 30km radius of the Project Area: Kentucky Public School (Primary), Woolbrook Public School (Primary), and Bendemeer Public School (Primary), each with a low student population (<36 students) (Acara, 2020). A larger number of schools, including secondary schools, are provided in the nearby towns of Walcha and Uralla. Uralla has two early learning centres, Walcha contains one, and Bendemeer contains another. Uralla also has three schools (two primary, and one combined), and Walcha has two schools (one primary, one combined).

As with health and other services, a much wider variety of early learning centres, and primary and secondary schools are provided in the larger service towns of Tamworth and Armidale. For instance, Tamworth contains 14 early learning centres and 17 primary, secondary, combined, and supported education schools, including a mix of public and non-government providers. There were 16 preschools identified in Armidale, and 16 primary, secondary, combined, and supported education schools, including a mix of public and non-government providers.

The main regional TAFE of the North West region of NSW is located in Tamworth. Smaller TAFE branches are located within Armidale. Together they support technical training and support to the broader social locality, providing certificates to advanced diplomas across a range of technical fields of study.

Armidale contains the main campus of the University of New England, a major public university with over 22,500 students across a broad range of undergraduate and postgraduate degree programs. Tamworth also contains the University of Newcastle's Department of Rural Health Education Centre; an education centre supporting 57 students in medicine programs in partnership with Tamworth Hospital.

Short-term Accommodation

Small rural localities nearest to the Project Area generally have limited provision of short-term commercial accommodation with three facilities in total being identified within a 20 km radius of the Project: a hotel and tourist park in Bendemeer, and a hotel in the locality of Walcha Road.

The Economic Impact Assessment (Ethos Urban Pty Ltd, 2021) prepared for the project has undertaken an audit of commercial and private accommodation services located within a 60-minute drive time from the Project Area. The audit finds that the social locality generally has a good supply and mix of accommodation facilities, including motels, hotels, guest houses, and caravan/holiday parks (including cabins), particularly in larger regional centres such as Armidale and Tamworth. Refer to **Table A.4** for an overview of the accommodation audit findings.

Table A.4 Commercial and Private Accommodation Availability

Township/Locality	Establishments	Estimated Total Room Availability
Commercial Accommodation		
Uralla	6	51
Tamworth	37	1,011
Bendemeer	2	Na
Armidale	27	815
Walcha	1	10
Kootingal	3	29
Total	**76**	**1,916**
Private Accommodation		
Armidale Regional LGA	126	290
Tamworth Regional LGA	188	470
Uralla LGA	25	48
Walcha LGA	-	-
Total	**339**	**807**

Source: Ethos Urban Pty Ltd, 2021

The Economic Impact Assessment (Ethos Urban, 2021) also identifies that the New England North West region had an annual room occupancy rate of 54.7% in 2020/21, which is higher than the NSW occupancy rate of 47.4%. A comparison against the pre-COVID-19 2018/19 period shows that the New England North West Tourism Region's annual room occupancy rate has decreased by –1.0% (from 55.7%). When benchmarked against other NSW regions, the New England North West's room occupancy rates for 2020/21 were below the NSW regional average of 59.0%.

The Uralla LSPS (Uralla Shire Council, 2020) identifies the provision of short-term accommodation as an ongoing priority:

> *Investigate options to provide housing and accommodation for temporary employees involved in construction of renewable energy projects to enable access to services and community integration as well as social cohesion with the existing communities.*

Further, Direction 20 of the New England North West Regional Plan similarly identifies the need to facilitate housing and accommodation options for seasonal and/or itinerant workers by:

- Preparing planning guidelines for seasonal and itinerant workers accommodation to inform the location and design of future facilities
- Working with councils to consider opportunities to permit such facilities through local environmental plans.

