EnergyCo

September 2023

Central-West Orana Renewable Energy Zone Transmission project

Technical paper 7 – Social

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Central-West Orana Renewable Energy Zone Transmission project
Technical paper 7 – Social

EnergyCo

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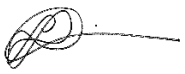
Reviewed by:	Felicity Richards	20/09/2023	
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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Glossary

Acronym/phrase	Description
access roads	Permanent access roads to switching stations and energy hubs
access tracks	Permanent access tracks along and to the transmission line easements
Central-West Orana REZ	A geographic area of approximately 20,000 square kilometres centred on the regional towns of Dubbo and Dunedoo and extending west to Narromine and east beyond Mudgee and to Wellington in the south and Gilgandra in the north, that will combine renewable energy generation, storage and HV transmission infrastructure to deliver energy to electricity consumers.
construction area	The area that would be directly impacted by the construction of project including (but not limited to) transmission towers and lines, brake and winch sites, access roads to switching stations and energy hubs, access tracks to and along the easement, energy hubs, switching stations, communications infrastructure, workforce accommodation camps, construction compounds and laydown and staging areas.
construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials, and/or construction site offices and worker facilities. It can also comprise concrete batching plant, crushing, grinding and screening plant, testing laboratory and wastewater treatment plant.
construction routes	Roads used by construction vehicles (light and heavy).
cumulative impact	The combined impacts of the project on a matter with other relevant future projects.
DPIE (now DPE)	The former Department of Planning, Industry and Environment (NSW), now the Department of Planning and Environment
Dubbo Community Strategic Plan	Dubbo Regional Council Towards 2040 Community Strategic Plan
Enabling works	Activities that would be carried out before the start of substantial construction in order to make ready the key construction sites (including workforce accommodation camps and compounds), facilitate the commencement of substantial construction, manage specific features or issues and collect additional information required to finalise the final design and construction methodology.
EnergyCo	The Energy Corporation of New South Wales constituted by section 7 of the *Energy and Utilities Administration Act 1987* as the NSW Government-controlled statutory authority responsible for the delivery of NSW's REZs.
Energy hub/s	An energy hub is a substation where energy exported from renewable energy generators or storage is aggregated, transformed to 500 kV (where required) and exported to the transmission network. For the project, this includes Merotherie Energy Hub and Elong Elong Energy Hub.
Essential Energy	The asset owner of multiple distribution lines below 132 kV in the region that cross the project at multiple locations.

Acronym/phrase	Description
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment.
Local social locality	The area expected to experience the most social change due to the project.
Mid-Western Community Plan	Towards 2030 Mid-Western Region Community Plan
Operation area	The area that would be occupied by permanent components of the project and/or maintained, including transmission line easements, transmission lines and towers, energy hubs, switching stations, communications infrastructure, access roads to the switching stations and energy hubs (excluding public roads), and permanent access tracks to the easements.
Phase 1 SIA	Refers to the scoping phase of a Social Impact Assessment (SIA).
Phase 2 SIA	Refers to the Social Impact Assessment technical report to inform an EIS.
(the) proponent	EnergyCo
(the) project	The Central-West Orana REZ Transmission project as described in the Environmental Impact Statement
Regional social locality	The area expected to experience indirect, or secondary benefits and/or impacts due to the project.
Renewable energy generators	A renewable energy provider to the Central-West Orana REZ.
Renewable energy generation and storage projects	The various renewable energy generation and storage projects within the Central-West Orana REZ that would be delivered by others, such as wind farms and solar farms.
Renewable Energy Zone (REZ)	A geographic area identified and declared by the NSW Government as a REZ.
Suburbs and Localities (SAL)	Suburbs and Localities, formerly State Suburbs, are an ABS Mesh Block approximation of the officially recognised boundaries of suburbs (in cities and larger towns) and localities (outside cities and larger towns) as defined by the State and Territory governments of Australia. Suburbs and Localities are created to enable the release of ABS data on areas that approximate the official localities. This allows for the comparison of ABS data with other data collected using localities as the geographic reference. ABS approximations of administrative boundaries do not match official legal boundaries and should only be used for statistical purposes.
Socio-Economic Index for Areas (SEIFA)	Socio-Economic Indexes for Areas. The range of indices developed by the ABS showing relative levels of socio-economic advantage and disadvantage. They summarise key economic and social information about people and households within a defined area and are derived from Census variables.
Sensitive receivers	Land users that are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
Servicing communities	Localities (towns and centres) with a concentration of residents and services.

Acronym/phrase	Description
Substation	A facility used to increase or decrease voltages between incoming and outgoing lines (e.g. 330 kV to 500 kV).
Switching station	A facility used to connect two or more distinct transmission lines of the same designated voltage.
Social impact assessment principles	The NSW Social Impact Assessment Guideline (2021) provides a list of thirteen principles to be adopted in social impact assessment practice. These include: action oriented, adaptative, distributive equity, human-rights oriented, impartial, inclusive, integrated, life-cycle focus, material, precautionary, proportionate, rigorous and transparent. These principles are described in further detail in the Glossary.
Social locality	The term 'social locality' refers to the geographical area in which the most social impacts are likely to materialise, it includes the local and regional social localities. Refer to Chapter 3 (Project description) for a description of the social locality for this assessment.
Transmission line easement	An area surrounding and including the transmission lines which is a legal 'right of way' and allows for ongoing access and maintenance of the transmission lines. Landowners can typically continue to use most of the land within transmission line easements, subject to some restrictions for safety and operational reasons
Warrumbungle Community Strategic Plan	Warrumbungle Shire Community Strategic Plan 2017–2032
Workforce accommodation camps	Areas that would be constructed and operated during construction to house the construction workforce.

SIA Principle	Description
Action oriented	Defines specific actions to deliver practical, achievable and effective outcomes for people.
Adaptive	Establishes systems to respond to new or different circumstances to support continuous improvement.
Culturally responsive	Develops culturally informed approaches and methodologies to ensure Aboriginal and culturally diverse communities are engaged appropriately, and their perspectives, insights and feedback are valued.
Distributive equity	Considers how different groups will experience social impacts differently (particularly vulnerable and marginalised groups, future generations compared with current generations, and differences by gender, age and cultural group).
Impartial	Uses fair, unbiased research methods and follows relevant ethical standards
Inclusive	Seeks to hear, understand, respect and document the perspectives of all likely affected people. Uses respectful, meaningful and effective engagement activities tailored to the needs of those being engaged (e.g. being culturally sensitive and accessible).
Integrated	Uses and references relevant information and analysis from other assessments to avoid duplication. Supports effective integration of social, economic and environmental considerations in decision-making.
Life-cycle focus	Seeks to understand likely impacts (including cumulative impacts) at all project stages, from pre-construction to post-closure/operation commencement.
Material	Identifies which likely social impacts matter the most for people and/or pose the greatest risk/opportunity to those expected to be affected.
Precautionary	If there are risks of serious or irreversible environmental damage (including harm to people), avoids using any limits on full scientific certainty as a reason for postponing measures to prevent environmental (including social) degradation.
Proportionate	Ensures the scope and scale of the SIA corresponds to the scope and scale of the likely social impacts.
Rigorous	Uses appropriate, accepted social science methods and robust evidence from authoritative and trustworthy sources.
Transparent	Explains, justifies and makes available information, methods and assumptions so that people can see how their input has been considered.

Source: DPE, 2023a

Abbreviations

Acronym	Definition
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
ACMA	Australian Communications and Media Authority
APZ	Asset Protection Zones
CCC	Community Consultive Community
CCSI	Critical State Significant Infrastructure
CDEP	Community Development Employment Project
CRG	Community Reference Group
CSP	Community Strategic Plan
DA	Development Application
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EMFs	Electromagnetic Fields
EnergyCo	Energy Corporation of NSW
EP&A Act	*(NSW) Environmental Planning & Assessment Act 1979*
EPBC	*(NSW) Environment Protection and Biodiversity Conservation Act 1999*
GPs	General Practitioners
ha	Hectare
HV	High Voltage
IRSAD	Index of Relative Socio-economic Advantage and Disadvantage
km	Kilometres
km^2	Kilometres square
kV	Kilovolts
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
LSPS	Local Strategic Planning Statements
NEM	National Energy Market

Acronym	Definition
NPWS	NSW National Parks and Wildlife Service
NSW	New South Wales
NSWALC	NSW Aboriginal Land Council
REZ	Renewable Energy Zone
RFS	Rural Fire Service
ROM	Run of Mine
SAL	Suburbs and Localities
SBP	Strategic Benefit Payments
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Areas
SEPP	State Environmental Planning Policies
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SSC	State suburb
SSI	State Significant Infrastructure
UTS	University of Technology Sydney
WHO	World Health Organisation
WHS	Work Health and Safety

Executive summary

This technical paper assesses the potential impacts from the Central-West Orana Renewable Energy Zone Transmission project in relation to social matters and in accordance with the Secretary's Environmental Assessment Requirements issued by the NSW Department of Planning and Environment (DPE) for the project on 11 October 2022.

Project overview

The NSW Government is leading the development of Renewable Energy Zones (REZ) across NSW to deliver renewable energy generation and storage, supported by high voltage transmission infrastructure. The Energy Corporation of NSW (EnergyCo) is proposing the construction and operation of new high voltage electricity transmission infrastructure and new energy hubs and switching stations required to connect new energy generation and storage projects within the Central-West Orana REZ to the existing electricity network (the project). The project is located within the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter local government areas (LGAs) and extends north to south from Cassilis to Wollar and east to west from Cassilis to Goolma.

The project would enable 4.5 gigawatts of new network capacity to be unlocked by the mid-2020s (noting the NSW Government's proposal to amend the Central-West Orana REZ declaration to allow for a transfer capacity of six gigawatts), and enable renewable energy generators within the Central-West Orana REZ who are successful in their bids to access the new transmission infrastructure to export electricity to the rest of the network. Importantly, the development of renewable energy generation projects in the Central-West Orana REZ is the sole responsibility of private generators and subject to separate planning and environmental approvals.

Legislative and policy context

Social impacts from construction and operation of the project have been assessed in accordance with the relevant legislation and guidelines. Key guidelines considered as part of this assessment included:

- *Social Impact Assessment Guideline* (DPE, 2023a)
- *Technical Supplement – Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023b)
- *Social Impact Assessment Practice Notes: Practice Note – Engaging with Aboriginal Communities* (DPE, 2022a)
- *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022b).
- *First Nations Guidelines – Increasing Central-West Orana income and employment opportunities from electricity infrastructure projects* (Office of Energy and Climate Change, 2022).

Methodology

The assessment of potential social impacts arising from the project included the following key steps:

- understanding of project context
- scoping of social issues
- identifying the Social Impact Assessment (SIA) social locality
- describing the existing social environment
- community and stakeholder engagement
- evaluation of identified social impacts
- identifying recommended management measures.

Existing environment

The SIA social locality is comprised of a regional and local social locality. The local social locality is the area expected to experience the most social change due to the project during construction and/or operation, and includes 42 ABS Suburbs and Localities.

The regional social locality is the area expected to experience indirect benefits or effects due to the project during construction and/or operation. The regional social locality includes nine LGAs comprising Dubbo Regional, Narromine, Mid-Western Regional, Upper Hunter, Warrumbungle, Gilgandra Shire, Liverpool Plains, Muswellbrook and Cabonne.

Key characteristics of the local and regional social localities include:

- the local social locality has a total resident population of 23,129 across 11,113 private dwellings (as at 2021)
- there is a comparatively high proportion of Aboriginal and/or Torres Strait Islander people within the local (17 per cent) and regional social locality (12.1 per cent) compared to NSW as at 2021
- there is a comparatively higher proportion of age groups that are 50 and over, and a slightly lower proportion of age groups between 20 to 50 in both local and regional social localities compared to NSW more broadly
- 45.5 per cent of active workers were employed in the local social locality, which was slightly higher than employment in the regional social locality (44.9 per cent)
- key industries of employment in the local social locality include 'mining' which represented 15.9 per cent of employment, and 'agriculture, forestry and fishing', which represented 8.1 per cent
- evidence of constrained access to social services, such as health care, aged care facilities, hospitals, general practitioners, and specialists is predominant in the social locality due to limited capacity and long distances between services; and
- housing and temporary accommodation markets appear constrained in the local and regional social localities.

Potential construction impacts

The potential direct and indirect benefits expected to result during construction of the project are listed below:

- local business opportunities and economic stimulus due to project procurement opportunities and increased demand for goods and services within the local and regional social localities, including Aboriginal businesses
- improved livelihoods due to increased local employment opportunities for people within the local and regional social localities.

The negative social impacts with a High unmitigated rating expected to occur during construction of the project are summarised below:

- diminished community cohesion between landowners hosting infrastructure and adjacent neighbours
- impacts to sense of safety due to the introduction of a non-resident workforce
- reduced sense of place for both landowners hosting infrastructure and neighbouring landowners due to construction related amenity impacts
- impacts on livelihoods due to increased biosecurity threats
- potential adverse mental health effects amongst landowners neighbouring the project
- potential impacts on Aboriginal culture for First Nations communities within the local and regional social localities
- reduced capacity to make or influence decisions regarding changes that may affect people's lives.

Potential operational impacts

The potential direct and indirect positive benefits expected to result from operation of the project are listed below:

- enhanced landowner economic and social livelihoods associated with Strategic Benefit Payments Scheme payments.

The potential direct and indirect negative social impacts with a High unmitigated rating expected to occur during operation of the project are summarised below:

- landowners neighbouring transmission lines may experience unequal distribution of impacts and benefits
- landowners hosting transmission lines and neighbouring may experience stress due to perceived bushfire risk associated with operation of transmission lines
- landowners neighbouring transmission lines and landowners subject to compulsory acquisition may experience stress due to:
  - perceived health and safety risks associated with electromagnetic fields
  - stress due to perceived uncertainty in the local property market
- landowners neighbouring transmission lines and landowners subject to compulsory acquisition may experience diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity.

Recommended management measures

Proposed mitigation measures include the development and implementation of:

- Landowner Engagement Strategy
- Workforce Management Plan
- Local Workforce Participation Strategy
- Industry Participation Plan
- Communication and Engagement Plan
- First Nations liaison group
- Complaints management system
- Social Impact Management Plan.

Residual impacts

It is anticipated that the implementation of the proposed measures in this SIA, and in the technical papers supporting the project EIS, will bring most of the unmitigated impacts identified as High to a Medium and Low level of significance, and pre-mitigated impacts of Medium significance to Low level of significance.

The only impact that it is anticipated to remain with High residual significance is the unequal distribution of impacts and benefits to be experienced by landowners neighbouring project infrastructure.

However, it noted that proposed measures would enhance the identified benefits across the social and regional social localities from Medium to High, and from Low to Medium levels of significance respectively.

1 Introduction

1.1 Background

New South Wales (NSW) is currently undergoing an energy sector transformation that will change how we generate and use energy. The NSW Government is leading the development of Renewable Energy Zones (REZ) across NSW to deliver renewable energy generation and storage projects, supported by transmission infrastructure. A REZ connects renewable energy generation and energy storage systems to transmission infrastructure via energy hubs, requiring the coordination of power generation, power storage and transmission infrastructure. By doing so, REZs capitalise on economies of scale to deliver cheap, reliable and clean electricity for homes, businesses and industry in NSW.

The Central-West Orana REZ was formally declared on 5 November 2021 under the *Electricity Infrastructure Investment Act 2020*. As NSW's first REZ, the Central-West Orana REZ would play a pivotal role in underpinning NSW's transition to a clean, affordable and reliable energy sector.

The Central-West Orana REZ declaration (November 2021) provides for an initial intended network capacity of three gigawatts. The NSW Government is proposing to amend the declaration to increase the intended network capacity to six gigawatts, which would allow for more renewable energy from solar, wind and storage projects to be distributed through the NSW transmission network.

The proposed amendment is consistent with the NSW Network Infrastructure Strategy (EnergyCo, 2023) which identifies options to increase network capacity to 4.5 gigawatts initially under Stage 1 (which would be based on the infrastructure proposed in this assessment) and up to six gigawatts by 2038 under Stage 2 (which would require additional infrastructure beyond the scope of this assessment, and subject to separate approval). The proposed amendment also supports recent modelling by the Consumer Trustee in the draft 2023 Infrastructure Investment Objectives Report (AEMO, 2023) showing more network capacity will be needed to meet NSW's future energy needs as coal-fired power stations progressively retire.

Energy Corporation of NSW (EnergyCo), a NSW Government statutory authority, has been appointed as the Infrastructure planner under the *Electricity Infrastructure Investment Act 2020*, and is responsible for the development and delivery of the Central-West Orana REZ. EnergyCo is responsible for coordinating REZ transmission, generation, firming and storage projects to deliver efficient, timely and coordinated investment.

EnergyCo is seeking approval for the construction and operation of new high voltage electricity transmission infrastructure that is required to connect energy generation and storage projects within the Central-West Orana REZ to the existing electricity network (the project).

1.2 Purpose of this technical paper

This technical paper assesses the potential social impacts (both positive and negative), associated with construction and operation of the project and to provide mitigation and enhancement measures in response to each of the identified impacts. It has been prepared to support and inform the Environmental Impact Statement (EIS) for the project.

This technical paper presents the second phase of undertaking a Social Impact Assessment (SIA) for state significant projects in accordance with the *Social Impact Assessment Guideline* (NSW Department of Planning and Environment (DPE, 2023a) (SIA Guideline), following the completion of the SIA phase 1 assessment as part of the project's Scoping Report (WSP, 2022).

In accordance with the SIA Guideline, this SIA has been prepared to:

- predict and analyse the extent and nature of likely social impacts against baseline conditions using accepted social science methods
- evaluate and prioritise the social impacts that are important from the perspective of those affected
- develop appropriate and justified responses (e.g., avoidance, mitigation and enhancement measures) to social impacts, and identify residual social impacts
- propose arrangements to monitor and manage residual social impacts, including unanticipated impacts, over the life of the project (DPE, 2023a).

This technical paper addresses the relevant Secretary's environmental assessment requirements (SEARs) issued by the Secretary of the NSW DPE for the project on 11 October 2022. The SEARs relevant to the assessment of social impacts are presented in Table 1-1. This technical paper also addresses SEARs requirements related to Economic matters, such as considerations to increase of demand for community infrastructure and services and construction workforce management.

Table 1-1 SEARs relevant to this paper

Reference	Assessment requirement	Location where it is addressed
Social	An assessment of the social impacts in accordance with Social Impact Assessment Guideline (DPE, 2021) and consideration of construction workforce accommodation.	Chapters 6, 7 and 8
Economic	Consideration of any increase in demand for community infrastructure and services, and details of how the construction workforce will be managed to minimise local impacts, including consideration of the construction workforce accommodation.	Sections 6.1 and 6.4

1.2.1 Related technical papers

Social impacts are often associated with other identified environmental or economic impacts of a project. This technical paper is linked to the assessments completed for the project in the following technical papers:

- Technical paper 2 – Agriculture (Technical paper 2)
- Technical paper 3 – Visual and landscape character (Technical paper 3)
- Technical paper 4 – Biodiversity development assessment report (Technical paper 4)
- Technical paper 5 – Aboriginal cultural heritage assessment (Technical paper 5)
- Technical paper 8 – Economic (Technical paper 8)
- Technical paper 9 – Noise and vibration (Technical paper 9)
- Technical paper 10 – Bushfire (Technical paper 10)
- Technical paper 11 – Preliminary hazard analysis (Technical paper 11)
- Technical paper 12 – Electro magnetic field assessment (Technical paper 12)
- Technical paper 13 – Traffic and transport (Technical paper 13)
- Technical paper 15 – Flooding (Technical paper 15)
- Technical paper 18 – Air quality (Technical paper 18).

1.2.2 Structure of the report

The structure and content of this report is as follows:

- Chapter 1 – Introduction – introduces this technical paper (this chapter) and provides an overview of the project
- Chapter 2 – Legislative and policy context – provides an overview of the regulatory context for the assessment
- Chapter 3 – Methodology – outlines the methodology adopted for this SIA
- Chapter 4 –Existing environment – describes the existing social environment across the local and regional social localities
- Chapter 5 – Engagement – provides the outcomes of engagement that was undertaken to inform this SIA
- Chapter 6 – Construction assessment – describes the potential social impacts associated with construction of the project
- Chapter 7 – Operational assessment – describes the potential social impacts associated with operation of the project
- Chapter 8 – Management and mitigation measures – details recommended mitigation and management measures to address identified social impacts
- Chapter 9 – References – identifies the key reports and documents used to generate this report.

The appendices to this report are:

- Appendix A – Scoping of social impacts
- Appendix B – SIA consultation questionaries
- Appendix C – Baseline data
- Appendix D – Engagement summary
- Appendix E – Author declaration.

1.2.3 Limitations

Data from the 2021 ABS Census of Population and Housing has been used to inform Chapter 4 of the report. While data from the 2021 Census is the most up to date and comprehensive source of demographic data for the local and regional social localities, it should be noted that these results may have been impacted by the COVID-19 pandemic and may not be illustrative of typical statistics shown in previous census data. This limitation has been addressed by implementing a comprehensive engagement plan with Councils, landowners and community representatives.

At the time of writing this report, only limited SIA engagement with the Local Aboriginal Land Councils within the social locality was possible. This limitation has been addressed by interviewing representatives of the Central-West Orana REZ First Nations Working Group.

The majority of engagement for the SIA took place in November 2022. EIS engagement undertaken by EnergyCo for this project continued through to May 2023. It is therefore acknowledged that the views expressed in November 2022 may have changed in response to subsequent engagement activities for the EIS. This limitation has been addressed by incorporating EIS engagement findings and activities between November 2022 and May 2023 into this SIA.

1.3 Project overview

The project comprises the construction and operation of new electricity transmission infrastructure, energy hubs and switching stations within the Central-West Orana REZ. The project would enable 4.5 gigawatts of new network capacity to be unlocked by the mid-2020s (noting the NSW Government's proposal to amend the Central-West Orana REZ declaration to allow for a transfer capacity of six gigawatts), and enable renewable energy generators within the Central-West Orana REZ who are successful in their bids to access the new transmission infrastructure to export electricity onto the National Energy Market (NEM). A detailed description of the project, including a description of key project components, the construction methodology and how it would be operated is provided in Chapter 3 (Project description) of the EIS.

1.3.1 Features

The project would comprise the following key features:

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

1.3.2 Location

The project is located in central-west NSW within the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter local government areas (LGAs). It extends north to south from Cassilis to Botobolar and east to west from Cassilis to Goolma. The location of the project is shown in Figure 1-1.

1.3.3 Timing

Construction of the project would commence in the second half of 2024, subject to NSW Government and Commonwealth planning approvals, and is estimated to take about four years. The project is expected to be commissioned/energised (i.e. become operational) in mid-2027.

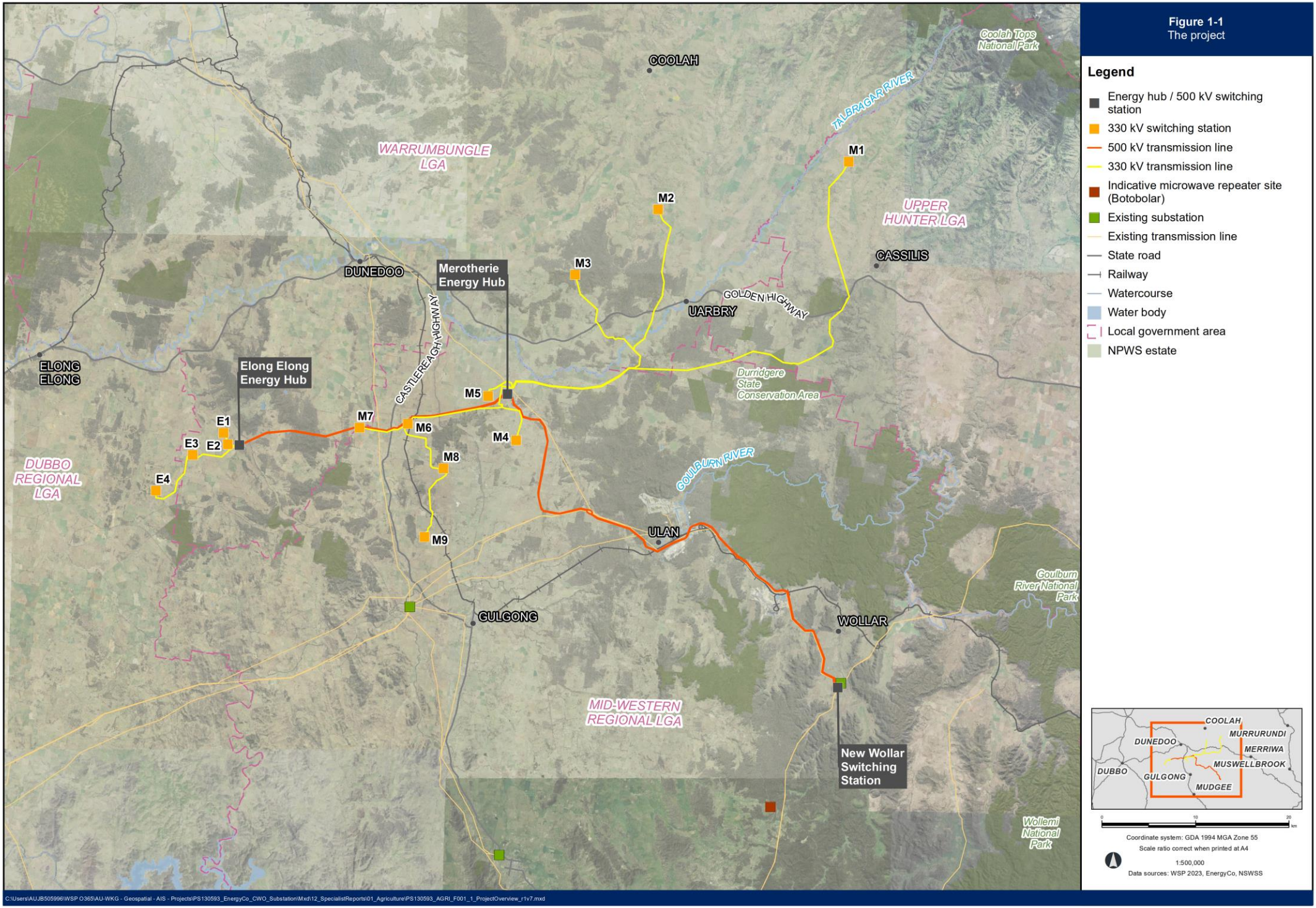

Figure 1-1
The project

Legend

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

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

1:500,000

Data sources: WSP 2023, EnergyCo, NSWSS

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1.3.4 Construction

Key construction activities for the project would occur in the following stages:

- enabling works
- construction works associated with the transmission lines
- construction works associated with energy hubs and switching stations
- pre-commissioning and commissioning of the project
- demobilisation and rehabilitation of areas disturbed by construction activities.

Excavation and earthworks within the construction area would be required for transmission line tower construction, site preparation works at the energy hubs and switching station sites to provide level surfaces, to create trenches for drainage, earthing, communications infrastructure and electrical conduits, and to construct and upgrade access tracks.

Construction vehicle movements would comprise heavy and light vehicles transporting equipment and plant, construction materials, spoil and waste from construction facilities and workforce accommodation camp sites. There would also be additional vehicle movements associated with construction workers travelling to and from construction areas and accommodation camp sites. These movements would occur daily for the duration of construction.

To support the construction of the project a number of construction compounds would be required including staging and laydown facilities, concrete batching plants, workforce accommodation camps and construction support facilities. The main construction compounds would be established as enabling works and demobilised at the completion of construction. The size of the construction workforce would vary depending on the stage of construction and associated activities. During the peak construction period, an estimated workforce of up to around 1,800 people would be required.

1.3.5 Operation

During operation, the project would transfer high voltage electricity from the Central-West Orana REZ to the NEM. Permanent project infrastructure would be inspected by field staff and contractors on a regular basis, with other present operational activities occurring in the event of an emergency (as required). Regular inspection and maintenance activities are expected to include:

- regular inspection (ground and aerial) and maintenance of electrical equipment and easements
- fault and emergency response (unplanned maintenance)
- general building, asset protection zone and landscaping maintenance
- fire detection system inspection and maintenance
- stormwater maintenance
- remote asset condition monitoring
- network infrastructure performance monitoring.

Operation of the project would require the establishment of transmission line easements. These easements would be around 60 metres for 330 kV transmission lines and 70 metres for 500 kV transmission lines. Where network infrastructure is co-located, easement widths would increase accordingly. Vegetation clearing would be required to some extent for the full width of the transmission line easement, depending on the vegetation types present.

2 Legislative and policy context

Environmental planning approval for the project is required in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act). The project is also a controlled action and will therefore require Commonwealth assessment and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Sections 5.12 and 5.13 of the EP&A Act provide for the declaration of State significant infrastructure (SSI) and critical State significant infrastructure (CSSI). On 23 November 2020, the NSW Minister for Planning and Public Spaces released the *Environmental Planning and Assessment Amendment (Central-West Orana Renewable Energy Zone Transmission Order) 2020*. The Order declares the whole Central-West Orana REZ Transmission project to be CSSI.

The following section describes NSW legislation and policies relevant to the SIA.

2.1 NSW legislation

2.1.1 Environmental Planning and Assessment Act 1979 (NSW)

The EP&A Act and associated *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) both establish a framework for the assessment and determination of developments in NSW. They also provide for the formation of environmental planning instruments, including State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs), which determine the permissibility and approval pathway for development projects and form a part of the environmental assessment process.

The project was declared to be Critical State significant infrastructure (CSSI) under section 5.13 of the EP&A Act by the NSW Minister for Planning and Public Spaces on 23 November 2020. Under Section 5.14 of the EP&A Act, the approval of the Minister for Planning is required for SSI (including CSSI), and an EIS has been prepared under Division 5.2 of the EP&A Act. This technical paper supports the EIS.

2.2 Policy, standards and guidelines

The following guidance documents have been used to prepare the SIA to ensure the assessment satisfies the SEARs for Social requirement.

2.2.1 Social Impact Assessment Guideline

The *Social Impact Assessment Guideline* (New South Wales (NSW) Department of Planning and Environment (DPE), 2023a) (the SIA Guideline) was released to support the preparation of SIAs for State significant projects. The SIA Guideline establishes the overarching assessment methodology to categorise and assess social impacts, as well as guiding principles to implement engagement and develop management measures. The assessment methodology within the SIA Guideline has been adopted for this SIA, and the social impact categories presented in Chapters 6 and 7 are aligned with the DPE SIA impact categories prescribed in the SIA guideline.

2.2.2 Technical Supplement Social Impact Assessment Guideline for State Significant Projects

The *Technical Supplement – Social Impact Assessment Guideline for State Significant Projects* (DPE, 2023b) (the Technical Supplement) provides additional guidance for proponents and practitioners using the SIA Guideline. It contains the relevant criteria to assess the significance of negative and positive social impacts, which has been adopted throughout this report (see Section 3.5 for further detail).