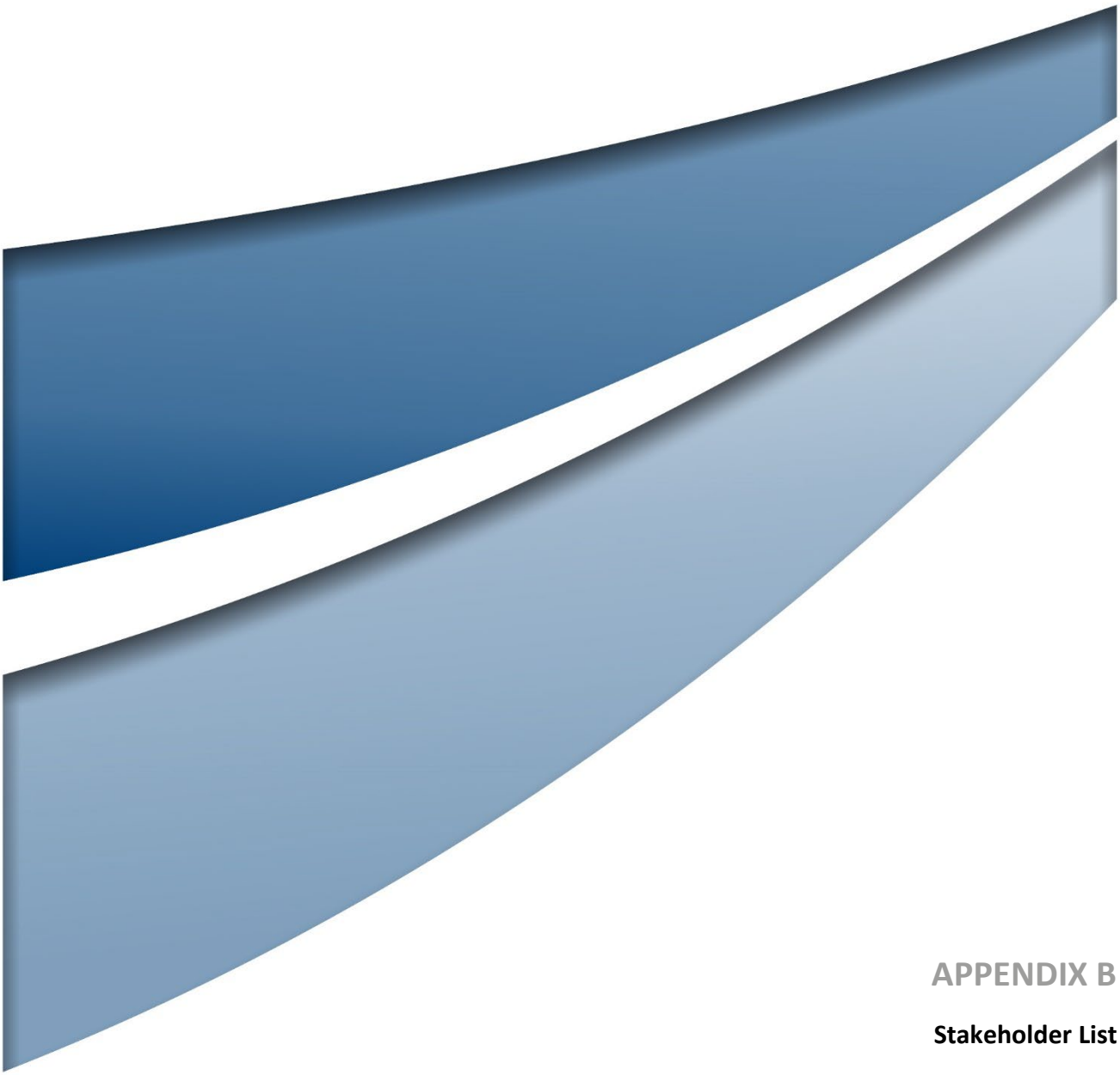
Visitation

The Regional Economic Development Strategies for the Lower North West and Southern New England High Country note that Tourism (for which Accommodation and Food Services is a proxy) is not a regional specialisation, but that it is an important industry that complements other key industries and provides diversity of employment. In particular, accommodation services in Tamworth were noted for their strategic importance in helping raise the profile of the region by supporting high profile events such and the Tamworth Country Music Festival.

Of the 1,204,000 room nights available in 2017-2018 across the larger New England North West Tourism Region, 686,000 were occupied representing an occupancy rate of 56.9% (Tourism Research Australia, 2018). The year to March 2021 saw 2.8 million unique visitors to the region, down 28% from last year, reflective of the impact of the COVID-19 pandemic on regional travel and mobility in Australia. Domestic daytrip travel accounted for 1,558,000 (56%) visitors while domestic overnight accounted for 1,241,000 (44%). In a typical year, international travel is a minor contributor to the overall visitor profile, averaging 36,000 visitors across the period 2016 to 2019. The main reasons for travel were to visit friends and/or relatives (34% for day trips; 38% for overnight trips), business (31% for day trips; 28% for overnight trips), and holidaying (26% for day trips; 24% for overnight trips) (Destination NSW, 2021)

The top five tourism related activities in the broader region were eat out/dine at a restaurant and/or café (44%), visit friends & relatives (34%), pubs clubs and discos (21%), sightseeing (14%), and bushwalking/rainforest walks (12%) (Destination NSW, 2021).

A key driver of visitation to the region, especially within Tamworth, is due to the vibrant event economy. The flagstone event of the region is the Tamworth Country Music Festival which attracts approximately 50,000 people during the 10 days of the festival in January. There is also ongoing support for the development and growth of the New England's tourism visitor economy, with the NSW Government announcing in 2018 the implementation of a regional tourism target to more evenly spread the tourism benefits away from major coastal cities and into regional NSW.



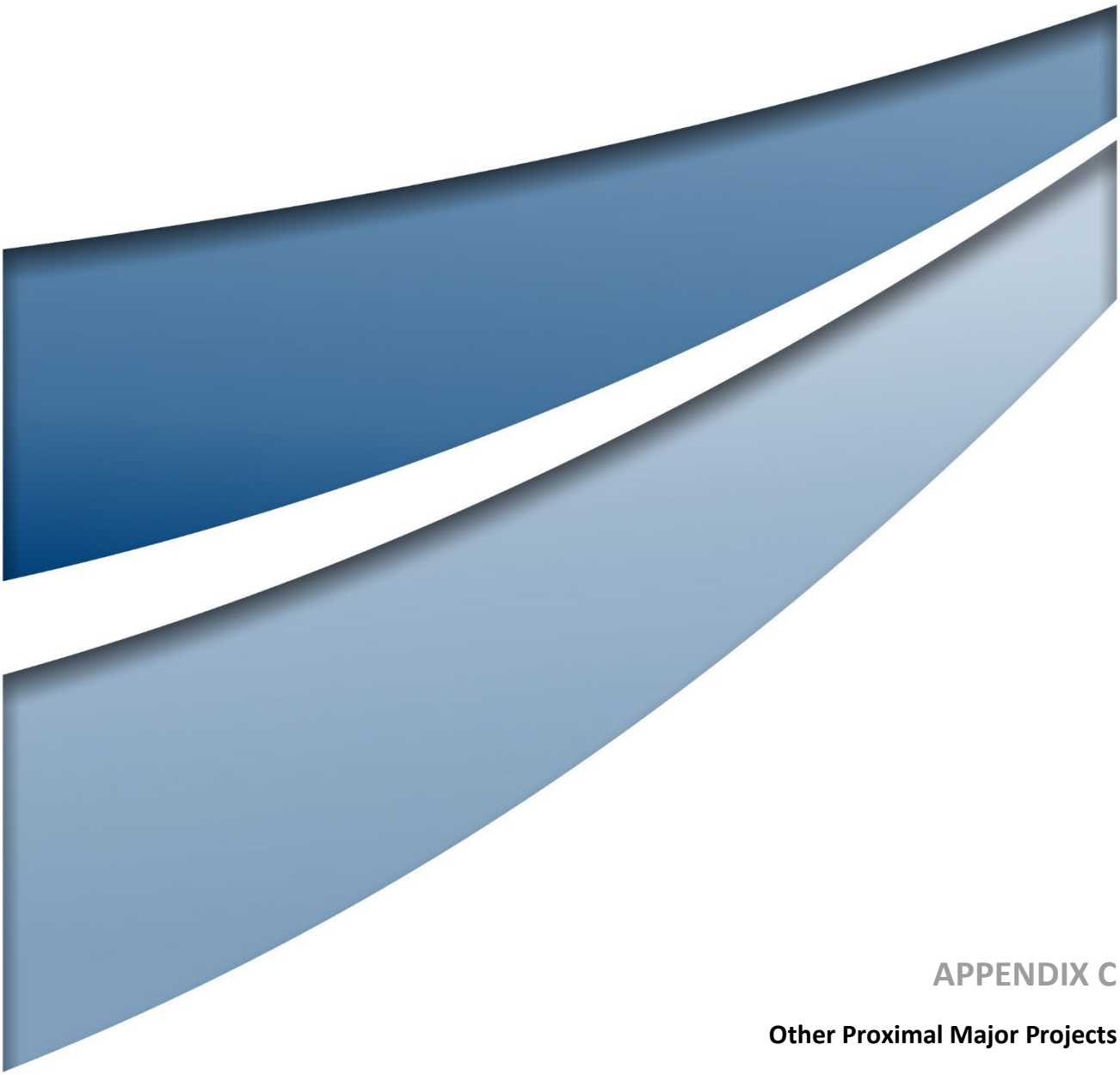
APPENDIX B

Stakeholder List

B.1 Stakeholders Consulted for SIA

Stakeholder Group	Organisation	Contacted to be involved in the SIA?	Engaged with representatives for the SIA?
Community and Special interest groups	ZNET Uralla	Yes	Yes
	Kentucky Progress Association	Yes	No
	Red4NE	Yes	No
	Southern New England Landcare	Yes	Yes
	Landcare Tamworth	Yes	No
	Kentucky Hall committee	Yes	Yes
	New England Vision 2030 Institute	Yes	Yes
	Friends of Kentucky Action Group	Yes	Yes
Aboriginal stakeholders	Armidale LALC Iwatta Aboriginal Corporation Nyakka Aboriginal Culture Heritage Corporation Gomeroi NT claimant	Yes	One group engaged[1]
Local industry groups	Uralla Business Chamber	Yes	No
	Tamworth Business Chamber	Yes	No
	Armidale Business Chamber	Yes	No
	NSW Farmers Uralla Branch	Yes	No
Government agencies	Walcha Council	Yes	No
	Tamworth Regional Council	Yes	Yes
	Uralla Shire Council	Yes	Yes
	Regional Development Australia - Northern Inland NSW	Yes	Yes
Businesses and service providers	Bendemeer Tourist Park	Yes	Yes
	Field's Environmental Solutions	Yes	Yes
	Joblink Plus	Yes	Yes
	Joblink Plus Armidale, Uralla, Walcha, Guyra	Yes	Yes
	Earthmoving and material supplies	Yes	Yes
	Sunset Group Australia Pty Ltd	Yes	Yes
	Skylotec Australia Pty Ltd	Yes	Yes
	Bush ranger Motor Inn	Yes	Yes
	Bedrule Pty LTD T/A TOBCO	Yes	Yes
	New England Surveying & Engineering	Yes	Yes
	OK Earthmoving	Yes	Yes
	Josh Bradbery concreting	Yes	Yes
	Brown and Krippner P/L	Yes	Yes
	TAFE NSW	Yes	Yes
	Austin Tourist Park	Yes	Yes
	Additional 106 businesses and service providers who were contacted	Yes	No