2.2.3 Practice Note: Engaging with Aboriginal Communities

The *Social Impact Assessment Practice Notes: Practice Note – Engaging with Aboriginal Communities* (DPE, 2022a) (the Practice Note) summarises best practice methods when engaging with Aboriginal Communities when conducting SIA. The practice note sets the following principles when engaging with Aboriginal communities, which have been adopted for this SIA:

- relationship and trust: it is important to invest time into building relationships prior to seeking knowledge and information from communities
- ongoing conversations: provide multiple opportunities for sharing information and keeping the community up to date
- flexible approach: demonstrate a willingness to adapt to the needs of communities
- finding common ground: speak to a range of community representatives and organisations to understand different perspectives
- accessibility: seek advice on location and when and how engagement meetings would be best conducted.

The Practice Note has been considered to inform targeted SIA engagement with Traditional Owner representative groups, including Local Aboriginal Land Councils (LALCs).

2.2.4 Undertaking Engagement Guidelines for State Significant Projects

The *Undertaking Engagement Guidelines for State Significant Projects* (DPE, 2022b) set out the requirements for proponents relating to the effective engagement on State significant projects in NSW, including guidance on:

- planning their approach to engagement
- undertaking engagement to inform the development of the project and contribute to better planning outcomes
- reporting back and demonstrating how engagement has shaped the project being assessed.

The guideline has informed the approach to targeted SIA engagement with the community and relevant stakeholders.

2.2.5 First Nations Guidelines: Increasing Central West Orana income and employment opportunities from electricity infrastructure projects

The purpose of the *First Nations Guidelines: Increasing Central West Orana income and employment opportunities from electricity infrastructure projects* (Office of Energy and Climate Change, 2022) (First Nations Guidelines) is to set out the expectations for increasing employment and income opportunities for Aboriginal peoples and communities in the construction and operation of new electricity infrastructure projects in NSW delivered under the Electricity Infrastructure Roadmap.

These guidelines do not replace other consultation obligations with Aboriginal stakeholders and processes under current NSW and Commonwealth legislation concerning cultural heritage, environmental, social, or other impacts of projects.

2.3 Regional planning

2.3.1 Central West and Orana Regional Plan 2041

The *Central West and Orana Regional Plan 2041* (DPE, 2022c) (the Regional Plan) builds on the previous regional plan to address emerging and future challenges that are expected to affect the region. The Regional Plan considers a 20-year timeframe with a focus on the next five years. Key areas of emphasis include the region's role supporting NSW's transition to net zero carbon emissions by 2050 through enabling the establishment of a renewable energy zone and ways to respond to a changing regional economy through catalysing projects such as the Central-West Orana REZ.

Relevant objectives and strategies of the Regional Plan to this technical paper are Objective 2, Strategy 12.4 and Strategy 12.3. Objective 2 aims to 'support the State's transition to Net Zero by 2050 and deliver the Central-West Orana Renewable Energy Zone'.

Strategy 12.4 encourages renewable energy proponents to develop projects that are appropriately located and compatible with surrounding land use practices to minimise social and environmental impacts, and Strategy 12.3 seeks to facilitate the renewable energy industry using strategic and local planning to address the cumulative impacts of major renewable projects and maximise benefits in the region.

2.4 Local Government – Local strategic planning

Local Strategic Plans (LSP) and Local Strategic Planning Statements (LSPS) set the vision, priorities and strategy for the future of a LGA, with a focus on appropriate economic, social and environmental outcomes.

This section provides an overview of the LSP and LSPS for the LGAs transecting and in close proximity to the project. These include Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs, and LGAs in close proximity to the project, the Narromine, Gilgandra, Liverpool Plains, Muswellbrook and Cabonne LGAs. All of which form part of the regional social locality for this SIA (see Section 3.2.2.2).

2.4.1 Muswellbrook Shire Council Local Strategic Planning Statement 2020–2040

This strategic planning statement identifies the community's main priorities and aspirations for the future and identifies strategies for achieving these goals. This LSPS guides land use and the built environment in the Shire, informing other Council strategies that seek to influence land use planning outcomes. It also incorporates the community's perspective and vision for the Shire. Key themes the plan has identified as prominent amongst the community and relevant to the project are:

- improvements to people's wellbeing, sense of safety and belonging
- increased opportunities for creativity, jobs, and investment
- enhancement or protection of the Shire's natural assets and scenic qualities.

2.4.2 Narromine Shire Council Local Strategic Planning Statement 2020

This local strategic planning statement details the framework for Narromine's economic, social, and environmental land use needs until 2040. It outlines clear planning priorities describing what will be needed, where these are located, and a timeframe for delivery. The plan takes into consideration the vision of the community, which encompasses a strong sense of community that values services, facilities, and the natural rural environment. Key themes and planning priorities have been identified and are summarised into three broad categories; vibrant communities, growing economy, and protecting and enhancing our environment. Within these topics, some project-relevant aims include managing natural environments for current and future generations, encouraging employment and skills development to address industry needs, and accessing formal and informal education, information and other services and opportunities to enhance their lives.

2.4.3 Gilgandra Shire Council Local Strategic Planning Statement 2020

This strategic plan sets out the desired economic, social, and environmental outcomes for Gilgandra. This includes the planning priorities for the area and any actions required for achieving these. The plan details how the council is to monitor and report on the implementation of those actions. Regarding Gilgandra Shire, the plan seeks to seize opportunities to grow and develop new employment, industry, and community service prospects while maintaining a relaxed, rural lifestyle in Gilgandra. The strategic plan for Gilgandra Shire further identifies planning priorities under three themes (community, economy, and environment). Priorities relevant to the project include infrastructure connectivity for people and freight, education and opportunities for local employment, and protecting the natural and built environment, and Aboriginal heritage.

2.4.4 Cabonne Council Local Strategic Planning Statement 2020

This plan details the 20-year vision for land use planning across the Shire, outlining how growth and change will be managed. It details the unique characteristics of Cabonne and applies these to planning the economic, social, and environmental land use direction up to 2040. The plan categorises the main activities relevant to the community into nine priorities. These priorities range from enhancing and preserving the agricultural industry amongst the community to mitigating and adapting to climate change by supporting renewable energy projects.

2.5 Local Government – Community strategic plans

Community Strategic Plans (CSPs) describe the community's vision and aspirations for a period of ten or more years. Each Council in NSW must prepare a CSP under the Integrated Planning and Reporting (IP&R) framework (Office of Local Government, 2009) administered by the Office of Local Government. The Mayor and Councillors lead the formation of a CSP via engagement with the community.

This section outlines the CSPs for councils within the regional social locality for this technical paper, as defined in Section 3.2.2.2 of this report.

2.5.1 Dubbo Regional Council's Towards 2040 Community Strategic Plan

Dubbo Regional Council's *Towards 2040 Community Strategic Plan* (Dubbo Regional Council, 2023) (the Dubbo Regional CSP) identifies the main aspirations and priorities of the Dubbo community for the future of the region through to 2040. The strategy is aimed to guide and influence the direction of Dubbo Regional Council, the community, and other levels of the NSW Government to prioritise the goals and aspirations of the community.

The strategic plan outlines future social, economic and environmental aspirations for the development and growth of the local area, such as housing, infrastructure, economy, community leadership and liveability. The plan highlights the strategic importance of increasing local opportunities for use of renewable energy, including through investment in renewable projects.

2.5.2 Mid-Western Region Towards 2040 Community Plan

The Mid-Western Regional Council's *Towards 2040 Community Plan* (Mid-Western Regional Council, 2017) outlines the community goals and priorities to be implemented through to 2040. The plan identifies the future vision for the local government area, incorporating key aspirations and strategies for achieving this vision. The five key themes addressed in the community plan are community, environment, economy, connectivity, and governance. Goal 3 of the plan identifies the 'effective and efficient delivery of infrastructure' to service local and regional needs.

2.5.3 Warrumbungle Shire Community Strategic Plan (Reviewed) 2017–2032

The Warrumbungle Shire Council's *Community Strategic Plan (Reviewed) 2017–2032* (Warrumbungle Shire Council, 2017) (Warrumbungle CSP) provides a 15-year vision for the Warrumbungle community. The Warrumbungle CSP identifies the central values of the local community, focusing on community spirit, children, and homes, as well as establishing key goals for the future, such as supporting local growth, resilience and health amongst residents, neighbourhoods, the environment and the economy. Energy production enterprises are identified within the community plan as a means for achieving long term outcomes for the local economy, particularly through the development of renewable energy projects within the Shire.

2.5.4 Upper Hunter Community Strategic Plan 2032

The Upper Hunter Shire Council's *Community Strategic Plan – Upper Hunter 2032* (Upper Hunter Shire Council, 2022) (Upper Hunter CSP) provides a road map of the community's key aspirations, values and key priorities for the future with the vision to foster a 'quality rural lifestyle in a vibrant, caring and sustainable community'. The Upper Hunter CSP is organised around the following priorities for the future: connected community, protected environment, thriving economy, quality infrastructure and responsible governance. A recurring theme raised in the Upper Hunter CSP is the region's vulnerability to issues of climate change, and the desire to build resilience across key strategic areas within the community. Increasing, enhancing, and maintaining infrastructure is identified as a key economic goal within the region, focusing on the prioritisation of innovative projects that meet the needs of future generations.

2.5.5 Narromine Community Strategic Plan 2020–2032

The Narromine Shire Council's *Community Strategic Plan 2020–2032* (Narromine Shire Council, 2022) (Narromine CSP) works towards achieving the region's vision for 2032, which is embedded in the following four key principles: vibrant communities, growing our economy, protecting and enhancing our environment and proactive leadership. Each of these key principles has a number of associated actions, aimed at achieving outcomes over the 12-year period set out in the Narromine CSP. Action 3.3 of the 'protecting and enhancement our environment' principle is achieving a community that values the efficient use of utilities, natural resources and energy, which is particularly relevant to the project.

2.5.6 Liverpool Plains Community Strategic Plan 2017–2027

The Liverpool Plains Shire Council's *Community Strategic Plan 2017–2027* (Liverpool Plains Shire Council, 2017) (Liverpool Plains CSP) identifies the long-term aspirations of the community and details the activities required to deliver them. It also identifies the necessary people involved in implementing these changes and monitoring measures. Delivery of these activities are guided by the social justice principles of equity, access, participation, and rights protection.

Within these themes, goals within the Liverpool Plains CSP that are relevant to the project include active management in the impact to our natural environment, fostering new business development for our future prosperity, and maintaining the beautiful landscapes, dynamic towns and villages, and safe communities.

2.5.7 Muswellbrook Shire Council Community Strategic Plan 2022–2032

The Muswellbrook Shire Council's *Community Strategic Plan 2022–2032* (Muswellbrook Shire Council, 2017) (Muswellbrook Shire CSP) reflects the direction of the Muswellbrook community in planning for a 'sustainable future' over 10 years. There goals and strategies of the Muswellbrook Shire CSP are grouped under six themes:

- economic prosperity
- social equity
- environmental sustainability
- cultural vitality
- community infrastructure
- community leadership.

2.5.8 Cabonne Community Strategic Plan 2022–2032

The Cabonne Council's *Community Strategic Plan 2022–2032* (Cabonne Council, 2022) (Cabonne CSP) has been prepared by Cabonne Council to identify the community's main priorities and aspirations for the future, and to plan strategies for achieving these goals. The plan also aims to consider the key issues and pressures that may impact the community, and the level of resources that will realistically be available to achieve the community's aims and aspirations.

Action 5.3 of the Cabonne CSP under the 'environment' strategic direction outlines the effort to mitigate and adapt to the impacts of climate change. As part of this action, the Cabonne CSP outlines how the region will 'reduce our carbon emissions through accessing renewable energy sources', including through partnerships with the State government and energy providers.

3 Methodology

3.1 Overview

The methodology for this SIA was prepared in accordance with the SIA Guideline (DPE, 2023a). The Phase 1 SIA (Scoping Report) (EnergyCo, 2022e) was prepared by scoping potential social issues associated with construction and operation of the project. This process involved:

- identifying the project's local and regional social localities
- undertaking initial analysis of the existing social environment (baseline conditions)
- undertaking initial evaluation of potential social impacts
- considering and articulating project refinement opportunities.

The Phase 2 SIA (this report) involved assessing the potential positive and negative social impacts associated with the project and recommending mitigation and enhancement measures in response to each of the identified impacts. This report addresses the SIA Guideline requirements for Phase 2 in the following ways:

- predicts and analyses the extent and nature of social impacts against baseline conditions, consultation and technical report findings (see Section 3.5 and Chapters 6 and 7)
- evaluate, draw attention to and prioritise the social impacts that are important to people by analysing and categorising consultation findings (see Section 3.4, Chapter 5 and Appendix D)
- develop appropriate and justified responses (e.g. avoidance, mitigation and enhancement measures) to social impacts, and identifies and discusses residual social impacts (see Section 3.6 and Chapter 8)
- propose measures to monitor and manage residual social impacts, including unanticipated impacts, over the life of the project (see Section 3.6 and Chapter 8).

Figure 3-1 provides an overview of the phased SIA approach prescribed in the SIA Guideline.

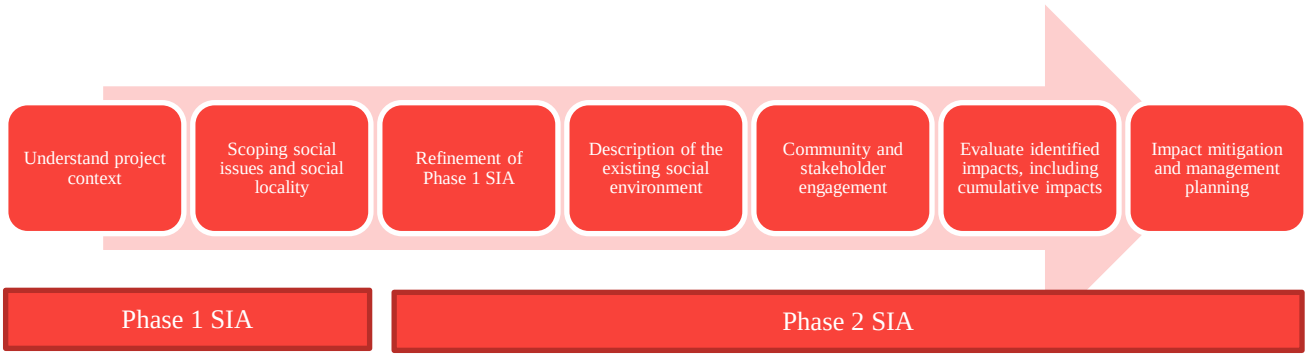

Figure 3-1 Overview of the social impact assessment process (DPE, 2023a)

3.2 Refinement of Phase 1 SIA

A review of the Phase 1 SIA was undertaken at the commencement of this Phase 2 SIA, and where required, the findings were refined and updated. A summary of this process is provided in Section 3.2.1 to Section 3.2.2 below.

3.2.1 Understanding of project context

This technical paper has further contextualised the project with a review of legislative and policy frameworks (see Chapter 2). This review provides an overview of relevant Council and community strategic planning documents within the regional social locality, which gives further context regarding key priorities and views of the diverse communities surrounding the project.

3.2.2 Social locality

As per the SIA Guideline, the social locality comprises the area where direct and indirect social impacts are predicted to occur. The social locality for the project was first defined in the Phase 1 SIA and is the result of understanding the nature, location, and scale of the project. The social locality is further characterised at the local and regional level. The local and regional social localities have been further refined during the development of this technical paper to respond to feedback provided by the DPE and to account for project scope refinements. The local and regional social localities used to inform the SIA are described in Section 3.2.2.1 and Section 3.2.2.2 below.

3.2.2.1 Local social locality

Following DPE feedback on the Phase 1 SIA local social locality a broader number of State suburbs have been incorporated into the local social locality for this Phase 2 SIA.

The local social locality reflects the area expected to experience the most social change due to the project during construction and/or operation. It typically includes the people living and/or accessing services within, or in close proximity, to the project.

ABS Suburbs and Localities (SALs) units that spatially intersect the project have been used to characterise the local social locality. The 42 SALs that make up the local social locality are listed in Table 3-1 and Figure 3-2.

Given the scale of the project and the number of identified SALs, the local social locality has been divided into four subsections, the Western Section, the Northern Section, the Eastern Section and the Southern Section, to represent the different areas of the project. Table 3-1 below shows the four subsections and their relevant SALs. The subsections have also been aligned to the four LGAs that intersect the project.

Table 3-1 Local social locality subsections, LGAs and SALs

Southern Section		
Mid-Western Regional LGA		
— Barneys Reef — Beryl — Birriwa — Bungaba — Canadian Lease — Cooks Gap — Cooyal — Cope — Cumbandry — Cumbo — Eurunderee	— Galambine Goolma — Gulgong — Guntawang — Home Rule — Linburn — Mebul — Merotherie — Mogo — Moolarben — Mudgee — Munghorn	— St Fillans — Stubbo — Tallawang — Tichular — Turill — Two Mile Flat — Ulan — Wilpinjong — Wollar — Yarrawonga
Western Section	**Northern Section**	**Eastern Section**
Dubbo Regional LGA	**Warrumbungle LGA**	**Upper Hunter LGA**
— Elong Elong — Gollan — Spicers Creek	— Cobbora — Coolah — Dunedoo — Leadville — Uarbry	— Cassilis

3.2.2.2 Regional social locality

The regional social locality is the area expected to experience indirect social impacts due to the project during construction and/or operation. The regional social locality includes nine LGAs: Dubbo Regional (previously known as Western Plains Regional LGA), Narromine, Mid-Western Regional, Upper Hunter, Warrumbungle, Gilgandra Shire, Liverpool Plains, Muswellbrook and Cabonne. Figure 3-3 shows the regional social locality in relation to the project.

3.3 Description of existing social environment

While most social indicators were gathered by desktop research, some aspects of the existing environment were obtained through primary data sources, including interviews and an online survey (refer to Section 3.4). Desktop research assisted in identifying population, demographic characteristics, housing, industry, social infrastructure, public infrastructure and environmental information and data. Consultation findings further helped to inform social and cultural values, natural surroundings, and local industry.

The description of the existing social environment adopted rigorous, impartial and adaptive SIA principles by:

- using unbiased research methods and primary data sources, including targeted engagement supported by an online survey
- using accepted social science research methods and robust evidence from authoritative and trustworthy secondary data sources, primarily the 2021 ABS Census
- allowing for continuous validation and revision of the existing social environment chapter informed by engagement findings.

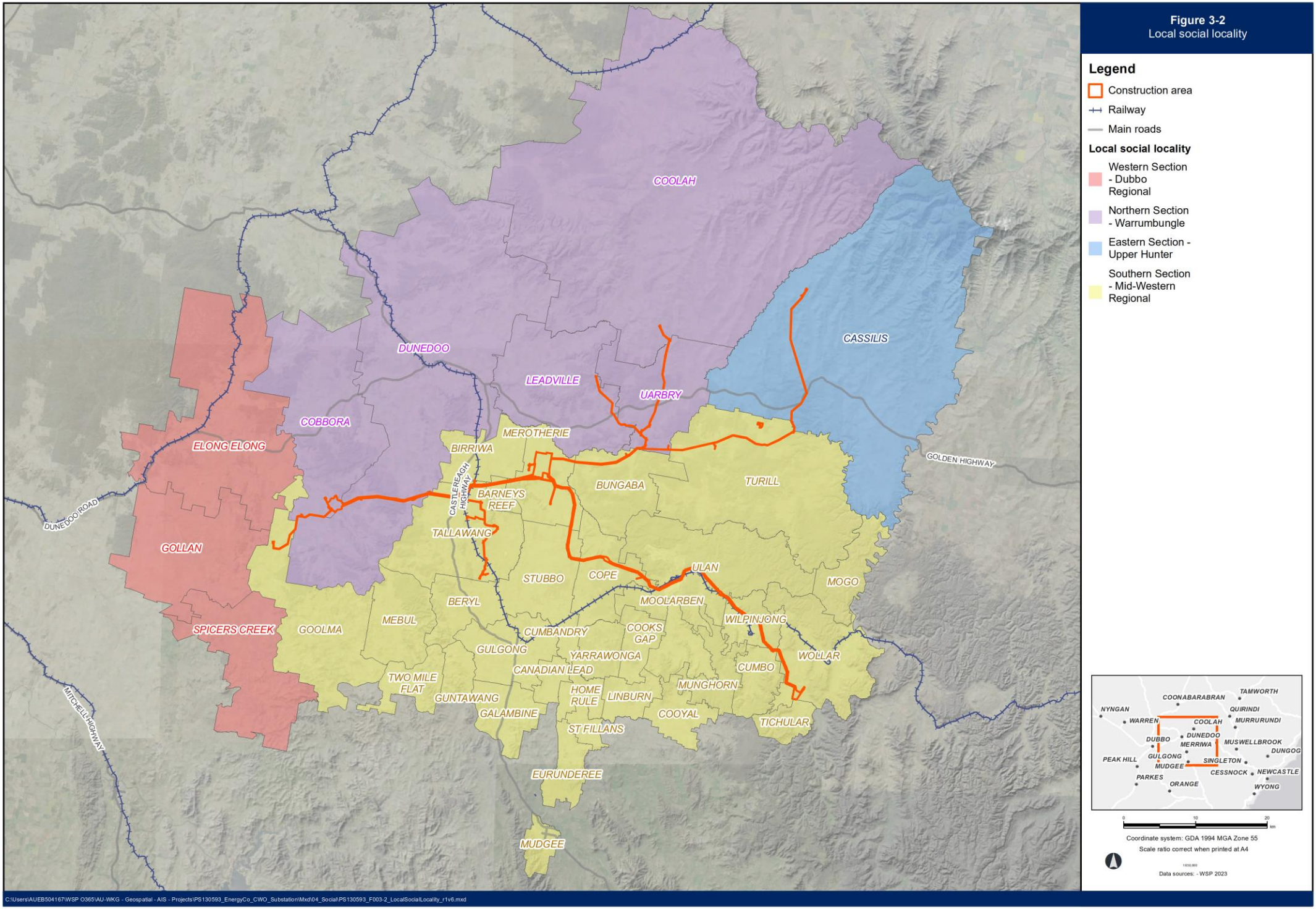

Figure 3-2
Local social locality

Legend

- Construction area
- Railway
- Main roads

Local social locality

- Western Section - Dubbo Regional
- Northern Section - Warrumbungle
- Eastern Section - Upper Hunter
- Southern Section - Mid-Western Regional

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

1:650,000

Data sources: - WSP 2023

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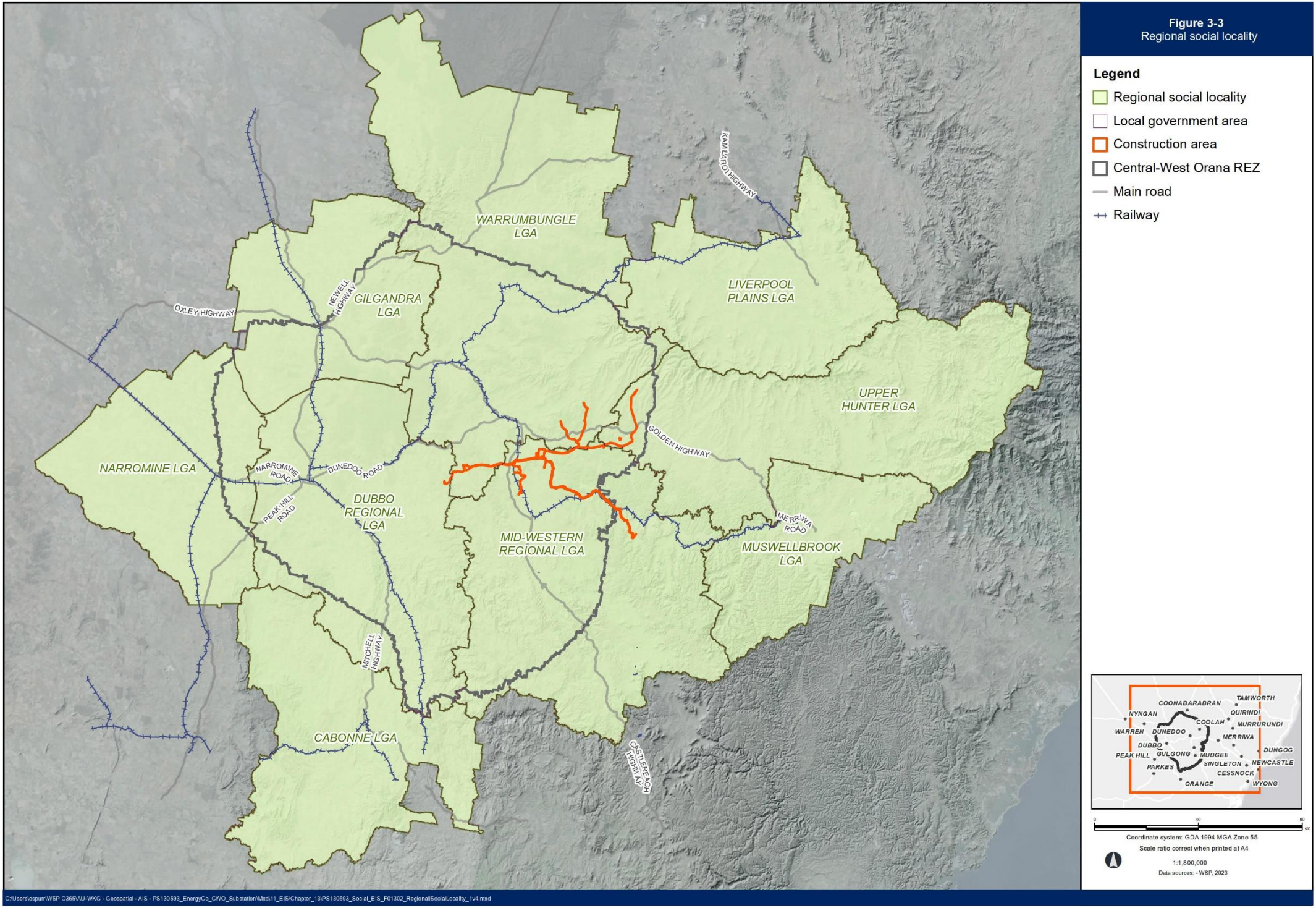
WARRUMBUNGLE LGA
KAMILAROI HIGHWAY
NEWELL HIGHWAY
GILGANDRA LGA
OXLEY HIGHWAY
LIVERPOOL PLAINS LGA
UPPER HUNTER LGA
GOLDEN HIGHWAY
NARROMINE LGA
NARROMINE ROAD
DUNEDOO ROAD
PEAK HILL ROAD
DUBBO REGIONAL LGA
MID-WESTERN REGIONAL LGA
MERRIWA ROAD
MUSWELLBROOK LGA
MITCHELL HIGHWAY
CABONNE LGA
CASTLEREAGH HIGHWAY
Figure 3-3
Regional social locality
Legend
Regional social locality
Local government area
Construction area
Central-West Orana REZ
Main road
Railway
COONABARABRAN
TAMWORTH
NYNGAN
QUIRINDI
COOLAH
MURRURUNDI
WARREN
DUNEDOO
MERRIWA
DUBBO
DUNGOG
PEAK HILL
GULGONG
MUDGEE
NEWCASTLE
SINGLETON
PARKES
CESSNOCK
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3.4 Community and stakeholder engagement

This report was informed by the findings of engagement activities conducted by EnergyCo as well as targeted SIA engagement conducted by WSP.

3.4.1 EIS engagement

Engagement with communities and stakeholders with regard to the project has been ongoing since 2020. Between December 2020 and September 2021, community engagement was carried out by Transgrid on the preliminary study area for new transmission network infrastructure in the Central-West Orana REZ.

Following the appointment of EnergyCo as the Infrastructure Planner for the Central-West Orana REZ in December 2021, EnergyCo has implemented a comprehensive engagement strategy to enable stakeholder participation and consider community/stakeholder feedback.

Chapter 5 (Community and stakeholder engagement) and Appendix E (Cumulative impact assessment) of the EIS provide detailed information about the engagement objectives, activities, communication methods and publicly available information.

Engagement activities are ongoing and will continue during the exhibition of the EIS with the purpose of ensuring the community and stakeholders receive comprehensive updates about the project and have the opportunity to provide feedback on the project. The Network Operator will lead community and stakeholder engagement during future stages of project development, following their appointment in mid-2023.

3.4.2 SIA engagement

The purpose of conducting targeted SIA engagement is to gather information from the perspective of those likely to be affected by the project. The SIA engagement is based on the principles of inclusivity and transparency. Respondents were provided with a written copy of their input and informed about future opportunities to provide feedback. It was also explained to respondents how their input would influence the SIA and how the SIA would inform the EIS.

SIA-specific engagement occurred between October 2022 and May 2023. A variety of consultation methods were adopted including face-to-face interviews (with individuals and groups), phone interviews and an online survey. The method of consultation was tailored to best suit the needs of the stakeholders and community representatives.

SIA engagement was also undertaken specifically with some landowners whose properties are within or adjacent to the construction area. This engagement involved an online feedback survey distributed to 80 landowners who may potentially host transmission infrastructure and extended to adjacent landowners. It was subsequently shared amongst other members of the community by the original recipients of the online survey. These additional community members who responded to the online survey were not all potential hosts of transmission infrastructure or adjacent landowners, and instead constituted members of the broader local community.

Following the online survey and to further understand landowners' concerns and views about the project, a select number of landowners were interviewed. The sample size of landowners (28 total) provided sufficient depth of information but was not considered statistically significant. The selection criteria for landowners included:

- dwellings/residences located near project infrastructure
- properties near energy hubs, including farms and other businesses
- residences/dwellings that are identified as noise and/or traffic-sensitive receivers, which may potentially be impacted by construction and/or operation of the project
- dwellings/residences identified as being subject to potential visual impacts from project infrastructure.

The landowners that were interviewed comprised a mixture of participants that were both supportive and not supportive of the project. The SIA engagement questionnaires are provided in Appendix B.

3.4.2.1 Interviews

Forty-four SIA-specific interviews were completed in total. The majority took place during a three-week period in November 2022 and with the remainder occurring during the months of February, March and May 2023. Interviews were conducted face-to-face, by phone and online. In November 2022, the SIA team visited townships over a three week period to conduct face-to-face interviews, including 11 with landowners who would be hosting infrastructure and six with neighbouring landowners within one kilometre of the project. Table 3-2 summarises the number of face-to-face, phone and online interviews conducted. Interview findings are provided in Appendix D. As noted in Section 1.2.3, limited engagement was possible with Aboriginal organisations and public services. While a total of six public services and five Aboriginal organisations (including three LALCs) were invited to participate in interviews, only two interviews with public services and two interviews with Aboriginal organisations were carried out.

Table 3-2 details the number of interviews conducted per stakeholder group.

Table 3-2 SIA interviews per stakeholder group

Stakeholder group	In person interviews	Phone and online interviews	Total number of interviews
Councils	0	3	3
Landowners hosting infrastructure	11	4	15
Neighbouring landowners within 1 km of the project	6	7	13
Community organisations	6	3	9
Aboriginal organisations	0	2	2
Public services (i.e. emergency services, health services)	0	2	2
Total	23	21	**44**

3.4.2.2 Online survey

The online survey was distributed to 80 landowners located adjacent to and within the construction area, and was subsequently shared amongst the community. The response period was open between 10 November and 8 December 2022. A total of 104 responses were received during this time, with a spike in responses corresponding to the survey being passed onto additional nearby landowners and community representatives by the original survey recipients. Key survey findings are provided in Appendix D1.1.

Appendix B provides a summary of the interview and online survey questions.

3.5 Evaluation of identified social impacts

Social impacts identified in the Phase 1 SIA were further refined based on the results of other investigations completed as part of the EIS and feedback received during additional SIA engagement.

Potential social impacts have been identified as being likely to occur during construction and operational phases of the project. Cumulative impacts related to social impacts are addressed in Chapter 20 (Cumulative impacts) of the EIS.

The assessment determined the significance of each social impact based on their likelihood (Table 3-3) and magnitude (Table 3-4) in accordance with the Technical Supplement to the SIA Guideline matrix (Table 3-5).

The precautionary principle has been applied for those impacts where risks of serious or irreversible environmental damage (including harm to people) were identified. This SIA acknowledges that social impacts may affect people differently, depending on the nature of the impact, each individual's circumstances, and their proximity to the project (referred to as the distributive equity principle in the SIA Guidelines).

Table 3-3 Defining likelihood levels of social impacts

Likelihood level	Definition
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: Technical Supplement to SIA Guideline (DPE, 2023b)

Table 3-4 Defining magnitude levels for social impacts

Magnitude criteria	
Transformational	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health, and/or heritage values; permanent displacement or additional 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: Technical Supplement to SIA Guideline (DPE, 2023b)

Table 3-5 Social impact significance matrix

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

Source: SIA Guideline (DPE, 2023a)

3.6 Management measures and influencing project design

The process for identifying recommended management measures included:

- consideration of community and stakeholder's suggestions to address concerns and maximise benefits
- a review of management measures provided in SIAs for projects of a similar nature
- providing a list of preliminary management measures to EnergyCo to understand feasibility of implementation
- a review of management measures provided by other technical specialists informing the project EIS.

Recommended mitigation and enhancement strategies have been informed by the SIA Guideline. The approach to mitigation sought to avoid and/or minimise potential negative impacts by amending the project design. Where this was not practicable, measures to mitigate potential negative impacts were developed.

Mitigation measures have been assigned to all unmitigated impacts. A 'residual impact rating' has been applied to identify the significance of the social impact after the proposed mitigation measure or enhancement measure has been implemented.

4 Existing environment

This chapter provides a summary of the existing socio-economic environment within the local and regional social localities. Detailed demographic data referenced throughout this section is provided in Appendix C.

4.1 Community profile

The SIA Guideline defines community to include 'composition, cohesion, character, how the community functions, resilience, and people's sense of place' (DPE, 2023a). This section provides an overview of the local and regional community regarding population (including population changes and Aboriginal populations), dwellings and age groups.

4.1.1 Population

The local social locality has a total resident population of 23,129 across 11,113 private dwellings, throughout the 42 SALs surrounding the project (see Table 4-1). The Southern Section of the social locality has the largest population, with a total of 17,303 residents, as it encompasses 30 suburbs, including Gulgong and Mudgee which have comparatively large resident populations. In the regional social locality, the total resident population is 152,418, across the nine LGAs.

Within the local social locality, the proportion of men and women is even (50 per cent), which is consistent with the proportion of men and women within the regional study area, which is also 50 per cent.

Table 4-1 Local area population and dwellings (ABS, 2021)

	Southern Section	Northern Section	Western Section	Eastern Section	Total local social locality	Total regional social locality
Population	17,303	2,562	306	278	20,449	152,418
Dwellings	6,976	1,307	138	171	8,592	142,728

Overall, the regional population has grown 6 per cent from 2011 to 2021. Most LGAs have experienced an overall increase in population from 2011 to 2021, except for Narromine LGA (6 per cent decrease), Warrumbungle LGA (6.5 per cent decrease) and Gilgandra Shire LGA (4.3 per cent decrease).

Across the four LGAs within the local social locality, the total resident population increased by 9 per cent over 10 years.

The LGA with the largest population growth in the local social locality over 10 years was Dubbo Regional, which saw a 13 per cent increase from 2011 to 2021. The Upper Hunter LGA's population only increased 0.3 per cent from 2011 to 2021, after increasing by 2.2 per cent from 2011 to 2013 before decreasing again by 1.8 per cent from 2013 to 2021 (see Figure 4-1).

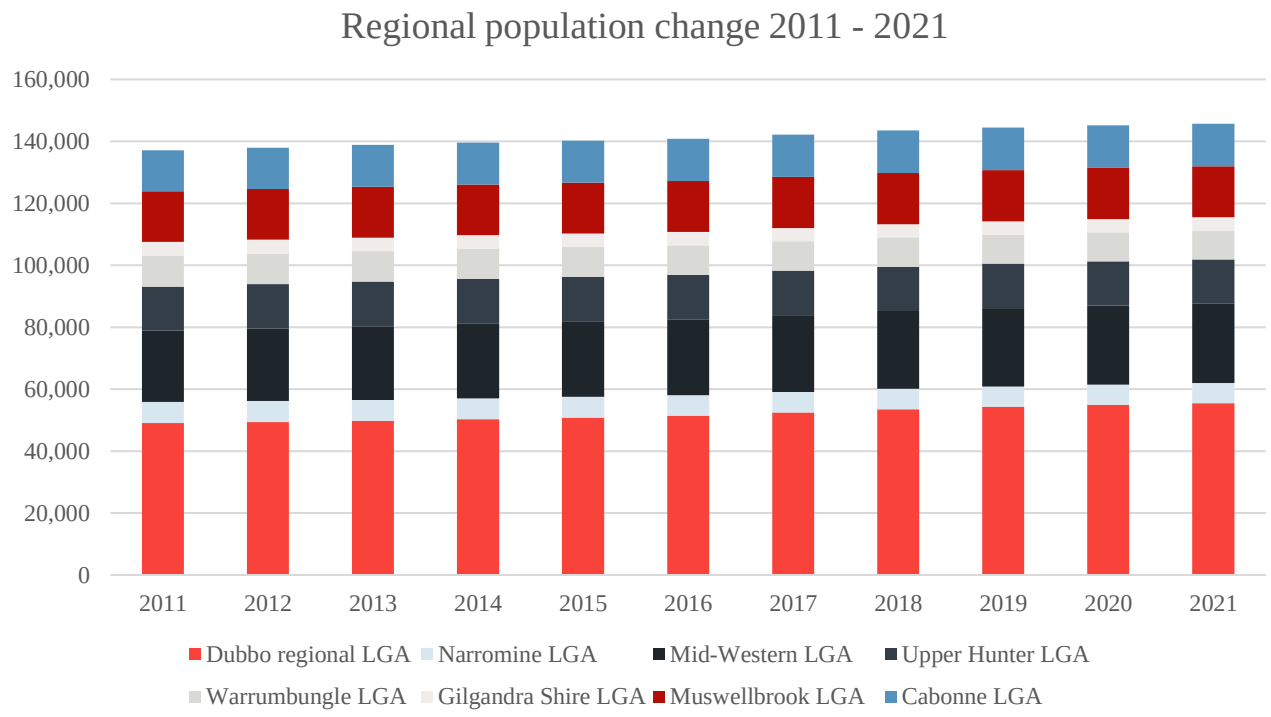


Figure 4-1 Regional population change 2011–2021 (ABS, 2021)

Note: Population changes from 2011–2021 was not available for Liverpool Plains LGA

4.1.2 Age

Figure 4-2 shows the breakdown of age groups in 10-year groups across the local and regional social localities.

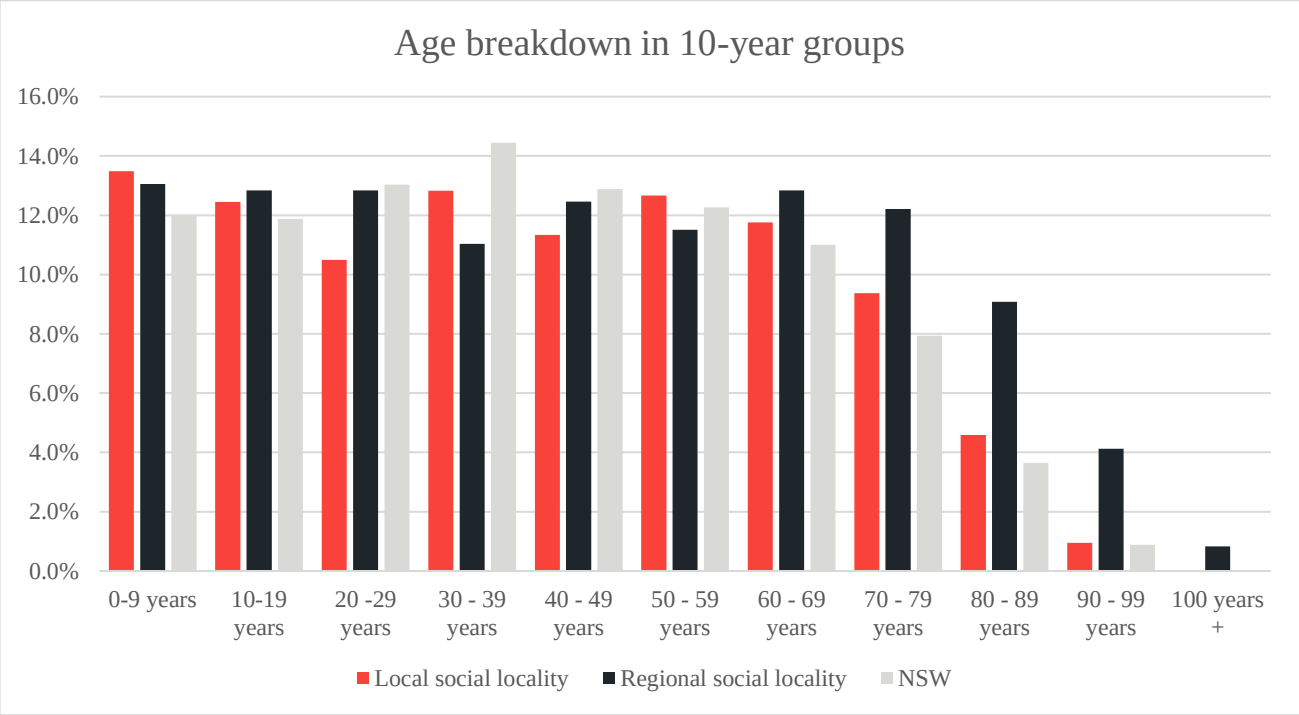


Figure 4-2 Age breakdown in 10-year groups (ABS, 2021)

When compared to NSW more broadly, there is a:

- slightly higher proportion of children aged 0 to 9 years old, and 10 to 19 years old in the local social locality (13.5 per cent and 12.4 per cent respectively) and regional social locality (12.2 per cent and 12.8 per cent)
- lower proportion of 20 to 29-year-olds in the local social locality (10.5 per cent)
- lower proportion of 30 to 39-years-olds in the local and regional social localities (12.8 per cent and 11 per cent)
- slightly higher proportion of 50 to 59-year-olds in the local social locality (12.7 per cent)
- higher proportion of 60 to 69-year-olds in the local social locality (13.8 per cent)
- higher proportion of 70 to 79-year-olds in the local social locality (9.4 per cent) and regional social locality (12.2 per cent)
- significantly higher proportion of 80 to 89-year-olds in the regional social locality (9.1 per cent) and slightly higher proportion in the local social locality (4.6 per cent)
- higher proportion of 90 to 99-year-olds (4.1 per cent), and people aged 100 and over (0.8 per cent) in the regional social locality.

The resident population in both the local and regional social localities has a comparatively higher proportion of age groups that are 50 and over, and a slightly lower proportion of age groups between 20 to 50. This may indicate a heightened need for easily accessible services, infrastructure, and health care within the local area, including aged care facilities, hospitals, general practitioners and specialists.

4.1.3 Aboriginal population

Within the local and regional social localities there is a comparatively high proportion of Aboriginal and/or Torres Strait Islander peoples, at 17 per cent within the local social locality and 12.1 per cent within the regional social locality, in comparison to NSW more broadly, where 3.4 per cent of the population identifies as Aboriginal and/or Torres Strait Islander.

The Southern, Northern, and Western Sections of the local social locality had a similarly high proportion of Aboriginal and/or Torres Strait Islander residents (7.7 per cent, 8.8 per cent and 7.5 per cent respectively), while the Eastern Section had a lower representation of Aboriginal and/or Torres Strait Islander residents (4.7 per cent).

4.2 Way of life

Way of life refers to ‘how people live, how they get around, how they work, how they play, and how they interact each day’ (DPE, 2023a). This section provides an overview of land use and key community values within the local social locality.

4.2.1 Land use

Land use in the local social locality surrounding the project corridor includes the following:

- grazing modified pastures and grazing native vegetation
- cropping and irrigated cropping
- perennial horticulture
- intensive animal production
- residual native cover and nature conservation
- rural residential without agriculture and urban residential
- production native forestry
- mining
- transport and communication
- manufacturing and industrial
- recreation and culture commodity.

The primary land uses within the local social locality are agricultural and residential. However, the regional social locality is used for a range of recreational, industry and residential purposes, which are described further throughout Sections 4.3.4, 4.4, 4.6, and 4.7.

Online survey findings identified that of the 75 people who answered the question 'what is the main use of your land':

- 63% answered only agricultural
- 19% answered agricultural and residential
- 15% answered only residential
- 2% answered other businesses and residential
- 1% only answered other business.

Respondents could select multiple options, hence 87.1 per cent (54 people) who used their property for agricultural purposes, reported the property was also their primary place of residence (of the 62 people who answered this question).

Most residential properties contained one dwelling (67 per cent/eight properties) followed by two dwellings (25 per cent/ three properties), and one property had three dwellings. Most agricultural properties had one dwelling (43 per cent/ 23 properties), followed by:

- two dwellings – 41 per cent/22 properties
- three dwellings – seven per cent/four properties
- four dwellings – four per cent/two properties
- five dwellings – four per cent/two properties
- six dwellings – two per cent/one property.

Two respondents noted they have heritage homes located on their properties and that they are used as residences. Fifty respondents (80.3 per cent) reported to have derived their primary source of income from their property.

4.2.2 Community values

Community values are diverse across the local and regional social localities, as identified during SIA consultation findings (see Section 5.2) and noted throughout relevant CSPs (see Section 2.4). Key reoccurring community values across the region include sense of community, sense of safety and friendliness, the natural landscape and environment, farming and agriculture, the heritage and history of the region, and community resilience and support.

In survey responses to the question 'what do you value most about your property and lifestyle?' most of respondents highlighted the natural landscape, surroundings, and agricultural potential of their property. A word cloud analysis (Figure 4-3) reported the following top five words used in survey responses to this question:

- view: 25.9 per cent of responses
- peace: 18.5 per cent of responses
- land: 18.5 per cent of responses
- beauty: 14.8 per cent of responses
- property: 14.8 per cent of responses.

Another notable community value that was raised by multiple stakeholders during SIA consultation was community cohesion. The rural, close-knit nature of the community was an important aspect of life for residents living in the local social locality, particularly given the challenging recent history of bushfires and flooding in the region (discussed further in Section 4.7.3). Furthermore, the long-standing multigenerational connection many families have to their properties and the local community has also contributed to many residents valuing community cohesion.

In addition to these key words, other factors the community raised as valuable to their property and lifestyle include privacy, nature, and the serenity of the social locality.

Moreover, the local social locality hosts a number of community events and festivals, including various local agricultural shows, arts festivals, sporting events, community gatherings and markets. Most events in the local social locality are held in and around Mudgee and Gulgong, and February and June are the busiest months of the year for local events. Many annual events in the region are popular tourist attractions, with attendees travelling to the area to attend (for further information see Appendix C).

Figure 4-3 Key words from survey response to property and lifestyle values

4.3 Livelihoods

Livelihoods refers to local and regional economies, and the people who rely on them. The SIA Guideline defines livelihoods to include 'people's capacity to sustain themselves through employment or business' (DPE, 2023a). This section provides an overview of employment, income, socio-economic advantage and disadvantage, businesses, and key industries within the local and regional social localities.

4.3.1 Employment

The ABS defines people as 'employed' if they work more than one hour or more in the reference week (at the time of census). Those 'not in the labour force' are defined by the ABS as 'persons aged 15 years and over, who are neither employed nor unemployed (without work, actively looking for work or available to start work)', including retirees or voluntary inactive people, people performing home duties or caring for children, students, people experiencing long or short term health conditions or disability and their carers, volunteers, people in institutions (hospitals, jails), people who are travelling, on holiday or on a leisure activity and those that are permanently unable to work.

In the local social locality, 45.5 per cent of those within the workforce were employed (including those who were employed part time, full time or were away from work), which was slightly higher than the regional social locality (44.9 per cent). Combined, the local and regional social localities had a comparable proportion of employed residents (45.9 per cent) compared to NSW more broadly (43.7 per cent).

The Northern Section of the local social locality had the lowest proportion of employed residents (38.6 per cent), likely due to the larger proportion of residents who are not in the labour force (31.4 per cent). There were no residents in the Western Section of the local social locality who stated they were unemployed. The proportion of unemployed residents in the Southern and Eastern sections were around 2.4 and 2.5 per cent respectively, which is about half that of NSW (4.9 per cent). This is likely due to the larger proportion of local and regional residents who stated they were not in the labour force (27 per cent and 26 per cent). This refers to those who are not actively looking for work, such as retirees and children. This may reflect the higher proportion of residents aged over 50 who are out of the workforce (see Table 4-2).

Table 4-2 Local employment (ABS, 2021)

Employment status	Southern Section	Northern Section	Western Section	Eastern Section	Total local social locality
Employed (part time, full time and away from work)	8,112 (46.9%)	989 (38.6%)	167 (54.6%)	121 (43.5%)	10,515 (45.5%)
Unemployed	374 (2.4%)	48 (2.7%)	0 (0%)	5 (2.5%)	480 (2.8%)
Not in the labour force	4,518 (26.1%)	805 (31.4%)	62 (20.3%	79 (28.4%)	6,236 (27%)

Note: employment data excludes residents younger than 15, and those who did not state their employment status or participation in the labour force.

The SALs within the local social locality with the highest levels of unemployment are:

- Guntawang (11.6 per cent)
- Goolma (5.5 per cent)
- Cope (5.4 per cent)
- Eurunderee (4.7 per cent)
- St Fillans (4.6 per cent)
- Yarrawonga (4.1 per cent).

Key industries of employment in the local social locality include 'agriculture, forestry and fishing', which represented 8.1 per cent of employment, and 'mining' which represented 15.9 per cent. In the Southern Section, mining represented a large proportion of local employment, at around 17.5 per cent. Agriculture, forestry and fishing was the dominant industry of employment in the Northern, Western and Eastern Sections (32.5 per cent, 45.5 per cent and 57 per cent respectively).

Table 4-3 demonstrates local employment within the key industries in the local social locality.

Table 4-3 Key industries of employment within the local social locality (ABS, 2021)

Industry	Southern Section	Northern Section	Western Section	Eastern Section	Total local social locality
Agriculture, forestry and fishing	4.1%	32.5%	45.5%	57.0%	8.1%
Mining	17.5%	3.0%	0.0%	6.6%	15.9%
Manufacturing	3.9%	0.8%	0.0%	0.0%	3.5%
Construction	7.6%	5.9%	7.2%	2.5%	7.3%
Accommodation and food services	8.1%	5.0%	0.0%	0.0%	7.7%

4.3.2 Income

The median weekly household income in the regional social locality ranged from $1,308 in Narromine LGA to $1,597 in Dubbo Regional LGA.

Within the local social locality household incomes varied significantly. Uarbry and Dunedoo SALs had particularly low median household incomes ($850 and $985 respectively), while Cumbandry and Guntawang had notably high median household incomes ($3,250 and $2,374 respectively), when compared to the NSW median which was $1,829.

In the local social locality, around a quarter of the population had a lower middle household income between $650 to $1,500 (23.6 per cent). In both the Northern and Western Sections of the local social locality, around 30 per cent of residents had a median weekly household income that was less than $650.

Only a small proportion of residents in the Northern, Western and Eastern Sections of the local social locality had a high median household weekly income ($2,500 or more) (1.8 per cent, zero per cent and 4.7 per cent respectively), except for the Southern Section, where around 18.7 per cent of residents had a high median household weekly income. Suburbs with notably low household weekly median incomes included Merotherie and Two Mile Flat, where almost half of all household's weekly median income was less than $650 (43.8 per cent and 47.8 per cent respectively), and the proportion of households in Moolarben with a 'low' median income was even higher at 66 per cent.

4.3.3 Socio-economic advantage and disadvantage

The Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) provides an overview of the socio-economic conditions of residents and households within an area, including relative advantage and disadvantage. A low IRSAD score indicates higher levels of disadvantage, whilst a high score will indicate high levels of advantage and relatively low levels of disadvantage (ABS, 2018). For example, a low score may indicate:

- more households with low incomes, or more people in unskilled occupations
- less households with high incomes, or less people in skilled occupations (ABS, 2018).

Overall, IRSAD scores demonstrate that the regional and local population are likely to experience heightened levels of socio-economic disadvantage (where one is the lowest and five is the highest). All SALs within the local social locality, and LGAs within the regional social locality sit between the first and third quintile, with no areas representing the fifth IRSAD quintile. SALs within the social locality with the lowest IRSAD scores (within the first quintile), and with the highest IRSAD scores (within the fourth quintile) are shown below in Table 4-4.

Table 4-4 Most and least socio-economically disadvantaged SALs in the local social locality (ABS, 2016)

SALs with the lowest IRSAD scores (within the 1st quintile)	**SALs with the highest IRSAD scores (within the 5th & 4th quintile)**
Southern Section: — Bungaba, Cope, Cumbandry & Yarrawonga (882) — Cumbo, Ulan & Wollar (894) — Cooks Gap (899) — Gulgong (903) — Turill (909) Northern Section: — Dunedoo & Cobbora (922)	Southern Section: — Eurunderee (1068) — Galambine (1057) — Goolma (1044) — Guntawang, Two Mile Flat & Mebul (1011) Western Section: — Spicers Creek (1045) — Gollan (1044) — Elong Elong (1040)

IRSAD scores in the regional social locality range from Gilgandra Shire, Liverpool Plains and Warrumbungle which are in the first quintile, to the Upper Hunter and Dubbo Regional which are in the third quintile. Cabonne LGA demonstrates a notably higher level of socio-economic advantage (when compared to other LGAs in the regional social locality) and sits in the fourth quintile. Table C-4 of Appendix C shows the IRSAD scores of each SAL and LGA in the local and regional social localities.

Figure 4-4 demonstrates the IRSAD quintiles across the local social locality.

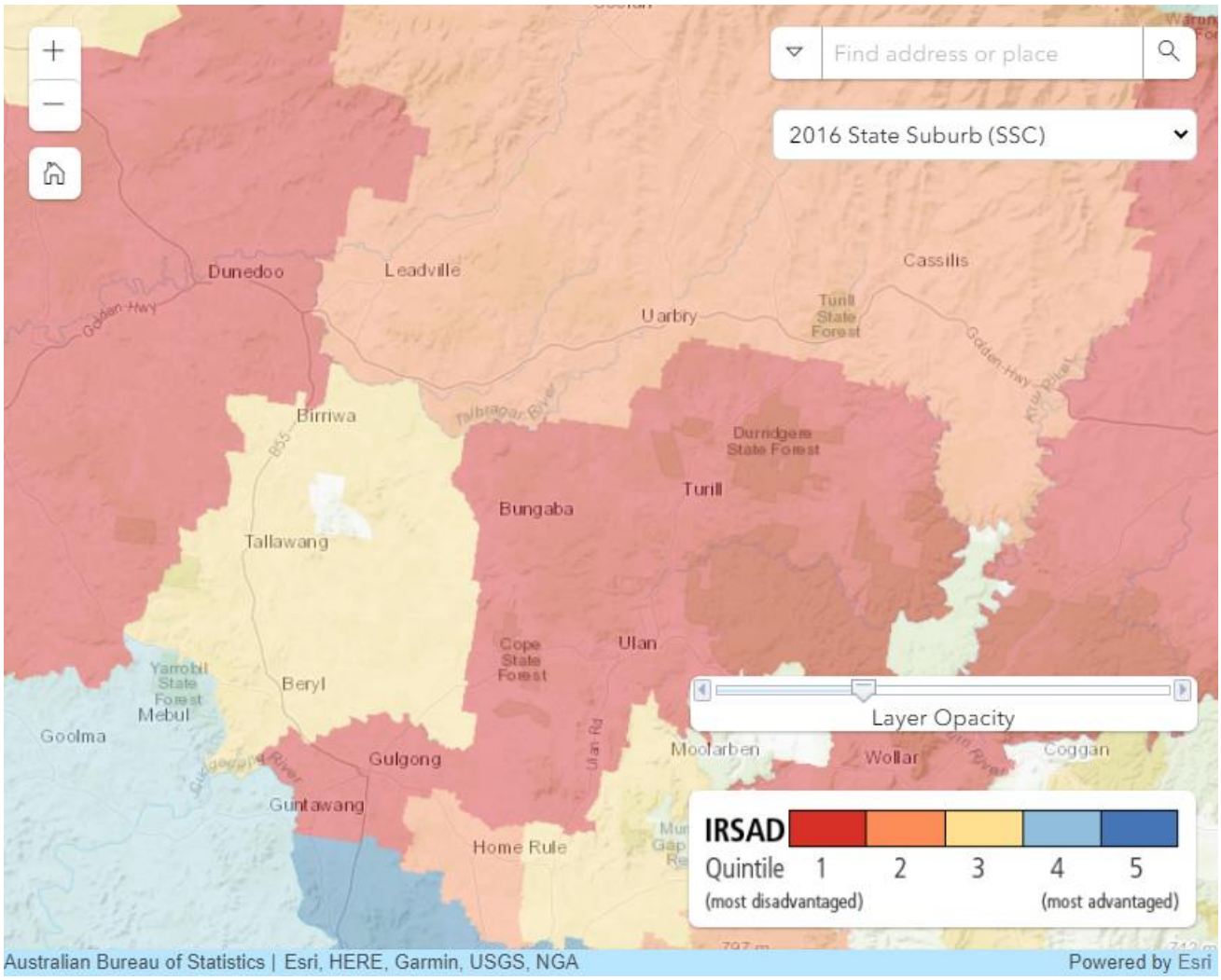


Figure 4-4 Map of IRSAD scores within the local social locality (ABS, 2016)

4.3.4 Local business, industry and economy

The Central-West Orana region has a diverse economy with an "opportunity for growth by major investments in the Inland Rail, Parkes Special Activation Precinct and the Central–West Orana Renewable Energy Zone (REZ)" (DPE, 2022c). Agricultural production occurs from the vast plains of the Orana in the north and west to the sub-alpine areas of the Central-West in the east, from intensive and irrigated crops – including vegetables, fodder, stone fruits, grapes and cotton – to extensive broadacre cropping, meat and wool production and forestry (DPE, 2022c). The Upper Hunter LGA supports a diverse range of agricultural industries, including beef cattle, dairy, equine and sheep.

4.3.4.1 Agriculture

Throughout the local social locality, 8.1 per cent of all employed residents worked in the Agriculture, Forestry and Fishing industry (as discussed in Section 4.3.1). In the regional social locality, 17.3 per cent of regional employment was in agriculture. As discussed in Section 4.3.1, employment within agricultural industry within the local social locality was notably higher than all other industries in the Northern Section, Western Section and Eastern Section. In a number of suburbs within the local social locality, over half the local population engaged in the labour force worked in the agricultural industry (see Figure 4-5).

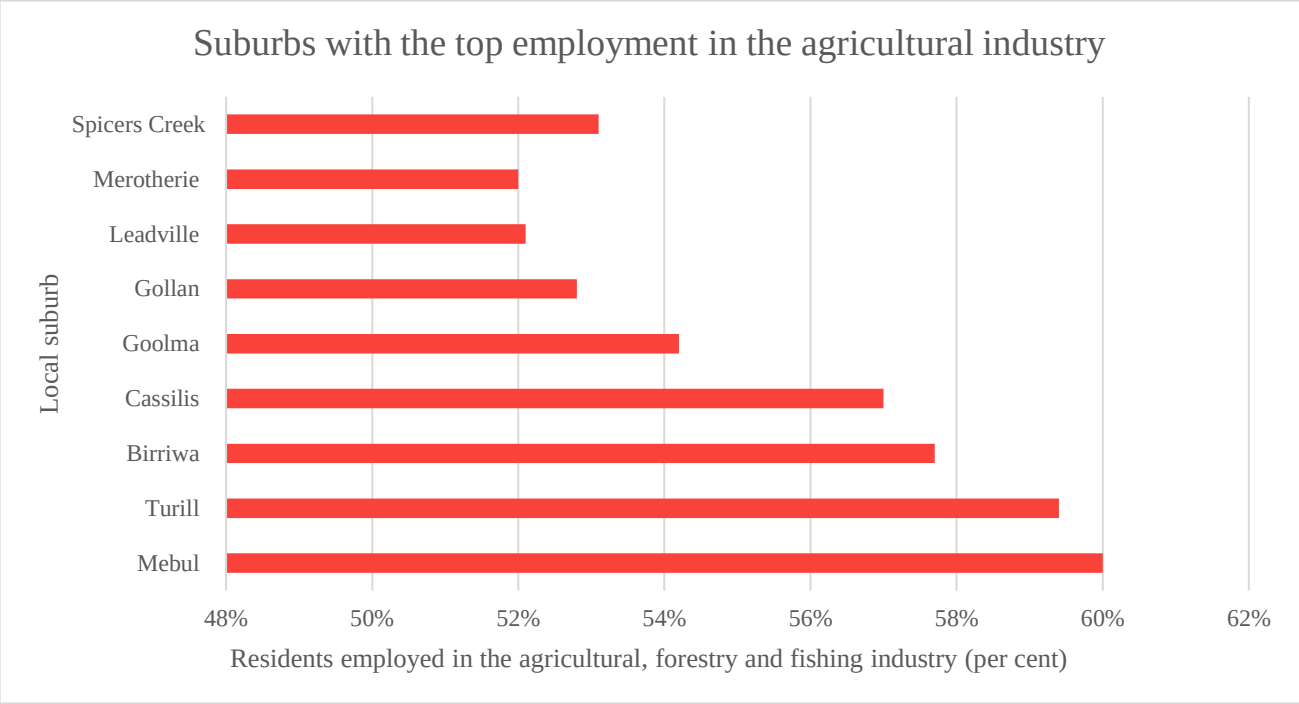


Figure 4-5 Suburbs with the top employment in the agricultural, forestry and fishing industry within the local social locality (ABS, 2021)

Key agricultural activities within the local social locality and within the project include livestock production and management (sheep and cattle for meat and wool), cropping (cash crops, and stock feed) and shearing.

4.3.4.2 Mining

The mining industry is the largest employer in the local social locality (15.9%). In the regional social locality, 7.4 per cent of regional employment was in mining. Suburbs with the highest proportion of residents engaged in the mining industry included Ulan (63.6 per cent), St Fillans (47.9 per cent) and Galambine (45.5 per cent).

The project intersects with three major mining operations in the local social locality (as discussed in Section 4.3.1 and in Table 4-5); the Ulan Coal Mine Complex, the Wilpinjong Coal Mine, and Moolarben Coal Mine. These mining operations are located within the Southern Section of the local social locality, which accordingly had the highest proportion of residents employed in the mining industry 17.4 per cent, as discussed in Section 4.3.1.