[1] Group has not been identified to protect their privacy



APPENDIX C

Other Proximal Major Projects

C.1 Other Proximal Major Projects

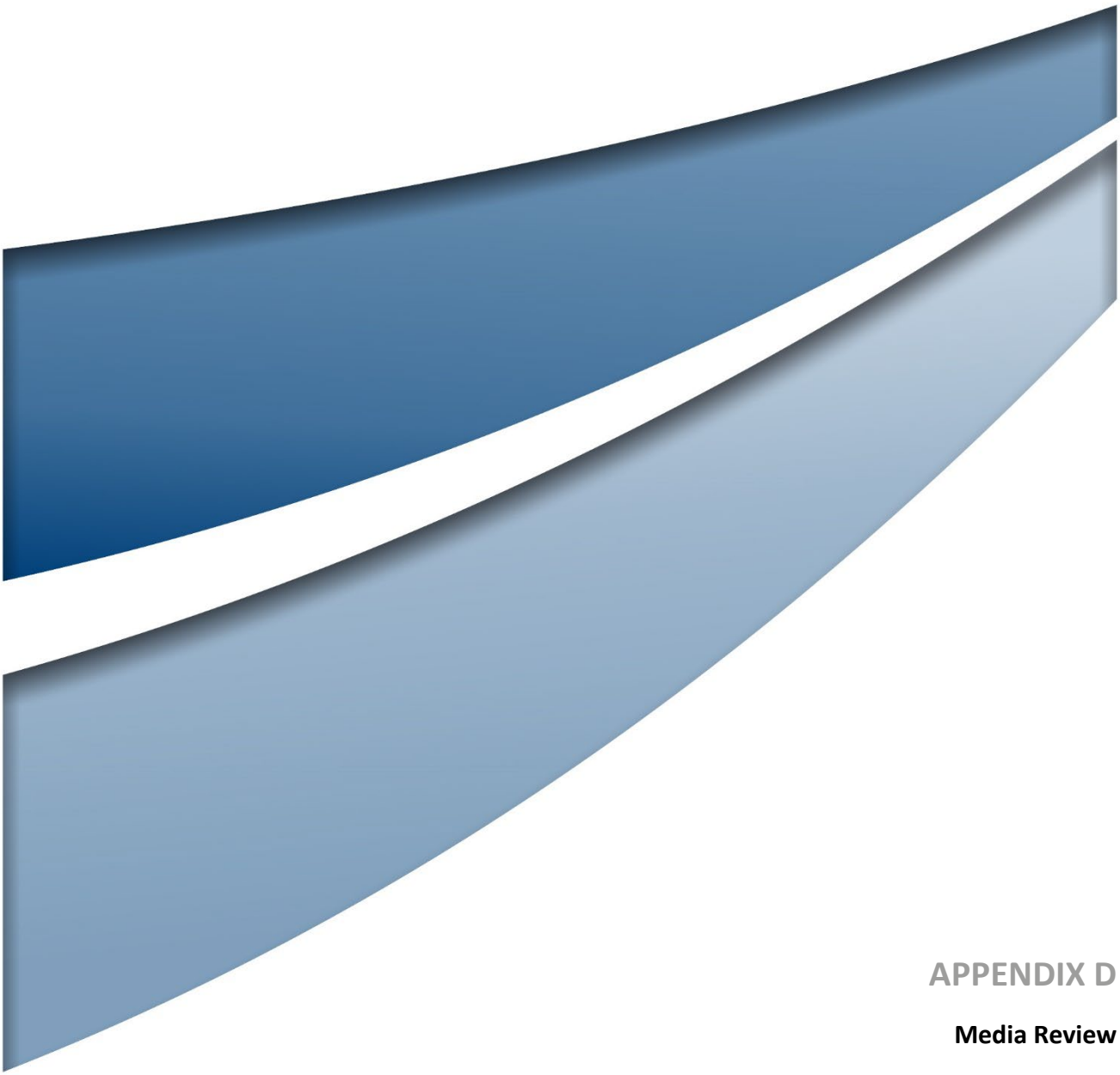
Project Name	Overview	Status	Development Timelines and Workforce	Identified Positive and Negative Impacts
Salisbury Solar Farm (Walcha Energy, 2019)	Solar Farm development providing a rated maximum capacity of 600MW. Located approximately 7km south of Uralla, and 4km east of Kentucky Project scope involves 2,300,000 ground-mounted PV solar panels. Ancillary infrastructure includes transmission lines, switchyard and substation, battery energy storage system and access roads.	SEARs issued August 2018. EIS Preparation ongoing.	Stage 1 construction commencement proposed for Q2 2021 Stage 2 construction commencement proposed for Q3 2022 Construction workforce: 400-800 FTE direct, and 200-400 FTE indirect. Operational workforce: 10-15 FTE	Development located on BSAL areas, ongoing potential for cumulative impacts to agricultural lands. Potential visual impacts to landscapes, and surrounding residents. Traffic impacts during construction phase. Air quality, Noise, and Vibration impacts to nearby landholders during construction.
New England Solar Farm (UPC\AC Renewables Australia, 2021)	Hybrid solar farm and battery project with a rated maximum capacity of 720MW (solar array), and 400MW (battery storage) Located approximately 6km east of Uralla. Project scope involves 2,400,000 ground mounted PV solar panels. Ancillary infrastructure includes transmission lines, Battery Energy Storage System, substations, internal roads and an accommodation village.	SSD approval granted March 2020.	Pre-construction works approved in June 2021. Preparatory works ongoing. Construction workforce: 500-800 (peak) Operational workforce: approximately 15	Accommodation pressures on surrounding townships Potential impacts to grazing activities Industry diversification in the region Potential labour force competition Local workforce expected to be sourced partially
Uralla Solar Farm				

Project Name	Overview	Status	Development Timelines and Workforce	Identified Positive and Negative Impacts
Winterbourne Solar Farm (Winterbourne Wind, 2020)	Wind farm project with a rated capacity of 700MW. Located approximately 6.5km northeast of Walcha and 7km southeast of Uralla Project scope involves the construction of a maximum of 126 with a height (to blade tip) of 250m. Ancillary infrastructure includes electrical transmission infrastructure and access roads.	SEARs issued September 2020. EIS preparation ongoing.	Construction expected to begin Early 2023 Construction workforce: up to 300 Operational workforce: approximately 16	Impacts on surrounding landscape features Noise concerns during construction and operation Local support for clean energy development; interested in community ownership and revenue sharing Concern for traffic impacts
Oxley Solar Farm (Department of Planning, Industry and Environment, 2021)	Hybrid solar farm and battery storage project with a rated capacity of 225MW (solar) and 50MW (battery storage). Located approximately 14km southeast of Armidale. Project scope includes 715,000 ground-mounted PV solar panels. Additional infrastructure will include access tracks, substations and transmission infrastructure, and operational buildings	Public exhibition ended 14 April 2021. Response to submissions pending.	Construction expected to commence in late 2022 and would be completed by 2024 subject to approvals. Construction workforce: approximately 300 jobs Operational workforce: approximately 5 FTE jobs.	Visual impacts on surrounding landscape. Potential lifestyle and amenity impacts to surrounding communities. Potential impacts to, and loss of agricultural land. Noise and dust impacts during construction. Generating local employment opportunities. Access roads requiring upgrades.
Metz Solar Farm (Fotowatio Renewable Ventures, 2021)	Solar farm project development with rated capacity of 115MW. Located approximately 18km east of Armidale. Project scope includes 400,000 ground-mounted PV solar panels. Additional infrastructure includes, access tracks, electric cables, substation, operations buildings and fire breaks.	Project approved July 2017. Project acquired by Fotowatio Renewable Ventures; financing closed December 2020.	Development timeline pending. Expected to be operation in 2022. Construction workforce: 200 jobs Operational workforce: 2-3 jobs	Dust and exhaust emissions associated with construction activities and traffic. Noise impacts during construction. Traffic impacts on surrounding roadways Potential loss of agriculture land. Potential visual amenity impacts and changes to landscape amenity.