Table 4-5 Mining operations in the local social locality

Mine	Description
Wilpinjong Coal Mine	Wilpinjong Coal Mine (WCPL) is a Peabody-owned operation located around 48 km northeast of Mudgee. The Wilpinjong Coal Mine produces thermal coal for domestic and export markets (Peabody, 2022) and is spread over an area of around 2,800 ha. Mining operations at the site began in late 2006 and currently employees around 550 direct employees (MiningLink, 2022). The mine has approval to operate at rates of up to 16 million tonnes per annum of run-of-mine (ROM). The Wilpinjong Coal Mine have an active Community Consultive Committee (CCC), which acts as a communication forum between the community, the Council and the company. As per its Social Impact Management Plan, WCPL's priority areas of community donation are environmental, health care, community development, arts and culture, youth services, education, and diversity. In 2022–2023 Wilpinjong Coal Mine made a total of $17,500 in monetary donations and community sponsorships across youth services, diversity and community development.
Moolarben Coal Mine	Moolarben Coal Mine is a Yancoal-owned operation located around 5 kms to the northwest of the Wilpinjong Coal Mine. The Moolarben Coal Complex comprises four approved open cut mining areas, three approved underground mining areas and other mining related infrastructure. There are currently over 700 employees working at the Moolarben Coal Mine, including direct employees and contractors. At maximum production, the mine produces up to 10 million tonnes per annum (Mpta) of product coal. Moolarben Coal's Community Support Program has distributed over $1 million in community grants and sponsorships since 2010. Additionally, Moolarben Coal operates a CCC which aims to keep the community informed about mine progress and provide a forum for open discussion between Moolarben Coal representatives, the community, Mid-Western Regional Council and other stakeholders (Yancoal, 2022).
Ulan Coal Mine	Ulan Coal Mine is a Glencore operation producing thermal coal for export, located near the village of Ulan in central-west New South Wales, about 45 kilometres north-east of Mudgee. The Ulan coal mine is located directly to the north of the Moolarben Coal Mine, and is comprised of two underground mining operations, Ulan Underground and Ulan West. Mining began at the site in the 1920s. There are currently 660 employees and contractors working for the Ulan Coal Mine. At maximum production, the mine produces up to 20 Mpta of product coal. Current Glencore community partnerships include: — Mudgee High School Link Program – a mentoring and youth engagement program to guide disengaged youth into local employment or further school or TAFE study — Mudgee Charitable Workers project – where apprentices and volunteers undertake maintenance and improvements at local community facilities (Glencore, 2022).

4.3.4.3 Renewable energy

EnergyCo engaged the University of Technology Sydney (UTS) Institute for Sustainable Futures to undertake a study into potential skilled labour in the renewable energy sector surrounding the Central-West Orana REZ (EnergyCo, 2023a). A summary of the study is publicly available on the EnergyCo website (EnergyCo, 2023a).

The study identified skill shortages in a range of key occupations for the sector and the following challenges for workforce development in the Central-West Orana REZ:

- "…stakeholders [consulted as part of the study] reported that training facilities and access to training is inadequate and there are variations in access to training across the REZ (i.e. Dubbo is considered to be well serviced, but there is reduced access to training in smaller centres such as Dunedoo, Gilgandra and Warren)
- peak workforce demand for renewable energy and transmission projects is projected at around two-thirds of the existing workforce in common occupations (unspecified), which underlines the challenges in sourcing local labour from adjacent sectors for the renewable energy and transmission sectors
- there is limited surplus labour capacity within the Central-West Orana REZ due to low unemployment rates" (EnergyCo, 2023a).

Table 4-6 identifies recruitment challenges and skills shortages for key occupations, as outlined in the UTS skilled labour study.

Table 4-6 Recruitment challenges and skill shortages for key occupations

Occupation	Institute for Sustainable Futures Solar & Wind Farms Survey (2019-2020)	Institute for Sustainable Futures Transmission Construction Survey (2021)	National Skills Priority List: current NSW status/future national demand
	Degree of skills shortage	Degree of skills shortage	Degree of skills shortage
Construction manager	High	High	Moderate
Mechanical technician	Medium	Low	Strong
Electrical engineer	High	High	Moderate
Civil Engineer	High	Medium	Moderate
Electricians	Medium	Low	Strong
Transmission line worker	n/a	High	Moderate
Rigger	Low	Medium	Moderate
Crane operators	Medium	Low	Moderate

Source: Adapted from EnergyCo, 2023a

4.4 Accessibility

The SIA Guideline defines accessibility to include 'how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation' (DPE, 2023a). This section provides an overview of housing and tenure, transport and travel networks and telecommunications in the local and regional social localities. A summary of social infrastructure available in and surrounding the local social locality is also provided, including details of retail, education, social services, and health services accessible to the local community.

4.4.1 Housing and tenure

SIA engagement with landowners, community members and community organisations revealed that housing and tenure in the local social locality was limited, with the availability of rental housing being a key concern from communities, specifically in Dunedoo, Gulgong, Coolah and Mudgee.

The median house price in Dunedoo, which is in the Northern Section of the local social locality, was $289,500, which has increased by 17 per cent in the past 12 months. There were only two rentals available in Dunedoo as of 29 May 2023, which were $400 and $320 per week, and both had three bedrooms and one bathroom. In Gulgong (Southern Section) the median house price was $542,500 which saw a 16.7 per cent increase in the last 12 months. The median weekly rent in Gulgong was $450 per week, which was also a 7.1 per cent increase, and there were four houses available for rent as of May 2023 (RealEstate.com, 2023).

The median house price in Coolah (Northern Section) was $226,750, which saw an eight per cent increase in the past 12 months. There were no rental properties available in Coolah. Mudgee (Southern Section) is a notably larger town when compared to Dunedoo, Gulgong and Coolah, within the local social locality, and there were 62 rentals available. However, the median rental prices in Mudgee were notably higher, at $520 per week, which has increased by eight per cent in the past 12 months. The median house price was also higher in Mudgee at $697,000, which has increased by 20 per cent in the past 12 months (Realestate.com, 2022). Local Mudgee residents highlighted that short term tourist accommodation is very popular in Mudgee and has taken away some of the capacity of the local housing and rental market, as people are purchasing rental properties and using them as AirBnBs. A search of available AirBnBs revealed that there are around 435 homes in Mudgee (AirBnB, 2022).

Short-term accommodation options such as hotels and motels in the local social locality are concentrated in Mudgee (approximately 164 options), followed by Gulgong and Dunedoo (approximately 10 options) (Booking.com, 2023).

There was also a notable proportion of unoccupied private dwellings in the local social locality (ABS, 2021). In the Southern Section of the local social locality, 13.5 per cent of dwellings were unoccupied, in the Northern Section this was 16.0 per cent, in the Western Section 13 per cent, and in the Eastern Section 35.1 per cent of dwellings were unoccupied.

Consistent with the above findings, a report commissioned by EnergyCo to Umwelt (EnergyCo, 2023a) identified 'significant accommodation and housing supply constraints' in the regional social locality, including:

- a limited supply of medium density housing in the region
- a shortage of short-term housing stock
- outpaced demand for short-term accommodation versus supply
- dependency on tourism presents potential competition for accommodation.

A summary of the Umwelt report is publicly available on the EnergyCo website (EnergyCo, 2023a).

In regard to potential housing and accommodation opportunities within the Central-West Orana REZ, select locations within the Dubbo Regional Warrumbungle and Mid-Western Regional LGAs were identified as potential locations to support both long-term and temporary accommodation options, for the following key reasons:

- Dubbo Regional LGA: the City of Dubbo is strategically located as a service centre for surrounding townships, with access to the Dubbo airport. It has a diversified economy and there is predicted population growth. Dubbo is serviced by high-capacity developers and community housing providers and the local council is proactively seeking opportunities to manage population change.
- Warrumbungle LGA: has access to substantial Crown land, and the township of Dunedoo is strategically located in proximity to multiple proposed projects.
- The Mid-Western Regional LGA: similar to Dubbo, with the township of Mudgee strategically located as a service centre for surrounding townships. This LGA also has a diversified economy and predicted population growth. The area is serviced by high-capacity developers and community housing providers and the local council is proactively seeking opportunities to analyse and manage population change.

4.4.2 Social infrastructure

The region's population lives in a diverse network of centres and rural localities, which range in size from large regional centres to smaller towns and villages. Given the diversity of these towns and centres, this section refers to localities with a concentration of residents and services as 'servicing communities'. Residents within the local social locality rely on servicing communities for employment, services and social networks, and as such, may travel to and from towns on a frequent basis. An overview of retail, education, and health infrastructure is provided below.

4.4.2.1 Retail

Services are available in all regional LGAs, however residents within the local social locality may need to travel further into the regional social locality to access goods and services.

Dubbo is the central 'retail hub' for Dubbo Regional LGA, and likely for the regional social locality more broadly, and features a number of trades businesses, grocery stores, bottle shops, petrol stations, pharmacies, cafes, bars, restaurants, agricultural supplies, and a range of specialist stores.

Within the Mid-Western LGA, Mudgee is considered the 'regional hub' of the area, however Gulgong also features a main street with an IGA, restaurants, cafes, a pharmacy, a post office, an agricultural supply store, a newsagency, a real estate agent, a laundromat, a hardware store, and some local trades businesses. Mudgee features a number of stores, food outlets, and local businesses which are used by the local, regional and tourist population, including cafes, bakeries, restaurants, grocery stores, bottle shops, and speciality stores. Mudgee also has many local trades businesses, including mechanics, plumbers, builders, electricians, and gardeners. During SIA engagement, it was revealed that the capacity of local trades businesses in Mudgee was low due to the large amount of construction and development that is currently occurring in the region.

In the Warrumbungle LGA, Coonabarabran is the central 'regional hub' of the area, and similarly features a range of cafes, restaurants, petrol stations, trades (including mechanics, landscaping and earth moving), bottle shops, nursery and garden centres, and some agricultural supply stores (including an Elders).

In the Upper Hunter LGA, the towns with the most retail services are Merriwa, Scone and Murrunrundi, which all feature cafes, restaurants, petrol stations, grocery stores, bottle shops, pharmacies, trade and construction businesses, and agricultural supplies.

4.4.2.2 Education

The local social locality is relatively well serviced by primary schools, as highlighted during SIA engagement. There are childcare services available in Dunedoo, Gulgong, and Mudgee. There are 12 primary schools within the local social locality, eight of which are State schools, and four of which are private. For secondary schooling, some students in the local social locality would likely need to travel further to get to school, as there are only four high schools in the local social locality, a State school in Gulgong, a State combined primary and secondary school in Coolah, a private combined school in Mudgee, and a state high school in Mudgee. The area is also relatively well serviced by school buses; however, many families drive their children to and from the bus stop.

Tertiary education campuses in the regional social locality include the Dubbo TAFE, the Charles Sturt University in Dubbo, TAFE Mudgee, TAFE Dunedoo, TAFE Coonabarabran, TAFE Scone and the Hunter Region Innovation Precinct. During SIA engagement, local residents highlighted that the courses available at institutions within the regional social locality were limited, and some students choose to attend university or further study in Bathurst, Orange, Newcastle and Sydney.

4.4.2.3 Health, medical and emergency services

The regional social locality has relatively good access to health, medical, and emergency services and infrastructure. However, there are limited services available within the local social locality, and residents need to travel to other regional hubs to access specialist services. Community feedback from the SIA engagement indicated a perception that health services within the local social locality were severely under resourced and at capacity. Some community members stated that general practitioners in the area do not have capacity for any additional patients. Table 4-7 details the main hospitals, general practices, and emergency services within each of the LGAs intersected by the project.

Table 4-7 Health services and infrastructure in the regional social locality

Service	Dubbo Regional LGA	Mid-Western Regional LGA	Warrumbungle LGA	Upper Hunter LGA
Hospital	Dubbo Base Hospital Dubbo Private Hospital Lourdes Hospital	Mudgee Hospital Rylstone District Hospital	Coolah Multi-Purpose Service	Merriwa Multi-Purpose Service Wilson Memorial Hospital Murrurundi Hospital Scott (Scone) Memorial Hospital
Doctors	Dubbo Family Doctors Dubbo Medical & Allied Health Group Dubbo Care Family Practice Delroy Park Medical Centre Gumtree Medical Practice Macquarie Health Collective Macquarie Valley South Dubbo Family Medical Practice Dubbo Family Doctors	Mudgee Health Service Mudgee Drive Through Clinic South Mudgee Surgery Stride Health Mudgee Respiratory Clinic South Mudgee Surgery	Warrumbungle Medical Centre Coolah Valley Medical Centre Coonabarabran Primary and Community Health Dunedoo Family Medical Service Dunedoo War Memorial Health Service	Scone Medical Practice Hunter Medical Practice

Service	Dubbo Regional LGA	Mid-Western Regional LGA	Warrumbungle LGA	Upper Hunter LGA
Ambulance Services	NSW Ambulance	NSW Ambulance – Mudgee Gulgong Ambulance Station	Gulgong Ambulance Station NSW Ambulance – Dunedoo and Coolah	NSW Ambulance Services in Merriwa, Scone, and Murrurundi
Police Services	Dubbo Police Station	Mudgee Police Station	Coonabarabran Police Station Binnaway Police Station Coolah Police Station	Police Stations in Merriwa, Scone, and Murrurundi
Fire Services	Fire and Rescue NSW Dubbo Fire Station Fire and Rescue NSW Delroy Fire Station NSW Rural Fire Service	Fire and Rescue NSW Mudgee NSW Rural Fire Service – Cudegegong District NSW Rural Fire Service – Mudgee	Fire and Rescue NSW Coonabarabran Fire Station Rural Fire Service Brigade Station Binnaway Fire and Rescue NSW Dunedoo Fire Station	Fire and Rescue NSW Merriwa Kingdon Ponds Rural Fire Brigade Fire and Rescue NSW Scone Fire Station Fire and Rescue NSW Murrurundi

4.4.3 *Transport and travel networks*

As identified during SIA engagement, the local road networks are frequently used by local residents, businesses, farmers, and mines in the region. A major concern within the community is the quality of the local roads and highways, which have been severely damaged due to rain and flooding conditions, as well as a long-term lack of maintenance and upkeep. Table 4-8 details the key road, rail and air networks within each of the LGAs intersected by the project.

Table 4-8 Key transport and travel networks

	Dubbo Regional LGA	Mid-Western Regional LGA	Warrumbungle LGA	Upper Hunter LGA
Key Roads	Newell Highway Cobbora Road Mitchell Highway	Castlereagh Highway Sofala Road Goolma Road	Great Western Highway Castlereagh Highway Golden Highway New England Highway Newell Highway	New England Highway Golden Highway Wollara Road Ulan Road Bunnan Road
Rail	Passenger rail line with Dubbo Station listed as a heritage site	Two active freight railways lines (ARTC) within region, including: — Sandy Hollow-Gulgong railway – a single track rail line extending between Muswellbrook and Gulgong — Wallerawang-Gwabegar – a single track rail line extending between Gulgong and Binnaway.	No rail	Upper Hunter Country Rail Trail – in progress

	Dubbo Regional LGA	Mid-Western Regional LGA	Warrumbungle LGA	Upper Hunter LGA
Airport	Dubbo City Regional Airport Bodangora Airport	Mudgee Airport	Coonabarabran Airport	Scone Memorial Airport

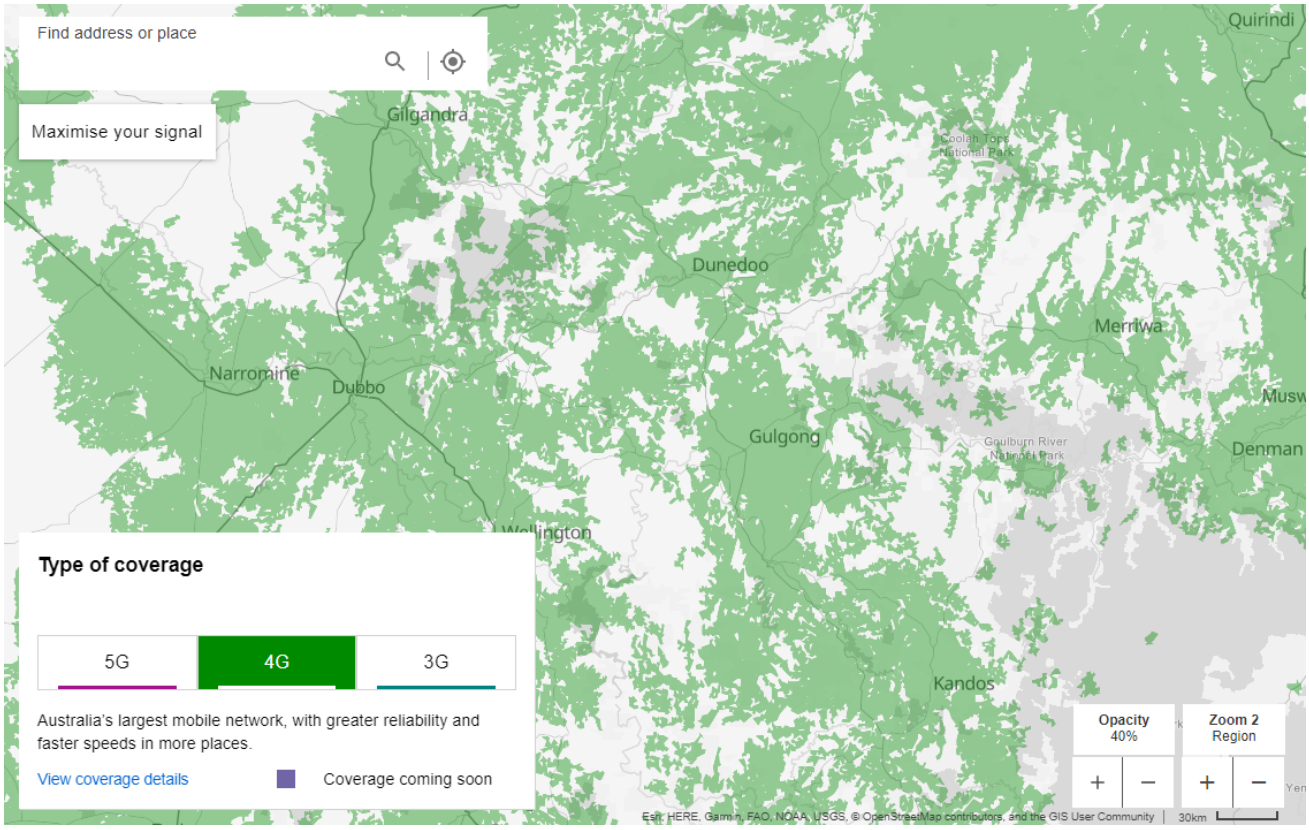
4.4.4 Telecommunications

The local social locality has limited mobile reception and connectivity, however houses in the area are eligible to connect to the National Broadband Network (NBN). During SIA engagement, it was raised that the community of Turill is a connectivity 'black spot' due largely to the 2017 Sir Ivan's fire, which damaged the copper lines. As such, many residents in Turill rely on satellite telecommunications, despite the large expense associated with these services.

Mobile phone coverage is fragmented across the local social locality, with large coverage gaps within the project area and surrounding communities, particularly to the east. Figure 4-6 shows the Telstra 4G network coverage within the local social locality, which has the largest coverage. Communities that do not have mobile connectivity (in addition to Turill) include Wollar, Uarbry, Tichular, Cumbo, and Moolarben.

EnergyCo commisioned Agama Group to identify challenges and potential opportunities to improve mobile coverage. The study identified different levels of telecommunication coverage in the Central-West Orana REZ between providers. The study found that Telstra has extensive coverage, Optus has limited coverage and Vodafone/TPG has minimal coverage (EnergyCo, 2023a).

Stakeholder feedback informing the study reported that mobile coverage in the region is less than what is indicated by coverage maps and that the lack of mobile coverage can impact worker safety, noting that radios are not always a suitable alternative (EnergyCo, 2023a). This finding is consistent with feedback obtained during SIA engagement.



Source: Telstra, 2023

Figure 4-6 Telstra 4G network coverage within the local social locality

4.5 Health and wellbeing

Health and wellbeing is defined as 'physical and mental health, especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health' (DPE, 2023a). This section provides an overview of vulnerable groups, and pre-existing health conditions in the local and regional social localities.

4.5.1 Vulnerable groups

As discussed in Section 4.1.2, the social locality population has a comparatively high proportion of elderly residents, which was confirmed during SIA engagement. Many of the long-term residents in the region have a deep personal and familial connection to the land, due largely to the prominence of multigenerational farming, and as such a notable proportion of older people choose to stay on their properties as they get older. However, given the lack of accessible health services in the local social locality, older residents may be less likely to seek out appropriate treatment and support, and could be considered more vulnerable in the local social locality.

People requiring assistance, which may include those with a disability or the elderly, make up 6.2 per cent of residents in the Southern Section, 6.9 per cent in the Northern Section, 4.6 per cent in the Western Section, and 6.1 per cent of residents in the Eastern Section. This is in line with the broader NSW proportion of those requiring assistance, which was six per cent.

Other potentially vulnerable groups identified during engagement included homeless residents, or those struggling to seek rental accommodation. As described in Section 4.4.1, rental availability is limited in the local social locality, and housing and rental prices have notably increased across the region in the past 12 months. There are no affordable housing services in the local social locality.

4.5.2 Pre-existing health conditions

Long term health conditions such as asthma and mental health were both comparatively common conditions in the local social locality (nine per cent and 9.4 per cent respectively), which was in line with NSW more broadly (9.9 per cent and 9.2 per cent). The Western Section had the highest proportion of residents with asthma (11.8 per cent) and mental health conditions (12.4 per cent) within the local social locality. There was a higher prevalence of residents with long term lung conditions in the Northern and Eastern Section (three per cent and 3.6 per cent) when compared to NSW (2.8 per cent) (see Table 4-9).

Table 4-9 Long term health conditions in the local social locality (ABS, 2021)

Long term health condition	Southern Section	Northern Section	Western Section	Eastern Section
Asthma	9.3%	9.9%	11.8%	10.4%
Dementia	0.8%	0.7%	0.0%	0.0%
Lung condition	2.6%	2.8%	0.0%	3.6%
Mental health	9.4%	6.8%	12.4%	5.0%

4.6 Culture

Culture refers to ‘shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings’ both Aboriginal and non-Aboriginal (DPE, 2023a). This section provides an overview of Aboriginal culture in the local social locality.

4.6.1 Aboriginal culture

The project is located on Wiradjuri and Gomeroi/Kamilaroi Country (Figure 4-7).

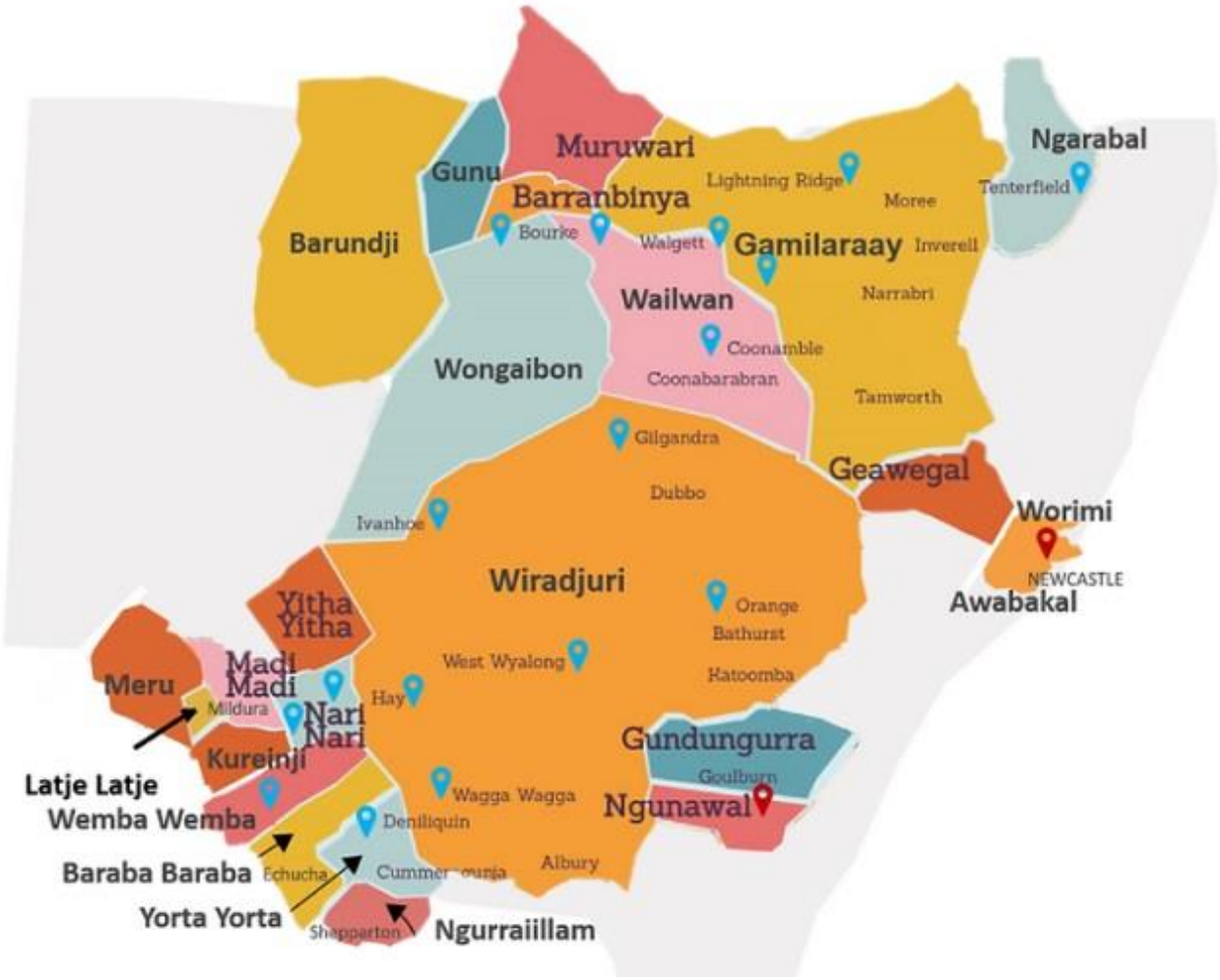


Figure 4-7 NSW language group map (Reconciliation Australia, 2022)

Wiradjuri Country encompasses the land to the southwest of the project and includes the township of Dubbo. The Wiradjuri Nation is geographically the largest Indigenous Nation within NSW, extending from around Coonabarabran in the North, along the Great Dividing Range down to the Murray River and out to western NSW. In NSW today there is a large population of Wiradjuri Peoples, both living on Country within this region, and throughout the broader State and in Sydney (Murray Lower Darling Rivers Indigenous Nations (MLDRIN), 2022).

Kamilaroi (also known as Gamilaraay or Gomeroi) Country is located to the north of the project, encompassing towns such as Dunedoo and Coolah, which are acknowledged to be on traditional land of both the Wiradjuri and Kamilaroi peoples (Aussie Towns, 2022). The Kamilaroi are the second largest Aboriginal nation by area in NSW, with the Wiradjuri being the largest. There is a large population of Kamilaroi peoples spread along the east coast of Australia (Tourism Moree, 2022).

There are three active Native Title claims that intersect the construction area; the Warrabinga-Wiradjuri #7 claim to the south, the Warrabinga Wiradjuri #6 claim which encompasses a small area within the #7 claim around Wilpinjong and Wollar, and the Gomeroi People claim to the north (see Figure 4-8).

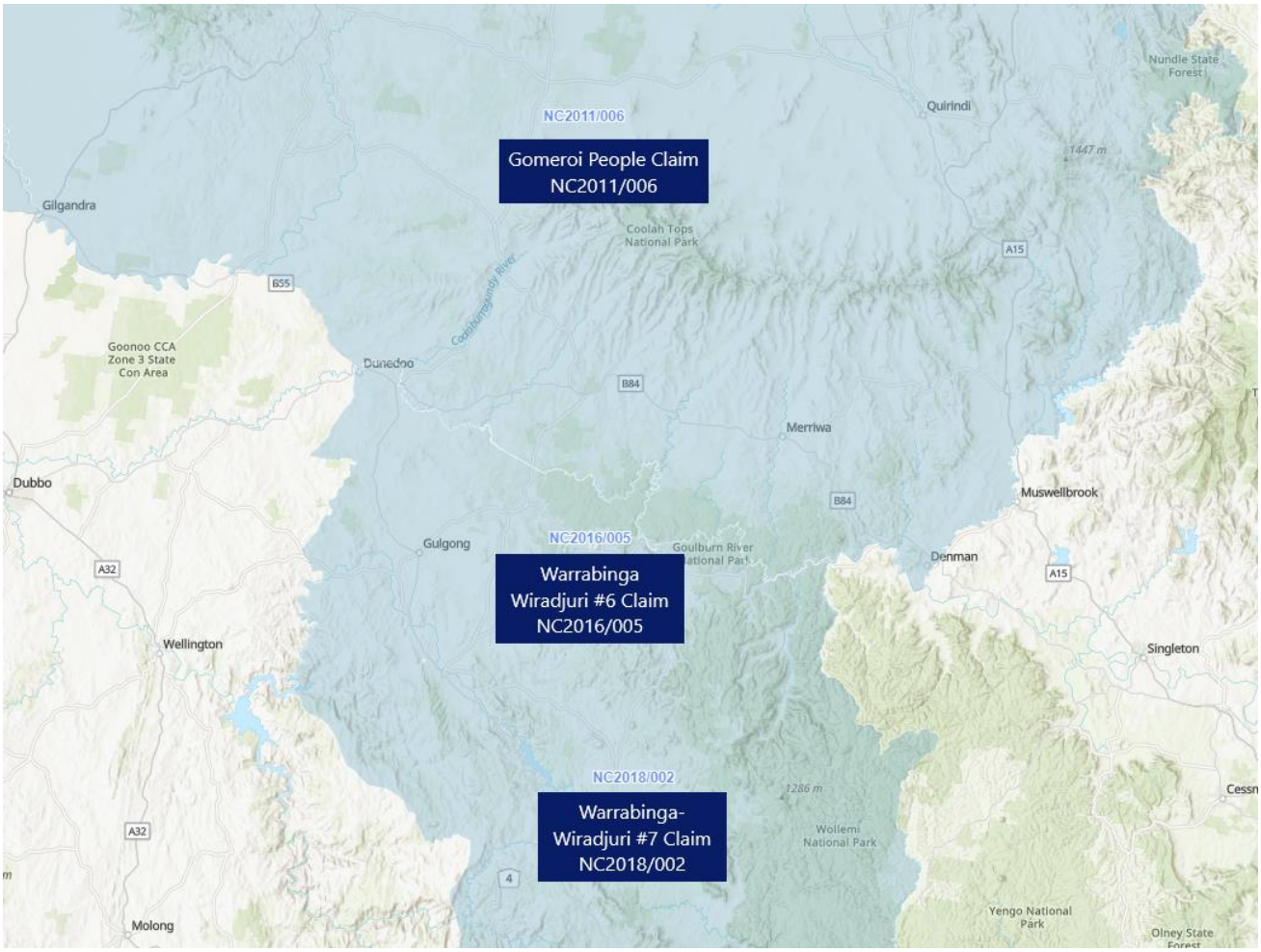


Figure 4-8 Active native title claims within the local and regional social localities (National Native Title Tribunal, 2023)

The local social locality intersects the following Local Aboriginal Land Council (LALC) regions; Mudgee Gilgandra Dubbo and Walhallow LALCs.