Project Name	Overview	Status	Development Timelines and Workforce	Identified Positive and Negative Impacts
Tilbuster Solar Farm (Department of Planning, Industry and Environment, 2021)	Hybrid solar farm and battery storage project with a rated capacity of 150MW (solar) and 40MW (battery storage). Located approximately 17km north of Armidale. Additional infrastructure will include site offices, access tracks, substations and transformers, overhead and underground cables and creek crossings.	Response to submission submitted August 2021. DPIE additional information request pending.	Construction workforce: 125 jobs Operational workforce: 5 FTE jobs	Biodiversity impacts. Potential land use conflict with agricultural uses. Impacts to Aboriginal and European heritage. Visual impacts to surrounding landscape. Noise impacts during construction phase. Impacts on land values.
Woolbrook Wind Farm	Wind farm project with a rated capacity of 80MW. Located approximately 3.5km south of Woolbrook. Project scope includes up to 30 wind turbines and associated infrastructure.	Director generals EIS requirements issued January 2014. Project withdrawn in 2019.	Newtricity owner Annmaree Lavery told the Northern Daily Leader in late 2014 that the company was prioritising the finalisation of plans for a Biala wind farm first	
Middlebrook Solar Farm (NGH, 2020)	Hybrid Solar farm and battery project with a rated capacity of 500MW (solar) and 100M (battery storage). Located approximately 22km South of Tamworth. Project scope consists of 1,500,000 ground-mounted PV solar panels, upgraded water crossing, access tracks, substation, battery energy storage system, and operations buildings.	SEARs issued May 2020. EIS preparation ongoing.	Construction workforce: approximately 400 jobs Operational workforce: 12 jobs	Loss of crop-land on the project site during construction and operation. Local employment opportunities identified Benefits to business through local procurement Road upgrades causing disruption to local traffic

Project Name	Overview	Status	Development Timelines and Workforce	Identified Positive and Negative Impacts
Doughboy Wind Farm (Epuron Projects Pty Ltd, 2020)	Hybrid wind farm and battery storage project with a rated capacity of 300MW (wind) and 100MW (battery storage). Located approximately 40km northeast of Armidale. Project scope consists of 52 wind turbines with a top tip height not exceeding 230m, substation and transmission infrastructure, and road access upgrades.	SEARs issued October 2020. EIS Preparation Ongoing.	18-month construction timeline, with initial construction activities commencing within 6 months of project approvals. Construction workforce: 180 FTE jobs Operational workforce: 12 FTE jobs	Visual impacts to scenic landscape, and shadow flickering. Operational and road traffic noise and vibration. Traffic increase on local road network. Land use change and impact to grazing activities. Dust pollution during construction
Thunderbolt Energy Hub Solar Farm (Umwelt, 2020)	Hybrid solar farm and battery storage project with a rated capacity of 120MW (solar) and 400MW (battery storage). Project proposed by NEON and associated with the Kentbruck wind farm. Located 40km northeast of Tamworth in the Kentucky locality. Project scope consists of 320,000 ground-mounted PV solar panels, a battery storage facility, site and operational buildings, transmission infrastructure and road access upgrades	SEARs issued December 2020. EIS Preparation ongoing.	Construction workforce: over 250 jobs Operational workforce: 10-15 jobs	Loss or modification to habitats. Potential impacts to aboriginal or historic heritage items. Visual amenity impacts to surrounding landscape. Noise impacts from construction and operational activities. Potential impact on agricultural land. Land use changes, and economic impacts. Generation of water waste and dust during construction works.
Tara Springs Wind Farm (RES Group, 2019)	Hybrid wind farm and battery storage project. Proposal located adjacent to the site of the Kentbruck Thunderbolt Energy Hub.	Community consultation commenced early 2020. No further community consultation conducted. Project future uncertain.	Construction workforce: between 150 and 200 jobs Operational workforce: 8-10 FTE jobs	