Table 4-10 provides a summary description of their location and objectives.

Table 4-10 Summary of LALCs within the local social locality

LALC	Description
Mudgee	The majority of the project is located in the Mudgee LALC area, which encompasses the Mid-Western Regional LGA and parts of the Upper Hunter and Warrumbungle LGAs. Mudgee is located on Wiradjuri Country and the Mudgee LALC recognises the Wiradjuri peoples as the Traditional Owners of the land on which they operate. Opening in 2003, the Mudgee LALC has worked to establish good relationships within the wider community. It continues to work towards expanding its asset base to allow it to fulfill its functions and achieve its economic, cultural and social goals (Mudgee LALC, 2023). Mudgee LALC's vision is to 'develop corporate and social strategies to promote self-sufficiency and economic development of our Council whilst maintaining and promoting cultural integrity, respect and pride for Aboriginal people within our society' (Mudgee LALC, 2023). Mudgee LALC offers the following services: — heritage assessments including Aboriginal Cultural Heritage Surveys and monitoring — cultural workshops and program facilitation.
Dubbo	The project intersects the Dubbo LALC area to the west. The Dubbo LALC area encompasses the Dubbo Regional LGA and parts of the Warrumbungle LGA. The Tubbagah People of the Wiradjuri Nation are Dubbo's Traditional Owners (Aboriginal Housing Office (AHO), 2023). With Aboriginal people making up 16.7 per cent of Dubbo's local population (ABS, 2021), there are many iconic events, sites and landmarks across the City that represent Aboriginal tradition and heritage. The Red Ochre Festival is an annual celebration of Aboriginal culture and heritage, including music, arts and children's activities. The museum and galleries of the Western Plains Cultural Centre, Dubbo, showcase indigenous artworks and capture the history of the Tubbagah People. Traditions of the First Nations people can be seen at the Terramungamine Reserve, including examples of Aboriginal grinding grooves used by the Tubbagah People of the Wiradjuri tribe to sharpen tools (AHO, 2023).
Gilgandra	A portion of the project to the north intersects the Gilgandra LALC area. Amongst a number of services, the Gilgandra LALC provides affordable accommodation for local Aboriginal families and individuals who are members of the Land Council, through the Gilgandra Aboriginal Housing Services. According to the Gilgandra Shire Council (2023), Gilgandra means 'long water hole', and the traditional custodians of our ancient land describe Gilgandra as being a meeting place between the Wiradjuri, Kamilaroi and Wailwan nations.

LALC	Description
Walhallow	Only a small portion of the northern end of the project intersects with the Walhallow LALC area. The Walhallow LALC area encompasses parts of the Liverpool Plains, Gunnedah, Warrumbungle and Upper Hunter LGAs. Walhallow is the site of a former Aboriginal reserve and was previously known as "Caroona" mission. It was first gazetted in 1895 following an application made a year previously to the Aboriginal Protection Board. The initial area gazetted was 150 acres (61 ha) and this was expanded to 230 acres (93 ha) in 1899. The reserve was revoked in 1962 but the residents were permitted to remain under permissive occupancy until 1973 when the land was transferred to the Aboriginal Lands Trust under the *Aboriginal Act (NSW) 1973* (Taylor, 1999). The village consists of 42 houses of brick and tile construction. Since 1979, construction of these houses replaced timber and fibro houses built in the 1940s. Management of these houses is divided between two corporations; 23 houses by the Walhallow LALC and the remainder by the Walhallow Aboriginal Corporation. The village also has a community hall, church and a primary health post (clinic). The former health post building is now used as the Community Development Employment Project (CDEP) offices. Walhallow Public School is one of only five schools in NSW with an all-Aboriginal enrolment.

4.7 Surroundings

Surroundings refers to the built and natural environment that people inhabit, including ‘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’ (DPE, 2023a). This section provides an overview of the landscape, natural environment and climate in the local and regional social localities.

4.7.1 Landscape

The Central-West Orana region is characterised by its “diverse landscape of rugged mountains, floodplains, wide valleys and Ramsar wetlands, ranging from protecting waterbirds, fish and water plants to investigating renewable energy zones” (DPE, 2022c).

The landscape surrounding the project can be defined as rural and consists of agricultural paddocks and fields, residential homesteads, and large-scale open-cut and underground coal mines. The local social locality surrounding the project is also intersected by a number of nature reserves, state forests and national parks that intersect the project (as shown in Figure 4-9). These include:

- Munghorn Gap Nature Reserve
- Goulbourn River National Park
- Goulbourn River State Conservation Area
- Goonoo State Conservation Area
- Cobbora State Conservation Area
- Dapper Nature Reserve
- Yarrobil National Park
- Goodiman State Conservation Area
- Durridgere State Conservation Area (NSW National Parks and Wildlife Service (NSW NPWS), 2022).

The local social locality features rolling hills, valleys and open landscapes where vegetation has been cleared for agricultural purposes. Due to the appealing landscape and attractions, the Mudgee area is a well-established tourism location well known for its local wineries, and features a scenic driving route along Henry Lawson Drive that allows visitors to visit a number of wineries and vineyards within a short drive from the town’s centre.

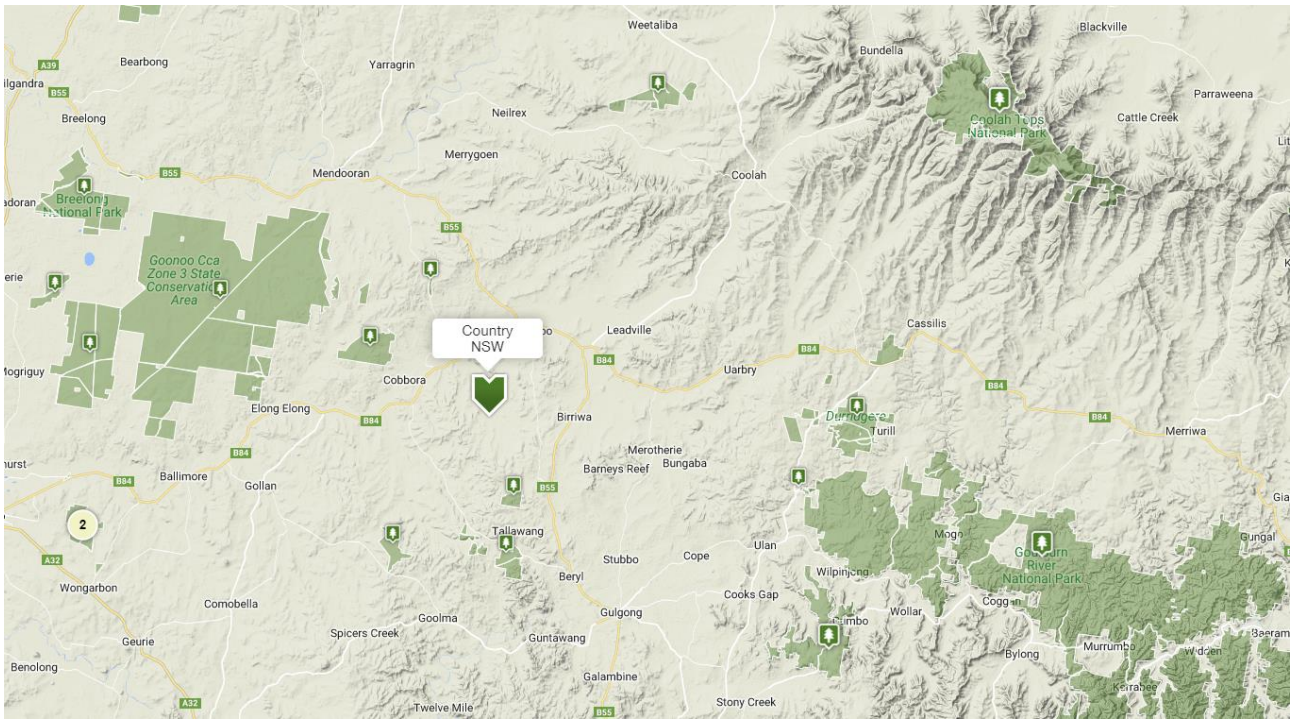


Figure 4-9 NSW NPWS parks, reserves and conservation areas (NSW NPWS, 2022)

4.7.2 Natural environment

The Central-West Orana region supports a variety of flora and fauna across diverse natural ecosystems, including the western edge of the Great Dividing Range and the semi-arid floodplains of western NSW (DPE, 2022c). However, due to the dominant use of land for purposes such as agriculture, a large proportion of the vegetation in this region has been cleared and modified for agriculture, ranging from pastoralism to broad-acre cropping and irrigation (DPE, 2022c). During engagement, residents highlighted the aesthetic beauty and natural significance of local flora and fauna, including owls, kingfishers, wombats, and quolls.

4.7.3 Climate

The *Central West and Orana Climate change snapshot* (Office of Environment and Heritage, 2014), highlights the overall temperature increases in the region since 1970. The Climate change snapshot further states the region "currently experiences considerable rainfall variability across regions, seasons and from year-to-year and this variability is also reflected in the DPE projections".

The local and regional social localities are vulnerable to flooding, with recent major flash flooding occurring in and around Gulgong in October 2022. Flooding within the local social locality has historically led to traffic disruptions and road closures, including the inundation of the Castlereagh Highway (Mid-Western Regional Council, 2022).

The local and regional social localities have been severely impacted by some of the worst NSW bushfires in the past 5 years, notably the Sir Ivan Fire in February 2017 and the Gospers Mountain Fire in December 2019.
The Gospers Mountain Fire was the largest bushfire to occur in Australia, burning 444,000 hectares in NSW, where it was primarily contained within the Goulburn River National Park (SMH, 2019). The Sir Ivan Fire in 2017 burned approximately 55,000 hectares within the Warrumbungle LGA, reportedly damaging 5,700 km of fencing, killing 2,000 sheep, 56 cattle, 90 goats, 26 dogs and cats, 36 poultry and three alpacas. The fire also destroyed 35 homes (including homes near the construction area), a church, a community hall and 131 outbuildings, with an additional 11 homes and 42 buildings damaged. The Sir Ivan Fire had a major impact on many of the communities and residents within the local social locality, particularly in the Northern Section (Australian Disaster Resilience, 2017).

Bushfire risk consultants Blackash define the climate in the local social locality as 'varied with warm to temperate conditions in the western and northern areas and temperate to cool at higher elevations' (Blackash, 2023). The local social locality is covered by five Bush Fire Management Committees, which are Cudgegong, Orana, Castlereagh, Liverpool Range and Warrumbungle, and the bushfire risk period typically runs from early October to late March. Additionally, dry lightning storms occur frequently during the bushfire season. Periods of higher temperatures and lower humidity lasting several days also occurs during the bushfire season. Consequently, there are many areas within the local social locality that are designated Bushfire Prone Land (Blackash, 2023).

4.8 Decision-making systems

The SIA Guideline defines decision-making systems to include 'the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms' (DPE, 2023a). This section provides an overview of consultation that has occurred in the local and social locality in relation to the Central-West Orana REZ and its associated projects.

4.8.1 Central-West Orana REZ consultation

As discussed in Section 1.1, the project is located within the Central-West Orana REZ, which was formally announced to the community by the (then) Minister for Energy and Environment on 5 November 2021 (EnergyCo, 2022a). The Central-West Orana REZ area spans approximately 20,000 km^2, and encompasses the local social locality. Within the local social locality there are two existing projects: the Beryl solar farm and the Bodangora wind farm. Additionally, there are currently 19 proposed renewable energy projects within the local social locality, including 12 solar projects, six proposed wind projects and one proposed Battery Energy Storage System (BESS) (EnergyCo, 2022b), all at various stages of environmental assessment and determination.

EnergyCo has been engaging with the community regarding the Central-West Orana REZ since early 2022.

Consultation to date has revealed that residents of the local and regional social localities have experienced significant consultation fatigue, as each of these renewable energy projects have required some level of community and stakeholder consultation. There is a total of 21 renewable energy projects within the local social locality at different stages of planning approval, design and development. Of these, the 14 have already undertaken consultation for their EISs; including:

- Liverpool Range wind farm
- Valley of the Winds wind farm
- Narragamba solar farm (formerly known as Stubbo solar farm)
- Birriwa solar farm
- Tallawang solar farm
- Wellington south battery energy storage system
- Apsley battery energy storage system
- Forest Glen solar farm
- Dunedoo solar farm
- Uungula wind farm
- Maryvale solar farm
- Geurie solar farm
- Dubbo solar farm
- Wahroonga solar farm.

The remaining seven renewable energy projects in the local social locality (which are currently under scoping or pre-EIS) would require some level of engagement to inform their EIS in seeking planning approval.

5 Engagement

This chapter summarises the key findings of engagement activities led by EnergyCo to inform the EIS and targeted SIA engagement.

5.1 EIS engagement

EIS consultation identified a number of community views, concerns, and questions relating to the project. Table 5-1 details key issues identified in EIS consultation findings which are considered relevant to the SIA. EIS Chapter 5 (Community and stakeholder engagement) provides a full discussion of EIS consultation activities and community views.

Table 5-1 Relevant key issues for SIA extracted from EIS engagement

Social impact category	Community and stakeholder perceptions of impacts relating to the project	Where addressed in this paper
Community	Concerns regarding potential impact to the sense of community and social cohesion due to an influx of non-resident workforce, such as increased demand for services	Sections 6.1 and 6.4
Way of life	Concern regarding impacts to agricultural activities during construction and operations, including access disruptions	Sections 6.2, 6.5, 7.2 and 7.3
Culture	Potential impacts to Aboriginal cultural heritage during construction	Section 6.6
Livelihoods	Potential economic opportunities for local businesses	Section 6.3
Health and Wellbeing	Concerns regarding an increased bushfire risk during operations, namely the potential for transmission lines providing a source of ignition, and potential disruptions to firefighting due to the location of infrastructure	Section 7.5
Health and Wellbeing	Potential health impacts associated with EMFs	Section 7.5
Accessibility	Potential impacts on telecommunications near the transmission infrastructure, e.g., interference with radiocommunication, internet and television reception	Section 7.4
Surroundings	Potential biodiversity impacts, including on wildlife, threatened species habitat and remnant vegetation	Section 7.6
Decision-making	Concerns regarding the adequacy and timeframe of consultation activities, including with impacted landholders and the wider community	Section 6.8
Decision-making	Uncertainty regarding the project, including issues such as changes to project design and confusion regarding the reasoning, lack of detail surrounding property acquisition and processes for technical/environmental studies	Sections 6.5 and 6.8

5.2 Targeted SIA engagement

Engagement findings are a critical input to the assessment of the magnitude of social impacts. Table 5-2 provides a summary of the key issues and expectations raised by respondents during face-to-face and online engagement activities carried out by the SIA team. Detailed feedback summaries for each stakeholder group are provided in Appendix D.

Respondents were asked:

- their perceptions of potential positive and negative impacts of the project based on the information they had received up to that point; and
- to provide suggestions for how their concerns could be addressed and how benefits could be maximised by EnergyCo.

Where practicable community and stakeholder recommendations have informed the management and enhancement measures outlined in Chapter 8. Table D-4 in Appendix D summarises these recommendations and provides cross-references to the management measures that have been influenced by community and stakeholder feedback.

Engagement findings associated with potential cumulative impacts of the project are addressed in Chapter 20 (Cumulative impacts) of the EIS.

Table 5-2 Key issues identified in SIA engagement

Social impact category	Community and stakeholder perceptions of impacts relating to the project	Where addressed in this paper
Community	— Changes to community cohesion as a result of conflicting views around the project, and that community cohesion was already diminishing as a result of the REZ and associated projects.	Section 6.1.1
Community	— Increased pressure on an already constrained accommodation market as a result of the influx of non-resident workers, affecting the lower socio-economic demographic and the tourism industry.	Section 6.1.2
Community	— Disruption of the existing sense of community from the large influx of non-resident workers, and cumulative impact of other REZ project's workforces.	Section 6.1.3
Way of life	— Disruption of the existing 'peace and quiet' of the surrounding landscape from construction activities, and that this may be more acutely felt by landowners hosting infrastructure and residing adjacent to the construction area who work and live on their properties.	Sections 6.2.1 and 6.7.1
Way of life	— Potential traffic delays and impaired mobility for farming operations as a result of construction traffic.	Section 6.2.2
Livelihoods	— Economic livelihood improvements and opportunities including local employment and procurement are important to the community and stakeholders. — Opportunities for local Aboriginal employment and procurement during the construction of the project. — Concern about Aboriginal stakeholders and communities being the last people to know about projects resulting in minimal social benefits and outcomes for the community.	Sections 6.3.1, 6.3.2 and 8.1

Social impact category	Community and stakeholder perceptions of impacts relating to the project	Where addressed in this paper
Livelihoods	— Risk of local businesses being unable to find additional local workers due to a shortage of available labour, which would be exacerbated as a result of the project workforce requirements.	Section 6.3.3
Livelihoods	— Biosecurity risks during construction relating to machinery, vehicles, and people entering private properties.	Section 6.3.4
Livelihoods	— Uncertainty regarding how farming operations would be able to co-exist with the Central-West Orana REZ Transmission project. — The proposed project location is unclear, generating uncertainty from farmers whether they could continue to invest in their farms (e.g., infrastructure). — Potential for decreases in property values. — Hosting project infrastructure could create changes to landscape and potential constraints to farming and residential activities within properties.	Section 7.3.2 and Section 7.5.3
Accessibility	— Impacts to existing services required for the project workforce (e.g. accommodation, water supply, waste generation, social, health and emergency services). — Potential limitations to food supply availability in supermarkets in the local social locality, especially for Gulgong, Dunedoo, Coolah and Mudgee.	Section 6.1.2 and Section 6.4.1
Accessibility	— Benefits of lower carbon emissions, renewable energy delivery, cheaper energy.	EIS Chapter 2 (Strategic context) and Chapter 19.5 (Climate change and greenhouse gas)
Health and Wellbeing	— Bushfire and flooding risks during the operation of the project. — Direct and cumulatively increased bushfire risk and the capacity of emergency services to respond.	Section 7.5.2 and Section 7.6.2
Health and Wellbeing	— Concerns raised about potential threat to the community's health and wellbeing. This included the potential health impacts of working underneath and/or around powerlines, the proximity of households to transmission infrastructure, and radiation risk from transmission lines.	Section 7.5.1
Surroundings	— Changes to the landscape, especially for those in proximity to other renewable projects.	Section 7.6.1
Surroundings	— The impact of the infrastructure to the agricultural and farming businesses within the area and more specifically to rich agricultural land was raised as a key concern.	Sections 7.2.1 and 7.3.2
Decision-making	— The need for more consistent, clear, and easier to understand information about the Central-West Orana REZ Transmission project is required. — Landowners hosting infrastructure indicated a need for greater understanding of lease agreements, payments, and compulsory acquisition. and experience of anxiety from the uncertainty.	Section 6.8.1 Section 7.3.1

6 Construction assessment

This chapter presents an assessment of the potential unmitigated impacts that are expected to occur during construction of the project. Impacts associated with project design have been assessed under this section, acknowledging that it is possible that some of these impacts may materialise during construction, or in some instances, during the pre-approval and decision-making phases of the project.

The potential social impacts during construction would be managed in accordance with the management and mitigation measures detailed in Section 8.1. A 'residual impact rating' has been applied to identify the significance of the social impact after the proposed mitigation and management measures have been implemented (see Section 8.2).

6.1 Community

6.1.1 Detrimental effects to community cohesion

Community cohesion refers to the extent to which community members work together and collaborate to address common goals, problems, or challenges (Petty and Ward, 2001). As identified in Section 4.2, the local social locality is characterised by strong values towards community cohesion. It is close-knit, with family connections extending across generations and people relying on each other to overcome emergencies.

Adverse effects on community cohesion caused by the project are linked to SIA engagement respondents' perception at the time of consultation and engagement that there was a lack of more detailed information about the project-specific infrastructure and the potential for the unequal distribution of impacts and benefits, especially regarding visual impacts. These findings were also supported by online survey responses, with 18 per cent of respondents raising concerns regarding community cohesion and social networks (10 of the 55 people who answered the question 'what are your key issues or concerns relating to the transmission project'). Changes to community cohesion were also predicted to occur more acutely between landowners hosting infrastructure and their adjacent neighbours.

In response to the community and stakeholder feedback during the development of the project, the alignment of the corridor has been located as far as practicable within existing disturbed land and areas used for mining and existing transmission line easements (where available). Following the completion of SIA engagement, EnergyCo has continued to engage stakeholders with the purpose of informing the design of the project and this EIS.

While changes to the project construction area and ongoing project engagement activities have sought to ameliorate any impacts on community cohesion, consultation findings reported that some changes are already being experienced between neighbours hosting and adjoining infrastructure. It is therefore anticipated that detrimental effects to community cohesion are likely to be disproportionately experienced by landowners hosting infrastructure and their adjacent neighbours across the local social locality, resulting in a High unmitigated impact for those groups. For the local social locality more broadly, this impact would be experienced as a Medium unmitigated impact, while no impact to community cohesion is anticipated for the regional social locality.

Table 6-1 Detrimental effects to community cohesion

Unmitigated Social Impact	**Detrimental effects to community cohesion**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting infrastructure and adjacent neighbours	Likely	Moderate	High
Local social locality	Possible	Moderate	Medium
Regional social locality	No impacts anticipated.		

6.1.2 Reduced short-term accommodation and housing availability and affordability

The limited availability of rental housing in the local social locality, as identified in Section 4.4.1, aligned with the perceptions of some stakeholders during SIA engagement. Residents from Dunedoo, Gulgong and Mudgee highlighted the significance of this social issue locally given the continuing demand for affordable rental housing in the area.

Residents reported that the presence of temporary and long-term workforces for the Ulan coal mine, Wilpinjong coal mine and Moolarben coal mine, as well as the increasing short-term tourist accommodation industry, has already placed additional strain on the local rental market. Some stakeholders hold a perception that the required construction workforce would exceed project estimates and would not all be housed within the workforce accommodation camps. This view was based on recent experience during the construction of other renewable energy generation projects in the regional social locality.

The project workforce accommodation strategy has been developed to avoid impacts on local housing and satisfy the demands of the project workforce during the 52 months of construction, including during the peak construction period. As such, the two project construction workforce accommodation camps in Merotherie and Cassilis have the capacity to accommodate the entire construction workforce, including the 1,800 workers during peak construction.

Workforce accommodation camps would have spare capacity for non-peak periods and to accommodate the local workforce. It is assumed that around 10 per cent of the workforce would be existing residents, equating to 180 workers at peak who may not require accommodation in the workforce accommodation camps.

A limited number of grey and white-collar staff, such as project managers and technical specialists, may occasionally choose to reside off-site in short-stay accommodation such as hotels and motels (if available) during the peak construction period.

As discussed in Section 4.4.1, there is limited to no availability of rental accommodation within the local social locality, with only six homes available for rent in Dunedoo, Gulgong and Coolah as of May 2023, and Merotherie and Cassilis have no available rental properties as of April 2023 (Realestate.com, 2023). Short-term accommodation options in the local social locality are more prominent in Mudgee (approximately 164 options), Gulgong and Dunedoo (approximately 10 hotels respectively). There is one hotel in Cassilis which has four twin rooms and no short-term accommodation options in Merotherie.

Given the limited availability of short-stay accommodation in the local social locality, it is unlikely that grey and while-collar staff would choose to reside off-site. Therefore, a reduction in short-term accommodation and housing availability and affordability is not expected in the local and regional social localities.

Table 6-2 Reduced short-term accommodation and housing availability and affordability

Unmitigated Social Impact	**Reduced short-term accommodation and housing availability and affordability**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Local social locality	No impacts anticipated.		
Regional social locality	No impacts anticipated.		

6.1.3 Impacts to sense of safety due to an influx of non-resident workforce

Sense of safety or perceived safety refers to the perception or feeling of being secure, protected, and free from harm or danger in one's environment (Zeng et all, 2022). Sense of safety can vary amongst individuals based on their past experiences, personal characteristics, and the context in which they find themselves. Research shows that women, children, and the elderly are usually more prone to experience an altered sense of safety as a result of new temporary workers in host communities (Carrington et al, 2012).

During SIA engagement, a number of stakeholders including those in Wollar, Cassilis, Mudgee, Turill, and Dunedoo, raised concerns that the presence of the project's construction workforce could lead to an altered sense of safety and cohesion within their towns. Survey responses reflected this concern, with 20 per cent of respondents (11 people) raising safety, security and privacy impacts as concerns. This is due to perceptions of potential antisocial behaviour, alcohol usage, lack of respect for the local environment, and potential theft.

The local social locality has a comparatively high proportion of elderly residents and young children (Section 4.1.2), and around 50 per cent of the population in the local social locality are women (Section 4.1.1). During consultation, stakeholders raised concerns that an increased non-resident population may place additional pressure on police and emergency services within the local social locality, as well as enhancing perceived impacts to local safety and security.

As previously outlined, the construction workforce is anticipated to peak in the fourth quarter (Q4) of 2025, with 1,800 workers across the project, and would remain above 1,000 personnel for almost two years, from second quarter (Q2) of 2025 to Q4 of 2026. During construction. all workers are expected to reside in workforce accommodation camps located in Merotherie and Cassilis. The peak construction workforce only represents one per cent of the total population in the local social locality. Despite this, given Merotherie's small resident population (24 people), the workforce accommodation camp at this location would represent a large local population increase (approximately 41 times that of the current population). In Cassilis, the workforce accommodation camp would represent approximately double the suburb's resident population (which is 278).

Workforce accommodation camps would provide facilities for food and entertainment for the non-resident workforce staying at the workforce accommodation camps while off-shift. However, it is anticipated that during off-shift and lunch breaks, the non-resident workforce may enter the townships near the project construction area. Also, grey and white-collar employees who may choose to reside offsite during construction would likely access local goods and services directly from the community.

It is likely that impacts to the community's perceived sense of safety due to an influx of non-resident workforce would be experienced as a noticeable change for the communities of Merotherie and Cassilis only, resulting in a High unmitigated impact for these two townships.

In the remainder of the local social locality, the impact would be possible and minor, and the significance would be Medium due to the distribution and small size of the anticipated non-resident workforce throughout the locality. It is anticipated that the influx of the project workforce would not cause an impact on sense of safety at a regional level.

Table 6-3 Impacts to sense of safety due to an influx of non-resident workforce

Unmitigated Social Impact	**Impacts to sense of safety due to an influx of non-resident workforce**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Merotherie and Cassilis communities	Likely	Moderate	High
Local social locality	Possible	Minor	Medium
Regional social locality	No impacts anticipated.		

6.2 Way of life

6.2.1 Reduced sense of place due to construction-related amenity impacts

Sense of place refers to the emotional attachment that individuals develop toward a particular location or environment, often characterised by a deep connection and identification with that place (Gieryn, 2000). Diminished sense of place can occur when people experience changes to aspects of amenity such as noise, vibration, air quality and visual aesthetics in their local environment. The length of exposure to change, people's capacity to adapt and the value they attach to their lifestyle and surroundings influences the magnitude of change on sense of place.

Changes to amenity are anticipated to occur within the local social locality over a 52 months. Technical papers informing the project EIS identified the following changes to amenity at some sensitive receiver locations within the local social locality during construction:

- Noise and vibration impacts would be experienced by some sensitive receivers who reside in close proximity to the project. These impacts would generally be low and transient, as work moves along the transmission line. However, it is anticipated that out of hours construction noise from foundations and/or earthworks would be more noticeable (Technical paper 9).
- There would be a low to negligible risk of dust impacts (dust soiling and human health) from earthworks and other construction activities at all locations and no impacts associated with odorous or gaseous air pollution (Technical paper 18).
- Moderate impacts to landscape character during the daytime are expected within eight of the 16 landscape character zones within the landscape and visual study area. The moderate impacts would occur across landscape character zones within the forested hills, rural valley and undulating rural hills landscape character types, where there is greater vegetation removal and temporary construction activities (Technical paper 3).
- Moderate to high impacts to landscape character from construction during the night-time within five landscape character zones across the forested hills, rural valley and undulating rural hills landscape character types where there is greater vegetation removal and prominence of temporary construction activities, including night lighting at the New Wollar Switching Station and the energy hubs at Merotherie and Elong Elong (Technical paper 3).
- Moderate to high impacts to landscape character from construction during the night-time within ten landscape character zones across the rural valley and undulating rural hills landscape character types during construction, away from the energy hubs and New Wollar Switching Station, where the night lighting within the construction area would be less but would contrast with the predominantly dark rural character (Technical paper 3).
- Moderate visual impacts of views from within the public domain are expected due to visibility of construction works at the energy hubs at Merotherie and Elong Elong, and from the Castlereagh Highway. These sites provide broad visibility across the landscape, and would be impacted by multiple transmission lines converging, and construction activities at multiple sites on both sides of the highway. This would also include a moderate visual impact due to visibility of the workforce accommodation camp at Neeleys Lane, Cassilis from Ulan Road (Technical paper 3).

While the visual, noise, vibration and air quality impacts were assessed as being of negligible to moderate, community concerns regarding changes to sense of place as a result of construction-related amenity, and value of the surrounding landscape, may lead to heightened magnitude of social impact during construction.

As outlined in EIS Chapter 7 (Land use and property), impacts to private property from temporary easements could be subject to compensation negotiated through the acquisition process. Any adjustments to fences, dams, access tracks or other property infrastructure that would be required for the project would be undertaken in consultation with the landowner and at no cost to the landowner. Adjustments required to private property infrastructure for the operation of the project would preferably be completed at the commencement of construction to minimise disruption for landowners. Moreover, temporary restrictions would affect landowner access to sections of their properties.

Sense of place is characterised by the natural 'peace and quiet' of the surrounding landscape. Concerns that this could be impacted by the construction of the project was highlighted during SIA consultation. It was also noted that a proportion of landowners hosting infrastructure and adjacent to the construction area work and live on their properties, and consequently spend much of their time working and relaxing within their properties. This was reflected in survey findings in response to the question 'what are your key concerns relating to the transmission project', with 49 per cent of respondents raising visual amenity (27 people), 27 per cent raising the location of the project (15 people), 12 per cent raising noise (seven people) and 12 per cent raising potential industrialisation of the area (seven people).

Consequently, it is likely that landowners hosting infrastructure would experience a moderate change to sense of place, resulting in a High unmitigated impact, while neighbouring landowners are anticipated to experience Medium unmitigated impact to sense of place, especially for those surrounding energy hubs at Merotherie and Elong Elong, in part due to their reduced opportunities to influence project design/location.

During construction, some community members within the local social locality more broadly would possibly experience minimal changes to their sense of place when passing through construction areas visible from the road, resulting in a Low unmitigated impact. Populations within the broader regional social locality are not anticipated to experience a diminished sense of place due to construction related amenity impacts.

Table 6-4 Reduced sense of place due to construction related amenity impacts

Unmitigated Social Impact	**Reduced sense of place due to construction related amenity impacts**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting infrastructure	Likely	Moderate	High
Landowners neighbouring transmission infrastructure	Likely	Minor	Medium
Local social locality	Possible	Minimal	Low
Regional social locality	No impacts identified		

6.2.2 Changes to the way people move and work due to perceived road delays and reduced sense of safety

Increased traffic movements are expected on roads in the local and regional social localities as a result of construction of the project. This may lead to people changing the way they move around due to how they perceive and experience road delays, as well as due to potential changes to their sense of safety on the roads.

As previously outlined, construction would take approximately 52 months to complete. Workforce transport to and from site however would generally be via shuttle bus and car pooling (concentrated at the start and end of the working day), which would minimise the potential traffic and transport impacts of the project on local roads.

Technical paper 13 has identified that the construction traffic volumes from the project would have a minor impact on the capacity and efficiency of the road network, due to already low traffic volumes and the low construction traffic on each construction route. Similarly, impacts on road conditions are anticipated to be minor given the minor increase of heavy vehicle movements attributable to the project. Impacts to the active and the public transport networks, and accesses to affected properties are expected to be negligible.

While Technical paper 13 assessed impacts as minor, it is acknowledged that due to the remoteness of some of the properties within the local social locality, residents rely heavily on road networks to access everyday services. Stakeholders raised heightened concerns regarding the potential interference of construction activities on local traffic, including on residents accessing goods and services in town, undertaking agricultural activities, driving to and from work, and for children going to and from school on local school buses. Some stakeholders raised concern regarding students potentially being late to school due to project related traffic delays, or concern that students would miss the bus.

Landowners also highlighted the potential significance of traffic delays and impaired mobility for farming operations. For many farmers, including those in Merotherie, Bungaba, and Elong Elong, access to and from paddocks relies on the crossing of local roads (e.g. for the movement of large farming equipment, crop management and weeding). Similarly, stock crossing is common in the local social locality, with some properties requiring frequent movement of cattle and sheep over roads to access pastures and shearing sheds. This concern was raised by residents of Elong Elong, Coolah, Stubbo, Uarbry, Leadville and Dunedoo. It is also noted that at specific times of the year there are community events and festivals, such as the Central West Cycle trail, that might require traffic adjustment or cause further traffic delays.

Potential therefore exists for people in the Merotherie, Cassilis, Wollar and Elong Elong communities to change their movement habits due to the traffic associated with accommodation camps and construction compounds, resulting in a Medium unmitigated impact.

For the remaining suburbs within the local social locality, impacts to the perceived sense of safety and traffic changes would be experienced to a lesser degree, resulting in a Low unmitigated impact. In the regional social locality no impacts to the way people move and work are anticipated.

Table 6-5 Changes to the way people move and work due to perceived road delays and reduced sense of safety

Unmitigated Social Impact	**Changes to the way people move and work due to perceived road delays and reduced sense of safety**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Merotherie, Cassilis, Wollar and Elong Elong (Suburbs surrounding construction compounds and accommodation camps)	Possible	Minor	Medium
Other suburbs within the local social locality (including those near construction routes)	Possible	Minimal	Low
Regional social locality	No impacts anticipated.		

6.3 Livelihoods

6.3.1 Local business opportunities and economic stimulus due to project procurement opportunities and increased demand for goods and services

The construction of the project may result in economic opportunities for local businesses to supply the project and workforce accommodation camps. Technical paper 8 indicates that the construction program is anticipated to occur for a period of around 52 months, with a total capital investment of over $2 billion. Moreover, it states that the construction of the project is expected to impact the regional economy for up to four years, with average annual impacts estimated up to:

- $513 million in annual direct and indirect output
- $181 million in annual direct and indirect value-added
- $110 million in annual direct and indirect household income.

Opportunities for local businesses and retail providers to supply goods and services to the project could result in enhanced livelihoods, as well as contributing to increased employment, and the overall strengthening of local and regional economies. During SIA engagement, stakeholders raised local business and procurement opportunities as a potential benefit of the project, however there was also a concern that existing businesses, services, and labour forces do not have the capacity to supply a project of this scale without some prior upskilling and training. Business hubs such as Mudgee and Dubbo (within the Southern and Western Sections) would be likely to experience these benefits to a greater degree due to potential existing skills and experience within the community.

Consequently, within the local social locality, local business opportunities and economic stimulus would be possible and moderate, given the overall small number of available businesses to service the project, resulting in an overall Medium benefit before enhancement. For the regional social locality, there may be more opportunities for businesses to service the project due to the presence of regional business and service hubs including Dubbo, resulting in a likely and minor leading to an overall Medium benefit before enhancement.

For Aboriginal businesses within the regional social locality, benefits associated with business opportunities and economic stimulus would be possible and major, given the adoption of the NSW Aboriginal procurement policy, which requires at least 1.5 per cent of contract spend going towards one or a combination of the following categories: Aboriginal businesses, workforce employment, education, training, or capability building (NSW Treasury, 2021). Aboriginal stakeholders highlighted the benefits that employment and procurement can have for Aboriginal families and communities as a whole. As such, it is anticipated that for Aboriginal businesses the project would result in a High benefit associated with business opportunities and economic stimulus.

Table 6-6 Local business opportunities and economic stimulus due to procurement opportunities and increased demand for goods and services

Unmitigated Social Impact	**Local business opportunities and economic stimulus due to procurement opportunities and increased demand for goods and services**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Businesses within the local social locality	Possible	Moderate	Medium (positive)
First Nations businesses within the regional social locality	Possible	Major	High (positive)
Businesses within the regional social locality	Likely	Minor	Medium (positive)

6.3.2 Improved livelihoods due to increased local employment opportunities

Employment opportunities associated with construction of the project could potentially improve the livelihoods of those employed and result in improved access to goods and services. EnergyCo estimates around 10 per cent of the construction workforce would consist of local residents, which would equate to approximately 180 local employees during the peak construction period.

Technical paper 8 identifies that the project may lead to a potential total direct and indirect annual employment impact of around 1,364 people within the Warrumbungle, Mid-Western Regional, Dubbo Regional and Upper Hunter LGAs, and an associated average income impact of around $266 million per year. As detailed above in Section 6.3.1, the NSW Aboriginal procurement policy requires at least 1.5 per cent of full-time equivalent project staff should be Aboriginal and/or Torres Strait Islander people. This would equate to approximately 27 Aboriginal employees during the project's construction peak.

While overall unemployment in the local social locality was relatively low (as discussed in Section 4.3.1), some suburbs had comparatively high levels of unemployment, including Guntawang, Goolma, Cope, Eurunderee, St Fillans and Yarrawonga (all within the Southern Section of the local social locality). Additional employment opportunities would likely benefit residents in these suburbs to a larger extent and may highlight an opportunity for targeted employment strategies.

The Upper Hunter Shire Council identified that the project could support transitioning economies from coal mining to renewables, where qualified people in the mining industry and ancillary businesses could gain employment on REZ projects. In addition, community representatives acknowledged that as result of the project there would be an upskilled and experienced workforce who may be able to work on other renewable energy projects within the REZ.

As discussed above in Section 6.3.1, economic benefits and opportunities for local Aboriginal businesses and workers could have major benefits for the local Aboriginal community, who currently experience heightened levels of socio-economic disadvantage and unemployment. Flow on benefits associated with increased employment and economic stimulus in the local and regional area could potentially benefit other local businesses and social services and increase the overall wellbeing and level of socio-economic advantage within the area for both Aboriginal and non-Aboriginal residents.

For the active workforce within the local social locality, the benefit would be possible and minimal, given the comparatively small proportion of residents that could benefit from better employment opportunities, resulting in a Medium benefit before enhancement. For active workers within the regional social locality, the benefit would be possible due to the wider group of potential skilled employees (including those transitioning away from mining industries), and minor due to the relatively small number of potential local employees, resulting in a Medium benefit before enhancement.

For Aboriginal workers within the regional social locality, benefits associated with employment opportunities would be possible and major, resulting in a High benefit before enhancement.

Table 6-7 Improved livelihoods due to increased local employment opportunities

Unmitigated Social Impact	**Improved livelihoods due to increased local employment opportunities**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Active workforce within the local social locality	Possible	Minimal	Low (positive)
First Nations within the regional social locality	Possible	Major	High (positive)
Active workforce within the regional social locality	Possible	Minor	Medium (positive)

6.3.3 Diminished availability of employees due to increased competition with the project amongst local employers

When there is a surge in demand for local employees due to increased workforce requirements on projects such as this, the available supply of skilled workers may struggle to keep pace. If the demand outstrips the existing supply, it can result in reduced workforce availability in sectors such as construction and administrative services, for example. The competitive salaries and packages offered by the project contribute to this challenge, where local employers are faced with increased labour costs in order to compete.

SIA engagement revealed that labour force availability within the local and regional social localities is limited, with many agricultural and trade businesses unable to find additional workers locally. This was partially due to the presence of Ulan coal mine, Wilpinjong coal mine and Moolarben coal mine, which local residents felt outcompeted other businesses by offering more attractive economic opportunities for local employees.

The shortage of available workforce within the local social locality was also confirmed by local employment data, as discussed in Section 4.3.1. Only 2.8 per cent of residents in the local social locality reported being unemployed and looking for work, and in the Western Section of the local social locality no residents reported being unemployed.

As discussed in Section 6.3.2, it is estimated that up to 180 employees could be employed locally, however this number would likely be lower during most of the project construction due to the identified skills shortages. Considering this represents a relatively small proportion of local workers, the impact on availability of labour would have different implications between the local and regional social localities.

In the Western Section of the local social locality (Elong Elong, Gollan and Spicers Creek) there were no identified unemployed residents in this area, meaning that people who decide to work for the project would be transferring from an existing job, reducing workforce availability for local employers. As such, for the Western section of the local social locality diminished workforce availability would be possible and moderate, resulting in a Medium unmitigated impact.

In the social locality more broadly, the impact would also be possible and moderate, given the overall low proportion of unemployed residents, and the shortage of skilled workers identified during consultation, resulting in a Medium unmitigated impact. The regional social locality would be less likely to experience diminished workforce ability, due to the comparatively small number of potential local employees that would be engaged by the project throughout the region. As such, the impact would be unlikely and minor in the regional social locality resulting in a Low unmitigated impact.

Table 6-8 Diminished availability of employees due to increased competition with the project amongst local employers

Unmitigated Social Impact	**Diminished availability of employees due to increased competition with the project amongst local employers**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Western section of project (suburbs with no unemployed residents – Elong Elong, Gollan, Spicers Creek)	Possible	Moderate	Medium
Local social locality	Possible	Minor	Medium
Regional social locality	Unlikely	Minor	Low

6.3.4 Impacts on livelihoods due to increased biosecurity threats

Construction of the project has the potential to increase biosecurity risks to local agricultural businesses and farmers. Biosecurity risks from machinery, vehicles and people entering properties were identified as a key concern for landowners who undertake farming activities. This concern was also supported by neighbouring landowners who identified that weeds and pests can easily be transmitted from property to property or even from the use of common public roads. Given the high reliance on the agricultural industry for local employment and income (discussed in Section 4.3.4), biosecurity impacts have the potential to significantly affect livelihoods in the local social locality.

Technical paper 2 notes the potential spread of weeds by vehicles, machinery, personnel and movement of soil and water is the highest biosecurity risk arising from the project. Technical paper 2 also identifies potential secondary economic impacts associated with biosecurity breaches including increased costs and decreased incomes amongst agricultural properties, which may be short-term or longer term (more than four years). The biosecurity risks would generally be highest during construction due to earthworks and the greater frequency of machinery, vehicle and personnel movements.

As discussed in Section 4.2.1, the primary land use in the local social locality is agricultural and residential. Additionally, results from the online survey completed by landowners within one kilometre of the project found that 80.7 per cent of respondents derived their primary source of income from their property. Consequently, landowners who are hosting project infrastructure would likely experience the most significant risks to biodiversity, resulting in a likely and major magnitude, with an overall unmitigated High level of significance.

Landowners neighbouring project infrastructure would be less likely to experience direct biosecurity risks, however there is still the possibility of biosecurity risk from neighbouring construction sites and passing project traffic. As such, impact on livelihoods due to biosecurity risks would be possible but still major for neighbouring landowners, resulting in a High unmitigated impact.

In the local social locality more broadly, the impact would be unlikely and minor, due to project traffic and construction activities throughout the construction area which may pose a less severe and direct risk to biosecurity for landowners, resulting in a Low unmitigated impact. No impact is anticipated for the regional social locality.

Table 6-9 Impacts on livelihoods due to increased biosecurity threats

Unmitigated Social Impact	**Impacts on livelihoods due to increased biosecurity threats**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting project infrastructure	Likely	Major	High
Landowners neighbouring project infrastructure	Possible	Major	High
Local social locality (excluding landowners hosting and neighbouring project infrastructure)	Unlikely	Minor	Low
Regional social locality	No impacts anticipated.		

6.4 Accessibility

6.4.1 Impacted capacity of health, food (supermarkets, bakeries, delis) and social services to meet increased demand caused by project workforce

The influx of a temporary construction workforce may place demand on health and social services within the local and regional social localities, which may limit access of these services for local residents. Two workforce accommodation camps, located in Merotherie and Cassilis, would house the construction workforce. Each camp would have a range of facilities, including food and catering facilities, laundry facilities, and fitness and recreational facilities (such as indoor and outdoor recreational spaces, gymnasium areas).

Workforce accommodation camps would also include on-site first aid facilities with a full-time medical practitioner. However, for any more specialised or severe injuries and health conditions, it is assumed that workers would need to be transported to a nearby hospital in either Dubbo, Mudgee, Merriwa, or Scone (see Section 4.4.2.3).

While the construction workforce would be located in the workforce accommodation camps with all food and recreation facilities provided, members of the workforce may leave the camp to access recreational, health and social services outside of the workforce accommodation camps. As discussed in Section 6.1.2, a limited number of grey and white collar workers may choose to temporarily reside outside of workforce accommodation camps and rely on public services and infrastructure.

SIA consultation with the local community highlighted the perceived lack of health and social services in the local social locality, within the broader regional social locality, as well as local communities including Gulgong, Dunedoo, Coolah and Mudgee. Allied health, hospitals, specialist services and general practitioners are largely considered to be over capacity, and the provision of doctors in the local area is considered to be low according to feedback received from community stakeholders and councils across the local social locality.

As discussed in Section 4.1.2, the population within the local social locality has a comparatively high proportion of elderly residents, and that approximately between 4.6 to 6.6 per cent of residents required assistance. In addition, mental health was a common condition in the local social locality (9.4 per cent). As such, there is a relatively large proportion of the local social locality's population who may be considered particularly vulnerable and rely on social and health services to a greater degree.

Given the provision of food, medical and recreational services within workforce accommodation camps, impacted capacity of health and social services across the local and regional social localities would be unlikely and minimal, resulting in a Low unmitigated impact.

However, service hubs within the local social locality, such as Dubbo, Mudgee, Merriwa, Scone, Coolah and Gulgong, would possibly experience additional demand from construction personnel who would not be residing within the workforce accommodation camps, and sporadic demand from personnel residing at the workforce accommodation camps. Given the existing constraints to health and social services, it is considered that the magnitude of the additional demand would be major for those localities only, resulting in a Medium unmitigated impact.

Table 6-10 Impacted capacity of health, food (supermarkets, bakeries, delis) and social services to meet increased demand caused by project workforce

Unmitigated Social Impact	**Impacted capacity of health, food (supermarkets, bakeries, delis) and social services to meet increased demand caused by project workforce**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Service hubs within the local social locality (Dubbo, Mudgee, Merriwa, Scone, Coolah, Gulgong)	Possible	Moderate	Medium
Local social locality	Unlikely	Minimal	Low
Regional social locality	Unlikely	Minimal	Low

6.4.2 Potential disruption to essential services (communications, gas and electricity)

The construction of the project may result in some temporary disruptions of utilities for residents living near the construction area, such as communications, gas and power. These impacts would be experienced where construction of the project requires adjustments or relocations to existing utilities.

Any anticipated utility disruptions would be coordinated by the appointed Network Operator with the utility provider to minimise any unavoidable disruptions. Community notifications regarding anticipated disruptions would be carried out in advance to inform impacted sensitive receivers.

However, given the remoteness of the local social locality and construction area, residents likely rely on telecommunications to connect with friends and family members who live outside the local region. As such, disruptions to telecommunications could lead to loss of connectivity given the existing spatial differences in available mobile coverage in the area.

As such, potential disruptions to essential services during construction would take place for a short duration and thus would possibly be experienced as a minimal change resulting in a Low unmitigated impact. No impact is anticipated for the broader regional social locality.

Table 6-11 Potential disruption to essential services (communications, gas and electricity)

Unmitigated Social Impact	Potential disruptions to essential services (communications, gas and electricity)		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Local social locality	Possible	Minimal	Low
Regional social locality	No impacts anticipated.		

6.5 Health and wellbeing

6.5.1 Diminished mental health amongst landowners

As noted in Section 5.2, landowners reported a strong attachment to their properties and lifestyles, especially those who have owned their properties for generations. Many landowners who lived through recent bushfires and flooding events discussed undertaking significant recovery efforts noting the grief and trauma they experienced throughout those events.

The project has been designed and developed to acquire easements by agreement and has prioritised the use of previously disturbed land, such as mining corridors, where feasible. There is a total of 110 land holdings which are intersected by the construction area, two of which are government owned (EIS Chapter 7 (Land use and property)). A portion within 30 lots of freehold land would be subject to easement acquisition in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* as a direct result of the project's construction and operational activities, some of which are currently used for agricultural purposes and are in proximity to residential properties.

The Mid-Western Regional Council raised the concern about farmers' and landowners' mental health, particularly amongst those who have resided and worked in the area for a long period of time. Anxiety and stress due to uncertainty and the unknown was reported by both neighbouring and hosting landowners (Merotherie, Leadville, Uarbry and Dunedoo). However, other landowners hosting infrastructure indicated that it was important for them to keep up the pace of property negotiations to ensure the project progresses.

Acquisitions and leases of privately owned land would be carried out in consultation with the relevant landowner in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991* and the supporting NSW Government Land Acquisition Reform 2016. The acquisition and leasing of Crown Land would be carried out in accordance with the requirements of the *Land Acquisition (Just Terms Compensation) Act 1991*, *Crown Lands Management Act 2016* and *Crown Land Legislation Amendment Act 2017*.

EnergyCo would negotiate with landowners and registered interest holders for at least six months to acquire land through mutual agreement before contemplating compulsory acquisition. Should compulsory acquisition processes be initiated, landowners would be given an additional three months to come to a mutual agreement with EnergyCo (EnergyCo, 2022c). Where undertaken, the compulsory acquisition process may be an unpleasant and stressful process for landowners who are opposed to the project.

EnergyCo has appointed a team of land agents to engage with landowners who would host project infrastructure. A portion of the land agents are locals with knowledge about community history, environmental disasters and the corresponding impacts on the local community. Details of the engagement undertaken with landowners would be recorded on a database (Consultation Manager), where issues raised are categorised and addressed.

While landowners hosting infrastructure had a general understanding of how property considered to be permanently affected by the project would be acquired, there was a number of landowners who were not aware of how easement and acquisition processes would be managed (e.g. Coolah, Stubbo, Cope and Tallawang). The following specific feedback was received from landowners:

"Lack of information about being subject to lease agreement or compulsory acquisition."

"No access to mediation, financial counselling, and poor delivery of information."

Moreover, it was evidenced that neighbouring landowners (not hosting infrastructure) were concerned about potential changes to the landscape and sense of place and felt they did not have sufficient say about the potential changes that the project would bring. They perceived there was an imbalance when it came to the future impact/benefit distribution (see Sections 6.8.1 and 7.1.1). This was supported by survey data, where 49 per cent of respondents raised visual amenity as a key concern. Additionally, 12 per cent of respondents raised 'the industrialisation of the area' as a concern, and 27 per cent raised concerns regarding the location of the project.

This group also reported a perception that they had less engagement with land agents and overall engagement with EnergyCo and considered that they had less information about the project description and timing. It is noted that since the SIA engagement took place, EnergyCo and its land agents have continued to engage with landowners. As noted in Section 1.2.3, the majority of these views were provided in November 2022. Since then, ongoing direct engagement has been carried out with landowners to inform the development of the project. Opening letters for energy hub and substation sites were issued in February 2023 and the land acquisition process for transmission easements and associated transmission infrastructure was initiated in May 2023 with opening letters issued to impacted landowners (refer to EIS Chapter 5 (Community and stakeholder engagement)).

This project would enact the Strategic Benefit Payments Scheme (SBP Scheme). The SBP Scheme provides annual payments over 20 years to private landowners who would be hosting certain project infrastructure. The payments are separate, and in addition to, any compensation that is paid to landowners for transmission easements on the land in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991* (EnergyCo, 2023b).

Consequently, considering the community context, existing controls and project needs, it is possible that some landowners hosting infrastructure would experience some changes to mental health, resulting in a Medium unmitigated impact. For landowners neighbouring project infrastructure, it is anticipated that this would be a High unmitigated impact considering that fewer engagement resources and efforts have been allocated to this group and that they are ineligible for the SBP Scheme.

Table 6-12 Diminished mental health amongst landowners

Unmitigated Social Impact	**Diminished mental health amongst landowners**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting project infrastructure	Possible	Minor	Medium
Landowners subject to compulsory acquisition and neighbouring project infrastructure	Likely	Moderate	High
Other residents of local and regional social localities	No impacts identified.		

6.5.2 *Diminished health and wellbeing due to amenity impacts, such as construction noise and vibration*

As discussed in Section 6.2.1, the project would impact amenity during the construction phase, due to related noise, vibration and dust generation, which may impact way of life and sense of place for some local residents. Amenity impacts due to dust, noise and vibration may also impact health and wellbeing for residents within and surrounding the project construction area. As discussed in Section 6.2.1, technical papers informing the project EIS determined the following environmental changes during construction:

- noise and vibration impacts would be experienced by sensitive receivers who reside in proximity to the construction areas. These impacts would generally be transient, as work moves along the transmission line (Technical paper 9)
- there would be a low to negligible risk of dust impacts (dust soiling and human health) from earthworks and other construction activities at all locations and no impacts associated with odorous or gaseous air pollution (Technical paper 18).

As discussed in Section 4.1.2, the local social locality has a higher proportion of residents aged over 60, and children aged under nine. These age groups may be more vulnerable to experiencing health and wellbeing impacts due to noise and vibration disturbance. For children aged under nine, amenity disruptions during the day could disrupt sleep times, impacting both children and their caregivers. Community feedback received as part of the SIA consultation also stated that the quiet and remote nature of the local social locality would mean that any increase in noise and vibration would be noticeable.

Residents experiencing long term health conditions including mental health conditions and dementia, may be at a higher risk of experiencing health and wellbeing impacts associated with noise and vibration. As discussed in Section 4.5.2, mental health was a comparatively common condition in the local social locality, while dementia was less common. Additionally, for landowners who live and work in proximity to the construction area, noise and vibration impacts may be experienced during the working day.

While the project would aim to undertake construction activities near sensitive receivers during standard working hours, there may be some instances in which work is undertaken outside of these times, which could result in frustration, stress, lack of sleep and diminished wellbeing among landowners.

While night works are more likely to create a noticeable disturbance for residents and surrounding sensitive receivers, these activities are anticipated to occur infrequently. In cases where out of hours work would be frequent, such as the construction of transmission lines (adjacent to existing mining operation areas), it is unlikely that sensitive receivers would experience these impacts.

Table 6-13 Diminished health and wellbeing due to amenity impacts, such as construction noise and vibration

Unmitigated Social Impact	**Diminished health and wellbeing due to amenity impacts, such as construction noise and vibration**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting project infrastructure	Almost certain	Minor	Medium
Landowners neighbouring project infrastructure	Possible	Minor	Medium
Local social locality	Unlikely	Minor	Low
Regional social locality	No impacts identified.		

6.6 Cultural heritage

6.6.1 Impacts on First Nations cultural values

The project is located on Wiradjuri and Gomeroi/Kamilaroi Country, and 17 per cent of the local social locality's population are Aboriginal. Impacts on Aboriginal cultural values and wellbeing may arise due to changes to the landscape and access to sites of cultural heritage significance, leading to an altered sense of place and cultural connection to Country.

During SIA engagement, a community group indicated that in Dunedoo there is an Aboriginal fossil field that is an important site for Australian history, raising concerns about the local understanding and level of information that developers have about Aboriginal and non-Aboriginal heritage. One of the interviewed landowners reported having an Aboriginal site within their property.

The Central-West Orana First Nation's Guidelines (Office of Energy and Climate Change, 2022) outline the long-term goals and aspirations of the Central-West Orana working group, which include 'using community investment funds sourced from infrastructure projects to support cultural and heritage activities and/or projects' (Office of Energy and Climate Change, 2022).

SIA consultation with a representative from the NSW Aboriginal Land Council (NSWALC) identified a desire for enhanced consultation and collaboration between EnergyCo and Traditional Owner groups. Additionally, issues regarding potential disruptions to land access were also raised, with concern relating to potential changes in cultural activities such as collecting bushfoods and visiting Country, due to the location of transmission infrastructure.

Consultation with local Aboriginal representatives has informed the Technical paper 5, and the project has liaised with a total of 39 Aboriginal organisations and/or individuals since August 2021. Technical paper 5 identified a total of 44 discrete Aboriginal sites within the construction area, some of which have been previously identified and documented.

Of the 46 discrete Aboriginal sites and places remaining within the construction area, 37 would be potentially subject to some direct impacts resulting in their complete loss. These are dominated by rockshelters, grinding grooves and culturally modified trees – many only tentatively classified – and sub-surface moderate and high-density artefact sites in close proximity to identified creek corridors. Nine sites would be unaffected, including grinding grooves and a significant artefact site with associated grinding groves of moderate and high significance. These sites may be indirectly impacted by visual impacts, potentially resulting in partial loss of value, simply due to proximity to the proposed project infrastructure.

In addition, the project would directly impact about 100 hectares of creek banks identified as having sub-surface archaeological potential. A low-density stone artefact background scatter is likely to be present across the entire construction area and would also be adversely affected where disturbed. Furthermore, changes to the landscape in which cultural materials are located may lead to intangible impacts on Aboriginal cultural values.

EnergyCo is continuing to explore the potential avoidance of other Aboriginal sites of high and moderate significance within the construction area, especially within the energy hubs and switching station sites, construction compounds and workforce accommodation camps. It is expected that the eight rockshelters, two additional grinding groove sites, a culturally modified tree, and two high density artefact scatters would be avoided or minimally adversely affected by the project.

While the project would result in some intergenerational/cumulative loss to cultural materials, it is considered that there would be numerous cultural heritage benefits. These include the conservation of numerous sites within the eventual transmission easement, and where other development activities would be limited, a greater understanding of the past and contemporary values in the region, and opportunities for heritage interpretation and both Aboriginal and public outreach.

According to EIS Chapter 7 (Land use and property) the construction and operation of the project would not impact the existing Native Title claims identified within the project study area. Overall, for local First Nations communities, organisations and individuals (living within or outside of the local social locality), potential social impacts to First Nations cultural values are considered to be possible and major, leading to a High unmitigated impact.

Table 6-14 Impacts to First Nations cultural values

Unmitigated Social Impact	**Impacts to First Nations cultural values**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Local First Nations communities, organisations and individuals within the local and regional social localities	Possible	Major	High

6.7 Surroundings

6.7.1 Changes to the way people enjoy and connect with the environment

Vegetation clearing would be required across the construction area, which could result in changes to the way people enjoy and connect with the environment.

As discussed in Section 3.4.2 many local residents and landowners expressed a significant attachment to the natural landscape and biodiversity within the local area. Construction of the project is likely to result in disturbance of the local landscape and associated community values, due to activities such as vegetation clearing and earthworks.

Landowners raised concerns regarding potential disturbance to the existing natural environment, and the flow on impacts these disturbances could have for future regenerative farming practices. Some stakeholders expressed concern regarding the potential pollution of local waterways, and the disturbance of key tree and shrub species, which provide a natural habitat for native animals and birds.

Additionally, the local social locality is currently acknowledged to be a popular tourist location, with many visitors coming to the region to experience the local environment, and its associated flora and fauna, and impacts to these values may interfere with the way people enjoy and connects with the environment.

Technical paper 4 identified that the overall direct impact of the project on ‘plant community types’ and habitat for identified threatened species is estimated to be approximately 1325.68 hectares of the total 2,700 hectares the project would occupy. Threatened ecological communities that would be impacted by the project include Fuzzy Box Woodland, Hunter Floodplain Red Gum and White Box Yellow Box Blakely’s Red Gum Woodland. Noting that landowners were particularly concerned about impacts to Fuzzy Box Woodland.

Residents also highlighted concerns regarding the threat of wildlife being hit by project vehicles during construction, especially risks to species that are perceived to be of environmental and cultural value to the community, including wombats, quolls, and kingfishers. Survey data identified that 34 per cent of respondents (19 people) were concerned about potential environmental impacts associated with the project. Technical paper 4 similarly identified that ‘during construction, potential vehicle strike to native fauna is likely to occur’. However, the consequence of the predicted level of impact overall is be expected to be minor. Since low speed limit zones would be established within the construction area, Technical paper 4 concludes that it would be unlikely that construction activities would result in significant levels of mortality of threatened species as a result of vehicle strikes.

It is likely that landowners would experience minor changes to the way they enjoy and connect with the environment, resulting in a Medium unmitigated impact. For the remainder of the residents within the local social locality, it is unlikely that they would experience major changes, resulting in a Low unmitigated impact. No impact is anticipated for the regional social locality in this regard.

Table 6-15 Changes to the way people enjoys and connect with the environment

Unmitigated Social Impact	Changes to the way people enjoys and connect with the environment		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting and neighbouring project infrastructure	Likely	Minor	Medium
Local social locality	Unlikely	Minor	Low
Regional social locality	No impacts identified.		

6.8 Decision-making systems

6.8.1 Diminished capacity to make or influence decisions regarding changes that may affect people's own lives

EnergyCo has continued community and stakeholder engagement activities to inform the design of the project and the EIS, including engagement with affected landowners and community groups about the project and key design decisions that may impact them. As outlined in EIS Chapter 5 (Community and stakeholder engagement), engagement activities undertaken to date include:

- a total of 16 information sessions have been held at local venues in Wellington, Gulgong, Coolah and Dunedoo with the attendance of 365 individuals in total
- a total of 74 meetings with Councils
- meetings with Community Reference Group, First Nations Working Group, Skills and workforce working group
- an online survey opened to the public, with 290 and responses.

In addition, an online interactive map, newsletters, factsheets and briefings have been some of the engagement methods that EnergyCo has implemented.

Community and stakeholder feedback received between 2020 and 2022 resulted in the realignment of the transmission lines to be, as much as possible, within previously disturbed land, including areas used for mining and alongside existing transmission line easements.

As noted in Section 1.2.3, SIA consultation occurred in November 2022. At the time, stakeholders raised concerns regarding a lack of information on the location of the project and auxiliary infrastructure stating that there had been lack of transparency throughout the process and a loss of trust. Concerns were particularly pronounced amongst neighbouring landowners and community groups who were not directly impacted by the project or hosting project infrastructure, as they felt they were less frequently engaged than landowners involved in acquisition and lease negotiation processes. A total of nine landowners in the online survey perceived that there was a lack of transparency and communication in the development of the project.