Project Name	Overview	Status	Development Timelines and Workforce	Identified Positive and Negative Impacts
Armidale Battery Energy Storage System (Accent Environmental; Moaneng, 2021)	Battery storage project with an estimated capacity of 150MW. Located 5km southeast of Armidale. Project scope involves the construction of the battery storage system and transformer units, transmission infrastructure, and access tracks.	SEARs issued August 2021. EIS Preparation ongoing	Schedule for construction completion in 2023, pending approvals Construction workforce: up to 150 jobs Operational workforce: 1 FTE job	Loss or modification to habitats. Impacts to Aboriginal and historic cultural heritage Visual amenity impacts to nearby landholders Noise and vibration impact during construction and operation Air quality and dust during construction Project related construction traffic Changes to land use structure



APPENDIX D

Media Review

D.1 Media Review

Date	Headline	Summary	Source
28/07/2021	Group to unite green discontent	I live in a house that my grandparents built for the view. I'm going to be looking at 12 wind towers all of a sudden. We really want to get a seat at the table to represent people who became members." Mr Macarthur Onslow said he had "very little" faith in the planning process	The Northern Daily Leader
2/07/2021	Controversial Oxley solar plan shrinks	The fight against a controversial renewable energy project near a UNESCO World Heritage area will go on, despite the company planning to shrink the scheme by about half. The Oxley Solar Farm, planned for a site 14 kilometres south-west of Armidale, faces substantial opposition from the community, because it is close to the Oxley Wild Rivers National Park and homes in the Castle Doyle area.	The Armidale Express
28/04/2021	Bringing locals to the table during the regions renewables boom	Highlights the need for community engagement at the Regional Reference Group. "it must not come at the cost of any of our existing industries or amenity." -"to make sure the REZ is delivered in a way that boosts the benefits without compromising the assets that make our region so unique." MP Adam Marshall	The Armidale Express
9/04/2021	History Matters || Armidale's buildings mirror the city's history	While little evidence remains of Armidale's manufacturing base, the generally weatherboard workmen's cottages built for industrial and railway workers remain, especially in West Armidale. In 1929 the Great Depression struck. Around Australia, a third of the workforce lost their jobs. Armidale grew from 4738 people in 1922 to 6794 in 1933. the New England University College (NEUC), opened in 1938.	The Armidale Express
25/11/2020	Mayor's Youth Week forum delivers future ideas for the Shire	Students raised current youth issues and ideas. To gain input on youth activities and ideas for future projects to improve the liveability of the Uralla Shire community. Ideas raised in the discussion included WiFi access for the Uralla CBD, mobile and internet towers across the Shire, and an on-duty/call police service for Bundurra.	Uralla Shire Council, Media Release
21/10/2020	Kentucky Group turns on billion-dollar wind project	Kentucky landholders campaigning against the Thunderbolt Energy Hub, say the wind farm could create a bushfire threat to their homes. Local, Julian Prior, said the project could cost them between 30 and 60 per cent of their land value. Most members of the group said their biggest concern was a reduction in their land value. "We're actually not against renewable energy at all. In actual fact we think it's a great thing. But we just think that these turbines in this location is completely inappropriate,"	The Armidale Express