Community organisations further expressed the need for communication to be time sensitive, preferably face-to-face and arranged with sufficient warning. There was an expectation that information should be provided directly to communities and landowners, rather than being available on a website or being sent by mail or email. One of the landowners stated:

> *"EnergyCo has an obligation to ensure people are informed and obtain information. There should be a follow up. Simply putting information online and hoping people will be informed is not enough".*

The complexity of understanding and having the time to read the EIS was also acknowledged by interviewees, especially when considering that there are other REZ EIS submissions. When landowners were asked about how EnergyCo could address their concerns, 12.1 per cent of respondents expressed that better engagement and engagement methods with the affected communities is needed. EnergyCo engagement with Aboriginal people has followed the objectives and guidance provided by the Aboriginal Working Group, which includes supporting Aboriginal inclusion in decision-making processes that may affect them, understanding local Aboriginal communities' employment and educational needs and supporting involvement in projects.

During public exhibition of the EIS, a various engagement activities would be undertaken, including the issue of a project update newsletter, guide to the EIS, website update, briefings, advertising in local media outlets, landowner letters and drop-in information sessions. An EIS summary of key outcomes and supporting factsheets are also being prepared.

Consequently, it is possible that some landowners hosting infrastructure, and residents within the local social locality, would perceive and/or experience diminished capacity to influence or make decisions regarding changes that may affect their life, resulting in a Medium unmitigated impact. This impact may be experienced differently by landowners adjacent/ neighbouring the project who have expressed concerns about the project, resulting in a High unmitigated impact.

For the remainder of the regional social locality it is anticipated that the unmitigated impact would be Low.

Table 6-16 Diminished capacity to make or influence decisions regarding changes that may affect people's own lives.

Unmitigated Social Impact	**Diminished capacity to make or influence decisions regarding changes that may affect people's own lives**		
Impacted group and/or area	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners neighbouring project infrastructure	Likely	Moderate	High
Landowners hosting project infrastructure and residents within the local social locality	Possible	Moderate	Medium
Regional social locality	Unlikely	Minor	Low

6.9 Summary of construction impacts

Table 6-17 provides a summary of potential social impacts during the construction phase of the project, as well as the extent, nature, likelihood, magnitude, and significance of each impact. Colour coding has been applied to the table below for ease of interpretation. Blue shaded cells represent benefits (positive impacts) and orange, yellow and green are applied to negative impacts to showcase high, medium and low levels of significance respectively.

Table 6-17 Summary of unmitigated construction impacts

Primary impact category	Potential impacts on people	Extent	Nature	Likelihood	Magnitude	Unmitigated impact significance
Community	Detrimental effects to community cohesion	Landowners hosting infrastructure and adjacent neighbours	Negative	Likely	Moderate	High
		Local social locality		Possible	Moderate	Medium
Community	Impacts to sense of safety due to an influx of non-resident workforce	Merotherie and Cassilis communities	Negative	Likely	Moderate	High
		Local social locality		Possible	Minor	Medium
Way of life	Reduced sense of place due to construction-related amenity impacts	Landowners hosting infrastructure	Negative	Likely	Moderate	High
		Landowners neighbouring transmission infrastructure		Likely	Minor	Medium
		Local social locality		Possible	Minimal	Low
Way of life	Changes to the way people move and work due to perceived road delays and reduced sense of safety	Merotherie, Cassilis, Wollar and Elong Elong (surrounding construction compounds and workforce accommodation camps)	Negative	Possible	Minor	Medium
		Other suburbs within the local social locality (including those near construction routes)		Possible	Minimal	Low
Livelihoods	Local business opportunities and economic stimulus due to project procurement opportunities and increased demand for goods and services	Businesses within the local social locality	Positive	Possible	Moderate	Medium
		First Nations businesses within the regional social locality		Possible	Major	High
		Businesses within the local social locality		Likely	Minor	Medium

Primary impact category	Potential impacts on people	Extent	Nature	Likelihood	Magnitude	Unmitigated impact significance
Livelihoods	Improved livelihoods due to increased local employment opportunities	Active workforce within the local social locality	Positive	Possible	Minimal	Low
		First Nations within the regional social locality		Possible	Major	High
		Active workforce within the regional social locality		Possible	Minor	Medium
Livelihoods	Diminished availability of local employees due to increased competition with the project amongst local employers	Western section of project (suburbs with no unemployed residents – Elong Elong, Gollan, Spicers Creek)	Negative	Possible	Moderate	Medium
		Local social locality		Possible	Minor	Medium
		Regional social locality		Unlikely	Minor	Low
Livelihoods	Impacts on livelihoods due to biosecurity threats	Landowners hosting project infrastructure	Negative	Likely	Major	High
		Landowners neighbouring project infrastructure		Possible	Major	High
		Local social locality (excluding landowners hosting and neighbouring project infrastructure)		Unlikely	Minor	Low
Accessibility	Impacted capacity of health, food (supermarkets, bakeries, delis) and social services to meet increased demand caused by project workforce	Service hubs within the local social locality (Dubbo, Mudgee, Merriwa, Scone, Coolah, Gulgong)	Negative	Possible	Moderate	Medium
		Local social locality		Unlikely	Minimal	Low
		Regional social locality		Unlikely	Minimal	Low
Accessibility	Potential disruption to essential services (communications, gas and electricity)	Local social locality	Negative	Possible	Minimal	Low

Primary impact category	Potential impacts on people	Extent	Nature	Likelihood	Magnitude	Unmitigated impact significance
Health and wellbeing	Diminished mental health amongst landowners	Landowners hosting project infrastructure	Negative	Possible	Minor	Medium
		Landowners subject to compulsory acquisition and neighbouring project infrastructure		Likely	Moderate	High
Health and wellbeing	Diminished health and wellbeing due to amenity impacts, such as construction noise and vibration	Landowners hosting project infrastructure	Negative	Almost certain	Minor	Medium
		Landowners neighbouring project infrastructure		Possible	Minor	Medium
		Local social locality		Unlikely	Minor	Low
Culture	Impacts on First Nations cultural heritage	Local First Nations communities, organisations and individuals within the local and regional social localities	Negative	Possible	Major	High
Surroundings	Changes to the way people enjoy and connect with the environment	Landowners hosting and neighbouring project infrastructure	Negative	Likely	Minor	Medium
		Local social locality		Unlikely	Minor	Low
Decision-making systems	Diminished capacity to make or influence decisions regarding changes that may affect people's lives	Landowners neighbouring project infrastructure	Negative	Likely	Moderate	High
		Landowners hosting project infrastructure and residents within the local social locality		Possible	Moderate	Medium
		Regional social locality		Unlikely	Minor	Low

7 Operational assessment

This chapter presents an assessment of the potential unmitigated impacts that are expected to occur during operation due to the project. Management measures are proposed to mitigate the impacts identified in this section (see Section 8.1), a 'residual impact rating' has been applied to identify the significance of the social impact after the proposed mitigation measure has been implemented (see Section 8.2).

7.1 Community

7.1.1 Unequal distribution of impacts and benefits

During consultation, neighbouring landowners raised concerns about inequity between those hosting project infrastructure and those neighbouring landowners who would still be impacted by the project. As detailed in Appendix D, landowners (in Coolah, Stubbo, Cope and Tallawang) and community representatives (in Leadville) expressed concerns about inequality in distribution of impacts and benefits. Moreover, survey data further identified this issue through comments regarding community cohesion and social networks, which was raised by 18 per cent of respondents, representing 10 people out of the 55 people who answered the question 'What are your key issues or concerns relating to the transmission project?'.

Landowners neighbouring transmission lines and landowners subject to compulsory acquisition may experience stress and diminished sense of belonging due to:

- concerns about livelihood impacts due to potential property management restrictions or alterations (see Section 7.3.2)
- perceived uncertainty in the local property market (see Section 7.5.3)
- concerns about livelihoods due to increased biosecurity threats (see Section 6.3.4)
- perceived bushfire risk associated with operation of transmission lines (see Section 7.5.2)
- perceived health and safety risks associated with electromagnetic fields (see Section 7.5.1)
- loss of aesthetic values and perceived loss of biodiversity (see Section 7.6.1).

Secondly, landowners hosting infrastructure are expected to experience enhanced social and economic livelihoods associated with the SBP Scheme. Neighbouring landowners are however, ineligible for the SBP Scheme.

Consequently, it is anticipated that landowners neighbouring project infrastructure would experience unequal distribution of impacts and benefits, resulting in a High unmitigated impact.

Table 7-1 Unequal distribution of impacts and benefits

Unmitigated Social Impact	**Unequal distribution of impacts and benefits**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners neighbouring infrastructure	Almost certain	Moderate	High

7.2 Way of life

7.2.1 Changes to the way landowners use and enjoy their properties

Physical changes to properties hosting infrastructure may result in changes to the way landowners use and enjoy their properties. Engagement findings provided evidence regarding the residential and agricultural use of most properties hosting and neighbouring infrastructure. In addition, landowners reported high values for farming activities and lifestyle, especially in regard to the peace and quiet, as well as the environmental aesthetics, making their properties a special place for extended family reunions. Conversely, landowners made distinctions between "absent landowners" and resident landowners, to explain that some landowners who are hosting infrastructure have moved out of the region but have kept their properties.

Technical paper 2 indicates that the permanent disturbance area around each transmission line structure is estimated at 625 square metres (this assumes a footprint of 25 metre by 25 metre for the tension towers, with the remainder of the towers likely to have a smaller footprint) for each transmission line tower footprint, with an additional 30 metre exclusion zone around the transmission line structures. The 860 proposed transmission line structures with associated buffer areas around each structure would therefore impact a total of 239 hectares of agricultural land.

A total, permanent loss of around 303 hectares of agricultural land would occur to accommodate the footprint of the energy hubs at Merotherie and Elong Elong, and New Wollar Switching Station, and a further 240 hectares due to access tracks. Agricultural land use lost due to operation of the project is estimated by Technical Paper 2 to be 829 hectares, which is equivalent to 0.04 per cent of the total area of agricultural holdings in the four impacted LGAs. Cropping in this area would be precluded, but grazing could continue in sections, such as underneath and around transmission line structures.

It is anticipated that most landowners hosting infrastructure would be able to continue to use their land for the same agricultural and residential purposes during project operation, and that there is only a small proportion of landowners hosting transmission line infrastructure who would have a reduced overall area to undertake higher intensity agricultural activities such as cropping or horticulture.

Agriculture and grazing, planting trees and vegetation, landscaping, and paving, installing drainage, water and sewer pipes, movement of vehicles and machinery and parking light vehicles are all permitted activities within an easement (EnergyCo, 2022d). Activities within an easement that are not permitted include building houses, erecting scaffolding, storage of industrial materials, undertaking refuelling and repairs to vehicles and equipment and parking large trucks and caravans (EnergyCo, 2022d).

Regarding impacts on landscape character during operations, Technical paper 3 identifies moderate landscape character impacts to the forested hills, rural valley and undulating rural hills landscape character zones, resulting from reduced vegetation in the predominantly vegetated forested hills landscapes and the introduction of large transmission line towers, switching stations and energy hubs. Technical paper 3 also identified moderate-low night-time visual impacts in three locations neighbouring the New Wollar Switching Station, the Merotherie Energy Hub and the Elong Elong Energy Hub.

While landowners hosting infrastructure are eligible for the SBP Scheme, it is possible that they may still experience changes to the way they enjoy their properties, resulting in a Medium unmitigated impact.

While neighbouring landowners would not experience direct physical changes to their properties, it is possible that they would experience changes to the way they enjoy and use their property depending on infrastructure being visible from their properties, resulting in a Medium unmitigated impact, especially for those neighbouring energy hubs at Merotherie and Elong Elong, and the New Wollar Switching Station.

No further impacts to the way people use and enjoy their property is anticipated across the local and regional social localities.

Table 7-2 Change to the way landowners use and enjoy their properties

Unmitigated Social Impact	Change to the way landowners use and enjoy their properties		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting infrastructure	Likely	Minor	Medium
Landowners neighbouring switching station and energy hub sites	Possible	Moderate	Medium
Other residents within local and regional social localities	No impacts anticipated.		

7.3 Livelihoods

7.3.1 Enhanced landowner social and economic livelihoods associated with the Strategic Benefit Payments Scheme

The project would require the establishment of transmission line easements. Easements would provide a right of access for the construction, and operation of the transmission lines and other associated assets (such as transmission towers). The easements would also ensure safe electrical clearances during operation of the transmission lines.

As noted in Section 6.5.1, the NSW Government has established a SBP Scheme for new major transmission projects (EnergyCo, 2023b). Under the SBP Scheme, private landowners hosting new high voltage transmission projects would be paid a set rate of $200,000 per kilometre of transmission hosted, paid out in annual instalments over 20 years. The rate of the payments is calculated in the same way, regardless of location in NSW to ensure all landowners are treated equitably under the scheme. The SBP Scheme is done in recognition of the critical supporting role these landowners would have in hosting the energy infrastructure that would power the State and to ensure they share directly in the benefits of this significant economic investment.

If the transmission project requires two sets of towers (and subsequently two lines or parallel lines), the landowner would receive a SBP for each set of towers/lines for the project (that is, two payments). These payments are separate, and in addition to any compensation that is paid to landowners for transmission easements on their land in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*. If the land is sold or transferred to a private entity within the 20-year period, payments would be made to the new owner.

During engagement, landowners hosting infrastructure identified the main benefit of the project as financial, allowing them to complement their income when farm cashflow is reduced. The ongoing payment may be a way of supplementing income and allowing landowners to diversify their business and streamline income (Cope, Uarbry, Coolah and Merotherie).

A limited number of landowners were not aware of the SBP Scheme and raised concerns about inequity between those hosting renewable projects and those hosting transmission lines, which before the SBP Scheme was a one-off payment. In addition, some landowners raised concerns that compensation was not keeping up with land value (Coolah, Stubbo, Coolah, Cope and Tallawang).

Landowners hosting infrastructure would almost certainly experience a moderate change to their social and economic livelihoods associated with sSBP Scheme, resulting in a High benefit significance.

Table 7-3 Enhanced landowner social and economic livelihoods associated with the Strategic Benefit Payments Scheme

Unmitigated Social Impact	**Enhanced landowner social and economic livelihoods associated with the Strategic Benefit Payments Scheme**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting infrastructure	Almost certain	Moderate	High (positive)
Local social locality	No impacts anticipated.		
Regional social locality	No impacts anticipated.		

7.3.2 Livelihood impacts due to property management restrictions or alterations

The operation of the project would require EnergyCo to have full access to the transmission line easement. Easements would be established through negotiations and agreements between EnergyCo and the subject landowner. Landowners would generally be permitted to continue using the land within an easement subject to safety restrictions, and to ensure the reliable operation of project infrastructure.

The easement and associated transmission line may restrict or alter how some landowners manage their property, potentially decreasing productivity on some portions of land or perceived property value impacts, which may lead to livelihood impacts. The unknowns relating to restricted land use from the infrastructure was a shared concern among landowners hosting infrastructure, and in some cases extended to neighbouring landowners.

As noted in Section 7.2.1, agriculture and grazing, landscaping, and paving, installing drainage, water and sewer pipes, movement of vehicles and machinery and parking light vehicles are all permitted activities within an easement (EnergyCo, 2022d). Restriction to specific agricultural activities within the easement through the project operation include aerial operations, cropping within 30 metres from the base of transmission structure, utilities (20 metres from transmission structures), fencing, movement of machinery greater than 4.3 metres in height, drilling within 20 metres of the base of transmission structures, and planting trees and vegetation.

Technical paper 2 determined that although overall loss of agricultural land use would be small, impacts at an individual property level may be proportionally greater due to variations in their size, level of impact and nature of their enterprises. For example, loss of cropping land use on the transmission easement would generally be greater than the loss of grazing land use, and small properties with a relatively large easement may have a greater proportional impact than a large property. Moreover, the loss of gross income from agricultural activities due to loss of land use was estimated at $1.3 million, at an average of $302 per hectare. These landowners would, however, be eligible for the SBP Scheme.

Neighbouring landowners may be subject to constraints to aerial operations near easements. During engagement there were no concerns raised about limits to that type of activity, however greater concern to livelihoods was raised regarding potential fire and biosecurity risks (addressed in Sections 7.5.2 and 6.3.4). As such, it is unlikely that landowners would experience diminished livelihoods due to easement restrictions, and no impacts are anticipated for other farming properties within the local and regional social localities.

Table 7-4 Livelihood impacts due to property management restrictions or alterations

Unmitigated Social Impact	Livelihood impacts due to property management restrictions or alterations		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting infrastructure	Possible	Minimal	Low
Neighbouring landowners to project construction area	Unlikely	Minimal	Low
Other farming properties in the local and regional social localities	No impacts anticipated.		

7.4 Accessibility

7.4.1 Potential disruption to telecommunications (including radio, internet, and television) in the vicinity of transmission infrastructure

During engagement some community representatives and landowners raised concerns about how the project would affect telecommunications, including internet and phone reception, as well as TV signal. Interviewees reported that in some specific areas of the social locality access to internet was very limited (Cassillis, Turrill and Uarbry).

As discussed in Section 4.4.4, the local social locality has limited mobile reception and connectivity, and during engagement, it was raised that the community of Turill is a connectivity 'black spot' due largely to the 2017 Sir Ivan's Fire, which damaged the copper lines. As such, Turill and other suburbs in the local social locality, including Wollar, Uarbry, Tichular, Cumbo and Moolarben, may be further impacted by telecommunications disruptions caused by the project.

The living and working near transmission line easements fact sheet for the project (EnergyCo, 2022d) indicates that transmission lines can interfere with radio frequencies where the signals are already weak, however new transmission lines are designed to minimise this interference, and do not interfere with GPS, internet or TV signal. This would be assessed during the detailed design process for the REZ transmission project, and appropriate mitigation applied to the design where feasible.

The Australian Communications and Media Authority (ACMA) has published guidelines for the placement of telecommunications facilities near transmission lines to minimise interference. These guidelines recommend that telecommunications facilities should be located at least 50 metres away from high voltage transmission lines and at least 15 metres away from medium voltage transmission lines (ACMA, 2009).

As such, it is possible that areas that already have limited signal may experience some minimal disruptions resulting in a Low unmitigated impact. No impacts are anticipated more broadly in the local and regional social localities.

Table 7-5 Potential disruption to telecommunications (including radio, internet, and television) in the vicinity of transmission infrastructure

Unmitigated Social Impact	**Potential disruption to telecommunications (including radio, internet, and television) in the vicinity of transmission infrastructure**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Communities without mobile network coverage (Turill, Wollar, Uarbry, Tichular, Cumbo and Moolarben)	Possible	Minimal	Low
Local social locality	No impacts anticipated.		
Regional social locality	No impacts anticipated.		

7.4.2 Increased access to renewable energy sources

EnergyCo is investigating opportunities to benefit communities in the regional social locality, including community energy schemes, power purchasing agreements and other initiatives. This includes potential opportunities to provide lower electricity costs for local Aboriginal community-owned properties. Landowners also identified that the project would contribute to lower carbon emissions, promote the delivery of renewable energy and provide cheaper energy.

Table 7-6 Increased access to renewable energy sources

Unmitigated Social Impact	**Increased access to renewable energy sources**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Local Aboriginal community owned properties within the local and regional social localities	Likely	Moderate	High (positive)
Local and regional social localities	Possible	Moderate	Medium (positive)

7.5 Health and wellbeing

7.5.1 Stress due to perceived health and safety risks associated with electromagnetic fields

Stress due to perceived health and safety risks associated with high voltage transmission lines electromagnetic fields was raised as a concern by some of the landowners hosting infrastructure and by the Upper Hunter Shire Council. Landowners were unclear about the health and wellbeing risks related to having to work underneath or around powerlines, such as radiation risk, and the effect on households in proximity to transmission infrastructure (Leadville, Coolah and Tallawang). This finding is consistent with survey results, in which 13 respondents raised health concerns.

As noted in Section 1.2.3, while SIA consultation occurred in November 2022 and further engagement with landowners has been undertaken by EnergyCo, there is no further evidence as to how much concerns raised over electromagnetic fields has changed.

As previously outlined, limited accessible health services in the local social locality, especially services related to mental health, exacerbates the vulnerability of farmers and the elderly to mental health issues as they may be less likely to seek out appropriate treatment and support.

Technical paper 12 outlines that magnetic fields are highest closest to the source but also reduce quickly with distance. In relation to the project, it was determined that the electric field dissipation for the 500 kV transmission line operating at 500 kV and operating in parallel is less than 20 metres from the centre of the respective transmission line and is less than 10 metres when operating at 330 kV. For the 330 kV transmission line, as well as the sections that cross with TransGrid Transmission Line, and the energy hubs and switching stations, no hazardous electric field levels were reached at any location along the easement. In relation to magnetic fields, for all the infrastructure mentioned above no reference level were reached at any location along the easement, noting that magnetic fields were computed based on the maximum electrical load.

Moreover, the World Health Organisation (WHO) and the Australian Radiation Protection and Nuclear Safety Agency consider electromagnetic fields from electrical transmission lines not to be a risk to human health. The WHO concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields, based on a recent in-depth review of the scientific literature. However, some gaps in knowledge about biological effects exist and need further research.

Consequently, while research has concluded there are no risks to human health associated to electromagnetic fields, the concerns from landowners who live near transmission lines could materialise as mental health impacts, such as stress and anxiety. It is unlikely that landowners subject to acquisition of easements through mutual agreement would materialise mental health effects, however this may not be the case for neighbouring landowners, and landowners whose may have sections of their property acquired under a compulsory acquisition process who expressed heightened concerns over this topic.

In addition, as per EIS Chapter 5 (Community and stakeholder engagement) EnergyCo has developed and published a factsheet about working and living near transmission infrastructure that provides information about electromagnetic fields (EnergyCo, 2022d). This information is publicly available online and has also been discussed during community information sessions.

Accordingly, neighbouring landowners, and landowners who may have sections of their property subject to a compulsory acquisition process, would be likely to experience stress due to perceived health and safety risks associated with electromagnetic fields, resulting in a High unmitigated impact. Landowners subject to acquisition of easements through mutual agreement and residents within the broader local and regional social localities are unlikely to experience similar effects.

Table 7-7 Stress due to perceived health and safety risks associated with electromagnetic fields

Unmitigated Social Impact	**Stress due to perceived health and safety risks associated with electromagnetic fields.**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Neighbouring landowners and landowners subject to compulsory acquisition	Likely	Moderate	High
Landowners subject to acquisition of easements through mutual agreement and residents in local social locality	Possible	Minimal	Low
Regional social locality	No impacts anticipated.		

7.5.2 Stress due to perceived bushfire risk associated with operation of transmission lines

The local and regional social localities have been severely impacted by some of the largest and most significant NSW bushfires in the past five years, with the Sir Ivan Fire in February 2017 and the Gospers Mountain Fire in December 2019. As discussed in Section 4.7.3, the 2017 bushfires were a significant event for most of the community representatives and landowners in the local social locality. Based on that experience a key concern raised from landowners and community representatives was direct and cumulative increased bushfire risk and the capacity of services to respond to emergencies.

The community commonly shared a strong belief that the Rural Fire Service (RFS) is not permitted to be in close proximity to project infrastructure – and renewables infrastructure more generally.

> *"The RFS tend to avoid transmission line easements… We have had issues in the past with transmission lines sparking or having electrical issues that have led to fires. But the RFS is relatively experienced with this, and the buffer zone helps to prevent fires from spreading too quickly" (Mudgee).*

Concerns regarding bushfire risk associated with the project's operation were raised by over 35 per cent of landowners (10 of 28), 22 per cent of community organisations (two of nine) and both of the two services that were interviewed.

In addition, the location of certain project infrastructure (such as energy hubs) was identified as hard to reach by road. However, it is noted that EnergyCo are proposing to deliver road upgrades to improve access to the hubs which would also facilitate access in case of emergency events (refer to Section 1.4.3 of Chapter 1 (Introduction) of the EIS).

Technical paper 10, determined that the aerial and on-ground energy transmission infrastructure (transmission lines and switching stations/energy hubs) is a potential source of ignition and poses an extreme risk of causing bushfire damage should a network fault occur during periods of high bushfire risk. It noted that EnergyCo would be required to develop and implement various strategies to prevent or minimise the occurrence of fire ignition from its energy network assets.

The living and working near transmission line easements fact sheet indicates that transmission lines are designed to prevent the risk of starting fires from fallen conductors (EnergyCo, 2022d). Fire cannot travel along transmission lines as they are not made from flammable materials. Transmission lines are operated remotely and can be shut down quickly in the event of a bushfire. Transmission lines would not prevent aerial firefighting activities from being carried out. Transmission lines are generally clearly visible from the air even when smoke is present, so aerial firefighting can continue.

EnergyCo would work with landowners during the easement acquisition process to understand individual property constraints in relation to fire management. This includes discussing any existing aerial operations and air strip locations.

Heightened concerns about bushfire risk were presented by landowners neighbouring the project and those opposing to host infrastructure. As noted in Section 1.2.3, while SIA consultation occurred in November 2022 and further engagement with landowners has been undertaken by EnergyCo, there is no further evidence as to how much concerns raised over bushfire risk has changed.

Therefore, some hosting and neighbouring landowners are likely to experience moderate stress due to bush fire risks, resulting in a High unmitigated impact, this is due to their level of concern and past experience with bushfires.

Table 7-8 Stress due to perceived bushfire risk associated with operation of transmission lines

Unmitigated Social Impact	Stress due to perceived bushfire risk associated with operation of transmission lines		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Hosting and neighbouring landowners	Likely	Moderate	High
Residents within the Local social locality	Possible	Minor	Medium
Regional social locality	No impacts anticipated.		

7.5.3 Stress due to perceived uncertainty in the local property market

While the impact of transmission lines on property values has been explored, research remains inconclusive. While there is stigma around transmission lines which can have implications to property value (Elliot and Wadley, 2002), over time the proximity to transmission lines can have little impact on dynamic changes in house prices (Han & Elliott, 2013).

During interviews, landowners hosting infrastructure shared the concern about changes to property value as a result of changes to landscape and potential constraints to farming and residential activities within properties. This finding is consistent with online survey results, in which 11 people raised concerns about property devaluation.

Some landowners raised specific concerns about how infrastructure from the project and the REZ could constrain the building of new dwellings, affecting the value of the property. In one instance a landowner within the project area had received approval for a development application previously submitted, however they were unsure whether the approval was still valid given the proximity of the development application to the project.

According to EIS Chapter 7 (Land use and property), no residential dwellings would be subject to acquisition for the project, however there may be the requirement to adjust infrastructure on private residential properties within which the project would be located (such as agricultural sheds, fencing and gates). In addition, as discussed in Section 7.3.2, building houses is one of the activities not permitted within an easement (EnergyCo, 2022d).

The SBP Scheme would mitigate to some extent concerns about changes to property values, as landowners hosting infrastructure would be paid a set rate of $200,000 per kilometre of transmission hosted, paid out in annual instalments over 20 years. The SBP Scheme considers that if the property owner changes during the 20 year period, the annual payments would be made to the new owner for the remaining of the 20 year period.

As such, it is unlikely that landowners hosting infrastructure would experience stress due to perceived changes to property values, as they would be included in the SBPS, resulting in a Low unmitigated impact. However, it is likely that neighbouring landowners may experience stress due to perceived changes to property values, resulting in a High unmitigated impact.

Table 7-9 Stress due to perceived uncertainty in the local property market

Unmitigated Social Impact	Stress due to perceived uncertainty in the local property market		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Neighbouring landowners	Likely	Moderate	High
Landowners hosting infrastructure and residents in local social locality	Unlikely	Minimal	Low
Local and regional social localities	No impacts anticipated.		

7.6 Surroundings

7.6.1 Diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity

Landowners and community representatives reported high values and attachment to current aesthetics and vistas. Most landowners were concerned about visual impacts. Visual impacts were raised as one of the top concerns in the online survey, with 15.5 per cent of survey respondents identified the visual impact of the transmission line as a key concern, and with seven respondents expressing concern about the perceived industrialisation of the area (cumulative impact of the REZ).

The Wollar Progress Association raised the expectation that transmission lines should not be obvious and should be painted green to mitigate the sun light bouncing on them, as previously achieved with existing transmission lines. Finally, in the online survey, 19 people raised concerns about the environmental impacts associated with the project.

As previously outlined in Section 6.5.1, the placement of the transmission lines has been aligned as much as possible with previously disturbed land, including traversing areas used for mining and next to existing transmission line easements, as well as in coordination with connections to renewable energy generation and storage projects to avoid as much as possible proximity to dwellings and areas environmental significance.

Technical paper 3 states that during operation there would be moderate landscape character impacts to the forested hills, rural valley and undulating rural hills landscape character zones. Landscape character impacts were due to reduced vegetation in the predominantly vegetated forested hills landscapes, and the introduction of large transmission line towers, switching stations and energy hubs, which would contrast with the character of the rural valley and undulating rural hills landscape character zones. Technical paper 3 also identified moderate-low night-time visual impacts in three locations neighbouring the New Wollar Switching Station, the Merotherie Energy Hub and the Elong Elong Energy Hub.

Regarding visual impact to sensitive receivers, Technical paper 3 identified a total of 132 residential dwellings within two kilometres of the project. Of these 92 dwellings were identified as having the potential for a visual impact and requiring a detailed view assessment. The detailed view assessment concluded that the following potential visual impacts may occur:

- 15 dwellings would potentially experience a high visual impact
- 22 dwellings would potentially experience a moderate visual impact
- the remaining 55 dwellings would potentially experience a low or negligible visual impact.

These visual impact levels have the potential to be further reduced with the implementation of mitigation measures.

Of the 92 dwellings subject to a detailed view assessment as part of the landscape character and visual impact assessment, 56 would not host the infrastructure. Of these non-host dwellings three would potentially experience a high visual impact, and 14 dwellings would potentially experience a moderate visual impact.

Technical paper 4 identified impacts to plant community types at approximately 1,600 hectares and impacts to seven threatened ecological communities, noting that entry to Biodiversity Offsets Scheme is applicable to the project.

Consequently, diminished sense of belonging is likely to be experienced as a moderate change for landowners hosting infrastructure for neighbouring landowners and landowners subject to compulsory acquisition, resulting in a High unmitigated impact.

Landowners of properties where easements have been acquired through mutual agreement it is anticipated that this would be a Low unmitigated impact, given their comparatively greater capacity to influence project design.

Table 7-10 Diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity

Unmitigated Social Impact	**Diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Neighbouring landowners and landowners subject to compulsory acquisition	Likely	Moderate	High
Landowners subject to acquisition of easements through mutual agreement and residents in local social locality	Possible	Minor	Medium
Local and regional social localities	No impacts anticipated.		

7.6.2 Diminished sense of safety due to perceived flooding and drainage changes

During SIA engagement, one landowner raised concerns about how the project infrastructure could change water courses, impacting flooding. This concern was shared by the Wollar Progress Association who expressed concern about climate change risk management, and whether the project design has considered increased and more intense windstorms and flooding events, ensuring infrastructure would be able to withstand those events.

Technical paper 15 identified that the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations may impact flooding and drainage patterns due to:

- an increase in the rate and volume of runoff, which in turn has the potential to increase the rate and volume of runoff being conveyed in the receiving drainage lines
- the redirection of flow along diversion channels and culverts that are proposed to control runoff, which in turn has the potential to result in a redistribution of flows in the receiving drainage lines.