Date	Headline	Summary	Source
9/07/2020	Media Release: Renewable Energy Zone brightens future for New England farmers, economy	Breeza farmer John can talk about what the Renewable Energy Zone means for rural New England communities like his, and why, after years of back-breaking drought, this announcement makes him feel optimistic about the future of his farm, and the region's economy. renewable energy and agriculture can seamlessly coexist, through practices such as grazing sheep under solar panels, and potentially even growing crops alongside solar projects. She can talk about the benefits of this initiative, including steady income streams even through periods of drought.	MediaNet Press Release Wire
20/01/2020	New England is a learning region for modern Australia	Our region has over the past 170-odd years built an exceptional collection of educational assets that have served this country well. "what if all our regional educational assets were viewed as a collective, with the aim of making New England an internationally-renowned "learning region"? It started with the Catholic St Mary's School in Armidale in 1848, and has advanced from there with the forerunner to today's Presbyterian Ladies College (1887), The Armidale School (1884), New England Girls School (1895), Calrossy (1919), Armidale High School (1920), Armidale Teachers College (1928), New England University College (the forerunner to UNE, established in 1939), Farrer Agricultural High School (1939), the University of New England (1955). The university of New England is Armidale's biggest employer.	The Northern Daily Leader
4/07/2019	Winds of change	Walcha community members have been so far very supportive of the Winterbourne Wind Farm. "The intention of the Winterbourne people and Mark Waring is that the community and landowners will get a substantial amount of money through a community fund going into the future."	The Walcha News
13/04/2019	UPC New England Solar Farm plans revised after submissions	Any opponents of the New England Solar Farm being constructed about six kilometres east of Uralla had a slight win this week when UPC Renewables announced the southern section of the development was deferred from the current development application. "The most common concerns tend to be around proximity to nearby residences, potential impacts on property values and there have been concerns raised about visual impacts, along Thunderbolt's Way, for example,"	The Armidale Express
12/04/2019	Walcha Energy Project probed by action group	The group behind The Walcha Energy Project was out and about at the recent Walcha Show and say their team of five spoke to hundreds of people about the proposed renewable energy farms they have planned for the region, and the community response was both inquisitive and positive.	The Armidale Express
4/04/2019	Salisbury Solar faces claims of overdevelopment	The Uralla, Walcha Community Action Group for Responsible Solar and Wind Development raised concerns for Salisbury solar farm. These concerns included, impacts on land value, visual, ambience and decommissioning costs.	The Northern Daily Leader

Date	Headline	Summary	Source
1/02/2019	Uralla/Walcha Community Responsible Solar/Wind Action Group worried by New England Solar Farm	The group is worried that developments like this could take over valuable agricultural land. The group says the Salisbury Plains site is inappropriate.	The Armidale Express
13/12/2018	Local Landholders Updated on Renewable Energy Farm Progress	Founder Mark Waring has been in negotiation with local landholders regarding a wind farm for more than a decade. "Certainly in this development phase we have all the core landholders engaged, and we will keep working with them in the coming six months	The Walcha News
20/10/2018	Armidale, evocities and immigrants	The Federal Government recently indicated a move toward a policy of encouraging settlement in regional areas by redirecting immigrants from the city to regional centres, and Armidale's elected advocates endorse the idea. Mr Joyce said substantial investment was needed in regional areas to support the scheme. Armidale Regional Council Mayor Simon Murray said the Armidale region had a wealth of job opportunities, in skilled and unskilled positions, while the area's diverse business sector ensured there was a wide variety of jobs available.	The Armidale Express
24/08/2018	First-ever regional tourism target for NSW a boon for the region	The NSW Government unveiled on Monday the State's first regional tourism target to double the current visitor spend. "The tourism sector in NSW has never been stronger - we are by far the number one destination for domestic and international tourists by every measure." It's now time to look beyond Sydney and do the work needed to turbocharge tourism in our rural and regional areas"	The Armidale Express
23/11/2017	Wind Alliance to host public forum for landholders in Kentucky to bust myths about living with turbines	"Another issue that can make landholders hesitate is the scale of works and the messy construction", Mr Prell said. "a major issue is when neighbouring properties are left with no say and no money while next door gets the benefits."	Inverell Times
6/05/2017	Beyond Sydney / Tamworth	the city of almost 62,000 is the service centre to the New England and North West regions, which have a combined population of more than 200,000. Stuart Watts, of Professionals Tamworth, says economic diversity has ensured Tamworth's survival and growth. "Agriculture is very big but health services, education, manufacturing and the world-class Australian Equine and Livestock Events Centre are becoming very important in their own right" Watts says. Two-thirds of sales are to owner-occupiers who moved into the city for the range and quality of health and education services. its medical facilities are state of the art and the theatre scene is the envy of other regional centres."	The Sydney Morning Herald

Date	Headline	Summary	Source
17/01/2017	Solar farm proposed east of Armidale would boost jobs in New England region: A solar farm proposed for northern New South Wales would generate 100 megawatts of power and cover 300 hectares	Hillgrove Progress Association Noel Waters said people who attended the information session in his town had welcomed the proposal's job opportunities. But the closest neighbours to the project have expressed disappointment their proximity will not lead to lower power prices immediately.	ABC Regional News
12/01/2017	Tourists flock to the region	The New England Region is "punching well above" its weight according to MP Barnaby Joyce, accounting for 16 per cent of NSW's domestic tourism. "Whether it's the Tamworth Country Music Festival, horse racing at Scone, the Celtic Festival at Glen Innes or simply enjoying the natural beauty in our national parks and hospitality of the New England, our region is drawing in the crowds," Mr Joyce said. "The New England is obviously one of the most beautiful places in Australia and that's why people are coming here".	The Walcha News

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