Technical paper 15 notes that regarding the transmission line support structures, any impact associated with increased depth and velocity of floodwaters would be confined to a relatively localised area in the vicinity of each tower.

While the perception of potential increased flooding frequency and severity may lead to decreased sense of safety and stress for some community members, changes to existing flooding conditions would be unlikely in most instances, and minor in the case that changes would occur.

As such, landowners hosting project infrastructure may experience possible and minimal diminished sense of safety impacts due to changes to flooding and drainage surrounding transmission line structures, which would result in a Low unmitigated impact. Landowners neighbouring the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations may experience a slightly higher impact magnitude, resulting in possible and minor diminished sense of safety due to changes, which would be a Medium unmitigated impact.

Diminished sense of safety due to flooding and drainage changes would result on a Low unmitigated impact for landowners hosting project infrastructure, and a Medium unmitigated impact for landowners neighbouring the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations.

Table 7-11 Diminished sense of safety due to perceived flooding and drainage changes

Unmitigated Social Impact	**Diminished sense of safety due to perceived flooding and drainage changes**		
Extent	**Likelihood**	**Magnitude**	**Unmitigated impact significance**
Landowners hosting project infrastructure	Possible	Minimal	Low
Landowners neighbouring the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations	Possible	Minor	Medium
Local and regional social localities	No impacts anticipated.		

7.7 Summary of operational impacts

Table 7-12 provides a summary of potential social impacts during the operational phase of the project, as well as the extent, nature, likelihood, magnitude and significance of each impact.

Colour coding has been applied to the table below for ease of interpretation. Blue shaded cells represent benefits (positive impacts) and orange, yellow and green are applied to negative impacts to showcase high, medium and low levels of significance respectively.

Table 7-12 Summary of operational impacts

Primary impact category	Potential impacts on people	Extent	Nature	Likelihood	Magnitude	Unmitigated impact significance
Community	Unequal distribution of impacts and benefits	Landowners neighbouring infrastructure	Negative	Almost certain	Moderate	High
Way of life	Changes to the way landowners use and enjoy their properties	Landowners hosting infrastructure	Negative	Likely	Minor	Medium
		Landowners neighbouring switching station and energy hub sites		Possible	Moderate	Medium
Livelihoods	Enhanced landowner social and economic livelihoods associated with the Strategic Benefit Payments Scheme	Landowners hosting infrastructure	Positive	Almost certain	Moderate	High
Livelihoods	Livelihood impacts due to property management restrictions or alterations	Landowners hosting infrastructure	Negative	Possible	Minimal	Low
		Neighbouring landowners to project construction area		Unlikely	Minimal	Low
Accessibility	Potential disruption to telecommunications (including radio, internet and television) in the vicinity of transmission infrastructure	Communities without mobile network coverage (Turill, Wollar, Uarbry, Tichular, Cumbo and Moolarben)	Negative	Possible	Minimal	Low
Health and wellbeing	Stress due to perceived health and safety risks associated with electromagnetic fields (EMFs)	Neighbouring landowners and landowners subject to compulsory acquisition	Negative	Likely	Moderate	High
		Landowners subject to acquisition of easements through mutual agreement and residents in local social locality		Possible	Minimal	Low

Primary impact category	Potential impacts on people	Extent	Nature	Likelihood	Magnitude	Unmitigated impact significance
Health and wellbeing	Stress due to perceived bushfire risk associated with operation of transmission lines	Hosting and neighbouring landowners	Negative	Likely	Moderate	High
		Local social locality	Negative	Possible	Minor	Medium
Health and wellbeing	Stress due to perceived uncertainty in the local property market	Neighbouring landowners	Negative	Likely	Moderate	High
		Landowners hosting infrastructure and residents in local social locality		Unlikely	Minimal	Low
Surroundings	Diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity	Neighbouring landowners and landowners subject to compulsory acquisition	Negative	Likely	Moderate	High
		Landowners subject to acquisition of easements through mutual agreement and residents in local social locality		Possible	Minor	Medium
Surroundings	Diminished sense of safety due to perceived flooding and drainage changes	Landowners hosting project infrastructure	Negative	Possible	Minimal	Low
		Landowners neighbouring the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations		Possible	Minor	Medium

8 Management and mitigation measures

This chapter of the SIA includes two aspects:

- the key social impact mitigation and enhancement measures that relate to each of the impacts
- the residual social impact significance. The residual impact significance relates to the level of significance remaining for each impact after the mitigation measure has been implemented.

The principles below informed the development of management measures:

- informed by consultation: stakeholders were consulted about how EnergyCo could manage the impacts and enhance the benefits of the project, the input was considered when developing measures and a management framework
- specific and relevant: measures would be designed to address the negative social impact being mitigated.

8.1 Management measures

Mitigation measures in Technical papers that are relevant to the management of social impacts have been reviewed and considered in the development of this report. To avoid duplication, those measures have not been listed in this chapter, however, have been considered in the assessment of residual social impacts (see Section 8.2).

Table 8-1 provides a summary of mitigation and management measures identified for the project, indicating the relevant phase, impact area and applicable mitigation measure.

A plan for monitoring and managing the project's social performance, referred to as a Social Impact Management Plan (SIMP), will be prepared by the appointed Network Operator after project approval. The process of monitoring and reporting the SIMP is outlined in Table 8-1.

Table 8-1 Summary of mitigation and management measures

Ref	Mitigation measures	Relevant phase	Applicable location(s)
SI1	A Landowner Engagement Strategy will be developed and implemented for the project which will include the following: — appointment of a dedicated Land Acquisition Manager to oversee the implementation of the strategy — ensure personnel appointed to engage with landowners have been suitably trained to undertake engagement with vulnerable people and those potentially affected by mental health issues.	Pre-construction, Construction	Properties hosting infrastructure

Ref	Mitigation measures	Relevant phase	Applicable location(s)
SI2	A Workforce Management Plan will include: — a code of conduct for workers, which will include a zero-tolerance policy relating to anti-social behaviour — cultural awareness training for the workforce — measures for the workforce residing at the workforce accommodation camps including recreation areas, internet connections etc. The plan will include strategies to promote wellbeing of the workforce and a positive interaction with local community, which may include promoting workforce participation in community life (sports, events, volunteering), providing healthy food options, implementing health and safety assessments, among others. The plan will be reviewed every six months to identify and manage any unanticipated impacts.	Pre-construction/ Construction	Regional social locality
SI3	A Local Workforce Participation Strategy will be prepared and implemented. It will include the following initiatives: — identification of local skills gaps and potential workforce skills and training requirements — investigate opportunities for the delivery of training and upskilling programs for local labour force — strategies for maximising local training and employment opportunities for residents, especially for First Nations People. — initiatives to promote local employment, such as early engagement with local employment agencies and council, communication of employment opportunity via relevant local mediums of information, contract workers through existing local businesses, etc.	Pre-construction	Regional social locality
SI4	An Industry Participation Plan will be prepared and implemented which will: — identify services and goods that could be sourced locally (quarry materials, catering, transport, cleaning, stationery) — identify the capacity of local and Indigenous businesses and suppliers to be ready for potential additional demand — provide local and Indigenous procurement targets — identify tailored ‘meet-the-contractor’ events for local and Aboriginal businesses to learn about potential opportunities associated with the delivery of the project — monitor the availability of key goods and services to the local community when procured locally.	Pre-construction/ Construction	Regional social locality

Ref	Mitigation measures	Relevant phase	Applicable location(s)
SI5	A pre-construction and construction Communication and Engagement Plan will be prepared to ensure: — landowners, businesses and local residents with the potential to be affected by construction activities are notified in a timely manner about the timing of activities and potential for impacts, and the measures that will be implemented to minimise the potential for impacts on individual properties — include proactive methods of communication with affected parties and strategies to reach vulnerable members of the community such as doorknocking, text messages, newsletters and or phone calls — ensure receivers identified as eligible for noise mitigation treatments in Technical paper 9 – Noise and vibration are supported and engaged through the delivery process — provide further information in the local social locality about the regional energy strategy, including about community energy schemes, power purchasing agreements and other initiatives — enquiries and complaints are managed, and a timely response is provided for concerns raised and information about how solutions are being investigated is provided to the community.	Pre-construction/ Construction	Local social locality
SI6	A First Nations liaison group will be established. It will focus on identifying and implementing strategies to enhance and maximise opportunities for employment, procurement, education and other potential project related benefits. Members of the First Nations liaison group will be identified through collaboration with the existing Central-West Orana REZ Aboriginal Working Group, and will include local and regional members including: — Local Aboriginal Land Councils — Aboriginal Representative Organisations — relevant Aboriginal social, health and support services — educational organisations and services — employment agencies — Aboriginal business organisations/groups.	Pre-construction/ Construction	Regional social locality

Ref	Mitigation measures	Relevant phase	Applicable location(s)
SI7	A complaints management system will be maintained throughout the construction period and for a minimum of 12 months after the completion of construction is finished. The complaints management system will include the following (at a minimum): — contact details for a 24-hour response line and email address for ongoing stakeholder contact throughout the project — details of all complaints received will be recorded — verbal and written responses describing what action will be taken will be provided to the complainant (or as otherwise agreed by the complainant).	Construction Initial 12 months of operation	Regional social locality
SI8	A Social Impact Management Plan (SIMP) will be prepared that will: — refine the social impact mitigation measures to be implemented and the impacts that they are intended to address — set out how the community and stakeholders can provide feedback on the mitigation measures and the effectiveness of their implementation. Monitoring findings will be presented to the project's Community Reference Groups meetings (if active) and to an annual community meeting where feedback will be sought on the monitoring program and whether actions or targets require revision. EnergyCo will track implementation of the SIMP and review performance measures quarterly, to facilitate continual improvement. The SIMP will be reviewed annually and updated based on monitoring data and community and stakeholder feedback. In addition to the monitoring review, proposed mitigation measures will also be reviewed to assess whether they are still applicable and on track to meet the residual risk rating applied in the EIS. Any new issues or initiatives that have emerged and that should be included in ongoing mitigations and/or monitoring will be addressed. The results of SIMP reviews will be published on the EnergyCo website.	Pre-construction/ Construction	Regional social locality
SI9	An Operational Communication Plan will be developed and implemented, which will address the following: — maintaining communications with those located in close proximity to the transmission line to provide updated information and monitor experience and concerns. The Operational Communication Plan will be reviewed and updated on an annual basis.	Operation	Local social locality

8.2 Residual impacts

Table 8-2 summarises the predicted social impacts identified in Chapters 6 and 7 of this report. These impacts are expected to occur in the pre-construction, construction and operational phases of the project. The following tables identify the recommended mitigation or enhancement measures for each social impact or make reference to the relevant EIS technical paper that details a specific mitigation measure that would address the identified social impact.

The residual social impact rating has been determined after implementation of the recommended mitigation or enhancement measure. As noted in Section 3.5, social impacts are experienced by different people to different extents. This means that the residual impact rating may differ for some people more so than for others. This is dependent on a range of factors and has been taken into consideration when designing mitigation measures and applying residual risk ratings to project decisions.

Colour coding has been applied to the table below for ease of interpretation. Blue shaded cells represent benefits (positive impacts) and orange, yellow and green are applied to negative impacts to showcase high, medium and low levels of significance respectively.

Table 8-2 Residual impact assessment of construction impacts

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Community	Detrimental effects to community cohesion	Landowners hosting infrastructure and adjacent neighbours	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan.	Possible Moderate	Medium
		Local social locality	Possible Moderate	Medium		Possible Minimal	Low
Community	Impacts to sense of safety due to an influx of non-resident workforce	Merotherie and Cassilis communities	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Workforce Management Plan — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan — traffic control plans, road safety audits, driver code of conduct and driver fatigue management plan (Technical paper 13).	Possible Minor	Medium
		Local social locality	Possible Minor	Medium		Unlikely Minimal	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Way of life	Reduced sense of place due to construction related amenity impacts	Landowners hosting infrastructure	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Landowner Engagement Strategy — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Property Management Plans and pre-condition assessments (EIS Chapter 7 (Land use and property)) — identifying opportunities for the retention and protection of existing trees and refined vegetation clearance within the construction area (Technical paper 3) — construction area-wide dust management measures, and speed limits for project heavy vehicles on unsealed roads and further reduced during windy conditions (Technical paper 18) — disturbed areas would be stabilised and appropriately rehabilitated back to pre-construction condition where practical, or as agreed in consultation with the relevant landowner and documented in Property Management Plans (EIS Chapter 7 (Land use and property)).	Possible Minimal	Low
		Landowners neighbouring transmission infrastructure	Likely Minor	Medium		Possible Minor	Medium
		Local social locality	Possible Minimal	Low		Unlikely Minimal	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Way of life	Changes to the way people move and work due to perceived road delays and reduced sense of safety	Suburbs surrounding construction compounds and workforce accommodation camps (Merotherie, Cassilis, Wollar and Elong Elong)	Possible Minor	Medium	The following plans, systems and strategies would be implemented: — Pre-construction and Construction Communication and Engagement Plan — complaints management system — traffic control plans, Driver Fatigue Management Plan and code of conduct regarding use of construction routes, Vehicle Movement Plan and maintained property access throughout construction where feasible. Where no feasible alternative access will be provided, information will be provided prior (Technical paper 13).	Possible Minimal	Low
		Other suburbs within the local social locality (including those near construction routes)	Possible Minimal	Low		Unlikely Minimal	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Livelihoods	Local business opportunities and economic stimulus due to project procurement opportunities and increased demand for goods and services	Businesses within the local social locality	Possible Moderate	Medium (positive)	The following plans, systems and strategies would be implemented: — Industry Participation Plan — First Nations liaison group — Pre-construction and Construction Communication and Engagement Plan.	Likely Moderate	High (positive)
		First Nations businesses within the regional social locality	Possible Major	High (positive)		Likely Major	High (positive)
		Businesses within the regional social locality	Likely Minor	Medium (positive)		Likely Moderate	High (positive)
Livelihoods	Improved livelihoods due to increased local employment opportunities	Active workforce within the local social locality	Possible Minimal	Low (positive)	The following plans, systems and strategies would be implemented: — Local Workforce Participation Strategy — Industry Participation Plan — First Nations liaison group — Pre-construction and Construction Communication and Engagement Plan.	Possible Minor	Medium (positive)
		First Nations within the regional social locality	Possible Major	High (positive)		Likely Major	High (positive)
		Active workforce within the regional social locality	Possible Minor	Medium (positive)		Likely Moderate	High (positive)

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Livelihoods	Diminished availability of local employees due to increased competition with the project amongst local employers	Suburbs with no unemployed residents (western section of project – Elong Elong, Gollan and Spicers Creek)	Possible Moderate	Medium	The following plans, systems and strategies would be implemented: — Industry Participation Plan — Local Workforce Participation Strategy — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan.	Possible Minor	Medium
		Local social locality	Possible Minor	Medium		Possible Minimal	Low
		Regional social locality	Unlikely Minor	Low		Very unlikely Minor	Low
Livelihoods	Impacts on livelihoods due to increased biosecurity threats	Landowners hosting project infrastructure	Likely Major	High	The following plans, systems and strategies would be implemented: — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan — management measures in Technical paper 2 including the development of Biosecurity Management Plans, consultation with landowners, and Property Management Plans.	Possible Moderate	Medium
		Landowners neighbouring project infrastructure	Possible Major	High		Unlikely Moderate	Medium
		Local social locality (excluding landowners hosting and neighbouring project infrastructure)	Unlikely Minor	Low		Very unlikely Minor	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Accessibility	Impacted capacity of health, food (supermarkets, bakeries, and others) and social services to meet increased demand caused by the project workforce	Service hubs within the local social locality (Dubbo, Mudgee, Merriwa, Scone, Coolah, Gulgong)	Possible Moderate	Medium	The following plans, systems and strategies would be implemented: — Industry Participation Plan — Pre-construction and Construction Communication and Engagement Plan — Community Wellbeing Strategy — complaints management system — Social Impact Management Plan.	Possible Moderate	Medium
		Local social locality	Unlikely Minimal	Low		Unlikely Minimal	Low
		Regional social locality	Unlikely Minimal	Low		Unlikely Minimal	Low
Accessibility	Potential disruption to essential services (communications, gas and energy)	Local social locality	Possible Minimal	Low	The following plans, systems and strategies would be implemented: — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Community Wellbeing Strategy — location of all services and utilities within the construction area will be confirmed during detailed design, and any required protection or relocation would be designed in consultation with utility providers (EIS Chapter 7 (Land use and property)).	Unlikely Minimal	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Health and wellbeing	Diminished mental health amongst landowners	Landowners hosting project infrastructure	Possible Minor	Medium	The following plans, systems and strategies would be implemented: — Landowner Engagement Strategy — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan — management measures in Technical paper 2 including the development of Biosecurity Management Plans, consultation with landowners, and Property Management Plans — pre-condition assessments, consultation with landowners and Property Management Plans (EIS Chapter 7 (Land use and property)).	Unlikely Minor	Low
		Landowners subject to compulsory acquisition and neighbouring project infrastructure	Likely Moderate	High		Possible Moderate	Medium

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Health and wellbeing	Diminished health and wellbeing due to amenity impacts, such as construction noise and vibration	Landowners hosting project infrastructure	Almost certain Minor	Medium	The following plans, systems and strategies would be implemented: — Landowner Engagement Strategy — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan — noise controls including source and administrative controls (Technical paper 9) — consultation with landowners and Property Management Plans (Technical paper 2).	Unlikely Minimal	Low
		Landowners neighbouring project infrastructure	Possible Minor	Medium		Possible Minimal	Medium
		Local social locality	Unlikely Minor	Low		Very unlikely Minimal	Low
Culture	Impacts on First Nations cultural values	Local Fist Nations communities, organisations and individuals within the local and regional social localities	Possible Major	High	The following plans, systems and strategies would be implemented: — First Nations liaison group — avoidance and minimise impacts to identified Aboriginal objects and/or sites identified within the construction area, Aboriginal Cultural Heritage Management Plan; and Heritage-interpretation strategy (Technical paper 5).	Unlikely Moderate	Medium

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Surroundings	Changes to the way people enjoy and connect with the environment	Landowners hosting and neighbouring project infrastructure	Likely Minor	Medium	The following plans, systems and strategies would be implemented: — Landowner Engagement Strategy — Property Management Plan — Pre-construction and Construction Communication and Engagement Plan — complaints management system — Social Impact Management Plan — vegetation clearance for the project will be limited to the minimum extent necessary for construction and operation to maximise existing visual screening and retention of the existing landscape character (Technical paper 3) — avoidance of biodiversity sensitive areas during detailed design by prioritising areas with Vegetation Integrity as per Biodiversity Assessment Method (Technical paper 4).	Possible Minor	Low
		Local social locality	Unlikely Minor	Low		Unlikely Minimal	Low
Decision-making	Diminished capacity to make or influence decisions regarding changes that may affect people's lives	Landowners neighbouring project infrastructure	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Landowner Engagement Strategy — Property Management Plan (Technical paper 2) — Pre-construction and Construction Communication and Engagement Plan — complaints management system.	Possible Minor	Medium
		Landowners hosting project infrastructure and residents within the local social locality	Possible Moderate	Medium		Possible Minor	Medium
		Regional social locality	Unlikely Minor	Low		Very unlikely Minor	Low

Table 8-3 Residual impact assessment of operational impacts

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Community	Unequal distribution of impacts and benefits	Landowners neighbouring infrastructure	Almost certain Moderate	High	The following plans, systems and strategies would be implemented: — Social Impact Management Plan — investigating potential vegetation screening and other options at affected receivers Chapter 9 (Landscape character and visual amenity).	Likely Moderate	High
Way of life	Changes to the way landowners use and enjoy their properties	Landowners hosting infrastructure	Likely Minor	Medium	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan — investigating opportunities for the provision of screening vegetation or other options for private dwellings where the project is predicted to have a high-moderate or high visual impact (Technical paper 3).	Possible Minimal	Low
		Landowners neighbouring switching stations and energy hub sites	Possible Moderate	Medium		Possible Minor	Medium
Livelihoods	Enhanced landowner social and economic livelihoods associated with Strategic Benefit Payments Scheme	Landowners hosting infrastructure	Almost certain Moderate	High (positive)	Not applicable.	Almost certain Moderate	High (positive)

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Livelihoods	Livelihood impacts due to property management restrictions or alterations	Landowners hosting infrastructure	Possible Minimal	Low	The following plans, systems and strategies would be implemented: — Operational Communication Plan — fencing and access arrangements, such as locked gates and requirements for opening and closing of gates, will be determined in consultation with landowners. Any damage caused by maintenance activities will be repaired promptly (Technical paper 2) — Social Impact Management Plan.	Unlikely Minimal	Low
		Neighbouring landowners to project construction area	Unlikely Minimal	Low		Very Unlikely Minimal	Low
Accessibility	Potential disruption to telecommunications (including radio, internet and television) in the vicinity of transmission infrastructure.	Communities without mobile network coverage (Turill, Wollar, Uarbry, Tichular, Cumbo and Moolarben)	Possible Minimal	Low	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan.	Possible Minimal	Low
Accessibility	Increased access to renewable energy sources	Local Aboriginal community owned properties within the local and regional social localities	Likely Moderate	High (positive)	Not applicable	Likely Moderate	High (positive)
		Local and regional social localities	Possible Moderate	Medium (positive)	Not applicable	Possible Moderate	Medium (positive)

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Health and wellbeing	Stress due to perceived health and safety risks associated with electromagnetic fields (EMFs)	Neighbouring landowners and landowners subject to compulsory acquisition	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan.	Possible Moderate	Medium
		Landowners subject to acquisition of easements through mutual agreement and residents in local social locality	Unlikely Minimal	Low		Very unlikely Minimal	Low
Health and wellbeing	Stress due to perceived bushfire risk associated with operation of transmission lines	Hosting and neighbouring landowners	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan — bushfire measures including Asset Protection Zones (APZs), Access for firefighting appliances will be provided in accordance with Section 2 of the NSW Rural Fire Service Fire Trails Standards (Technical paper 10).	Possible Moderate	Medium
		Residents in the Local social locality	Possible Minor	Medium		Unlikely Minimal	Low
Health and wellbeing	Stress due to perceived uncertainty in the local property market	Neighbouring landowners and landowners subject to compulsory acquisition	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan.	Possible Moderate	Medium
		Landowners subject to acquisition of easements through mutual agreement	Unlikely Minimal	Low		Very unlikely Minimal	Low

Primary impact category	Potential impacts on people	Extent	Likelihood & magnitude	Unmitigated impact significance	Management measures	Likelihood & magnitude	Residual impact
Surroundings	Diminished sense of belonging due to loss of aesthetic values and perceived loss of biodiversity	Neighbouring landowners and landowners subject to compulsory acquisition	Likely Moderate	High	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan — investigating opportunities for the provision of screening vegetation or other options for private dwellings where the project is predicted to have a high-moderate or high visual impact (Technical paper 3) — develop and implement guidelines and procedures for maintenance of the project during operation as part of the OEMP or EMS and Biosecurity Management Plan (Technical paper 4).	Possible Moderate	Medium
		Landowners subject to acquisition of easements through mutual agreement and residents in local social locality	Possible Minor	Medium		Possible Minimal	Low
Surroundings	Diminished sense of safety due to perceived flooding and drainage changes	Landowners hosting project infrastructure	Possible Minimal	Low	The following plans, systems and strategies would be implemented: — Operational Communication Plan — Social Impact Management Plan — flooding measures include to confirm the impact of the project on flood behaviour during detailed design and design accordingly to minimise adverse flood related impacts. This would include consideration of future climate change (Technical paper 15).	Unlikely Minimal	Low
		Landowners neighbouring the New Wollar Switching Station, Merotherie Energy Hub, Elong Elong Energy Hub and 330 kV switching stations	Possible Minor	Medium		Possible Minimal	Low

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Appendix A

Scoping of social impacts

Table A-1 Scoping of social impacts

Primary impact category	Potential impacts on people	Nature	Phase	Level of assessment
Way of life	Amenity impacts may temporarily affect sense of place and alter the way neighbouring landowners and residents use and enjoy space.	Negative	Construction	Detailed assessment of the impact
Way of life	Changes to way of life as a result of delays to mobility during construction due to increased traffic and transport of construction workforce, equipment and construction materials (in particular at energy hubs). This may be exacerbated by cumulative impacts of other local and regional projects.	Negative	Construction	Standard assessment of the impact
Community	The perceived unfair distribution of impact and benefit resulting in community division affecting residents' social networks, sense of community and wellbeing. These impacts may be exacerbated by cumulative impacts of the project with other nearby projects.	Negative	Construction and operation	Detailed assessment of the impact
Culture	Cumulative impacts in cultural identity in the region as a result of the increased presence of the renewable energy industry within the landscape.	Negative	Operational	Detailed assessment of the impact
Culture	Impacts on Aboriginal cultural values and wellbeing due to changes to the environment and sites of cultural heritage significance that are not acceptable to Aboriginal people, affecting sense of place and cultural connection to country.	Negative	Construction and operation	Detailed assessment of the impact
Access	Increased demand on health/social services due to increases in temporary construction workforce, which may be enhanced by cumulative impacts from other major projects.	Negative	Construction	Detailed assessment of the impact
Access	Potential disruption to telecommunications in the vicinity of transmission infrastructure, including radio, internet and television.	Negative	Construction and operation	Detailed assessment of the impact

Primary impact category	Potential impacts on people	Nature	Phase	Level of assessment
Access	Impacts on wellbeing – annoyance among residents and impacts to general way of life as a result of potential interruptions to utilities such as water, electricity, gas, telecommunications etc. during the construction phase of the project (if realignment of services required).	Negative	Construction	Minor assessment of the impact
Health and wellbeing	Detrimental effects on health and wellbeing due to the combined effects of dust and noise during construction, likely to affect neighbouring landowners and residents, especially those with pre-existing respiratory conditions such as asthma and emphysema.	Negative	Construction	Standard assessment of the impact
Health and wellbeing	Impacts to sense of safety due to increase traffic movements associated with the transport of equipment and materials during construction, and the potential degradation of local roads.	Negative	Construction	Detailed assessment of the impact
Health and wellbeing	Mental health issues experienced by the workforce due to feelings of isolation.	Negative	Construction	Detailed assessment of the impact
Health and wellbeing	Detrimental physical and mental health outcomes on landowners subject to acquisition process, physical changes to their properties and way they use and manage their land. This may be exacerbated by cumulative impacts of the project with other nearby projects.	Negative	Construction	Detailed assessment of the impact
Health and wellbeing	Stress due to perceived health and safety risks associated with the construction of transmission line towers within properties, including concern about potential health impacts of high voltage transmission lines electromagnetic fields (EMFs).	Negative	Construction and operation	Detailed assessment of the impact
Health and wellbeing	Stress due to perceived bushfire risk associated with the construction and operation of transmission lines, particularly given the agricultural and residential land use in the area.	Negative	Construction and operation	Detailed assessment of the impact
Health and wellbeing	Stress due to perceived uncertainty in the local property market associated with cumulative impacts of the project with other nearby projects and land acquisition.	Negative	Construction	Detailed assessment of the impact

Primary impact category	Potential impacts on people	Nature	Phase	Level of assessment
Surroundings	Permanent change of community character due to loss of aesthetic values as a result of visual impacts caused during construction and operation, likely to affect neighbouring landowners and residents within local social locality.	Negative	Construction and operation	Detailed assessment of the impact
Surroundings	Perceived or actual loss of biodiversity values resulting in impacts to the community's sense of belonging and aesthetic values, which may be exacerbated by cumulative impacts.	Negative	Construction and operation	Standard assessment of the impact
Surroundings	Diminished sense of safety during construction due to the increased presence of construction workers in service communities, which affects local perceptions of safety and wellbeing.	Negative	Construction	Detailed assessment of the impact
Livelihoods	Easement and associated transmission line may restrict or alter how some landowners manage their property, potentially decreasing productivity on some portions of land or perceived property value impacts, which could have an effect on livelihoods.	Negative	Construction and operation	Standard assessment of the impact
Livelihoods	Improvement on landowner’s livelihoods due to receiving compensation/leasing payments for transmission towers.	Positive	Construction and operation	Detailed assessment of the impact
Livelihoods	Improved livelihoods of local business owners as result of economic stimulus resulting from the project procurement opportunities.	Positive	Construction	Minor assessment of the impact
Livelihoods	Employment opportunities would improve the livelihoods of those employed, improve mental wellbeing, the way they interact with their communities and their ability to access goods and services.	Positive	Construction	Detailed assessment of the impact
Livelihoods	Impacts on local livelihoods due to increased demand in local workforce market resulting in increased cost of labour to small businesses (agriculture) and causing labour shortages for other non-project industries.	Negative	Construction	Detailed assessment of the impact

Primary impact category	Potential impacts on people	Nature	Phase	Level of assessment
Livelihoods	Cumulative impacts to livelihood due to cumulative impacts on loss of agricultural land and reduced productivity. Combined land acquisition may impact local livelihoods and overall local agricultural industry (jobs etc).	Negative	Construction	Detailed assessment of the impact
Livelihoods	Improvement in local employment opportunities due to the encouragement of investment into renewable projects and associated industries within the region as a result of the project.	Positive	Operation	Detailed assessment of the impact
Livelihoods	Perceived inequitable distribution of benefits, as the project is supplying energy consumers on the east coast of NSW, therefore not benefiting the communities where the infrastructure is located.	Negative	Operation	Detailed assessment of the impact
Decision-making systems	Landowners may perceive negative impacts in relation to their property and access to remedy rights, regardless of the standards of procedural fairness being met and just compensation terms being in place. This would include adjoining landowners that are in proximity to new transmission infrastructure.	Negative	Construction and operation	Detailed assessment of the impact
Decision-making system	Impacts on procedural fairness and people's capacity to influence changes that may affect their lives.	Negative	Construction and operation	Detailed assessment of the impact

Appendix B

SIA consultation questionnaires

Table B-1 SIA consultation questionnaires

<table>
<tr><th>Stakeholder group</th><th>Questionnaire</th></tr>
<tr><td>Councils</td><td>
— What are the current issues/challenges facing your community and organisation?
— How would you describe the current capacity of the below services to meet community demand?
<table>
<tr><th>Service</th><th>Surplus capacity</th><th>At capacity</th><th>Over capacity</th></tr>
<tr><td>Public Indoor Recreation (i.e., Courts)</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Private Recreation (i.e. Gyms)</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Outdoor Recreation (physical assets i.e. Ovals, parks)</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Aquatic Recreation</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Health</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Emergency</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Schools</td><td>–</td><td>–</td><td></td></tr>
<tr><td>Vocational education providers (i.e. TAFE)</td><td>–</td><td>–</td><td></td></tr>
<tr><td>Universities</td><td>–</td><td>–</td><td></td></tr>
</table>
— Are there any places or segments of the population that are particularly under-served by the services listed above?
— Are there any other key services likely to be impacted by temporary workforces that we should be considering?
Thinking of CWO REZ transmission line:
— What potential project benefits and impacts during construction has your organisation identified?
— What potential project benefits and impacts during operation has your organisation identified?
— How do you think the project may impact or provide benefit to (further exploratory questions – in case issue is not raised in the two questions above):
  — the local housing/accommodation market?
  — agriculture or productive land?
  — cohesiveness of the community?
  — community values, sense of place?
— Are there any vulnerable members of the community that may be particularly impacted by the project?
— How can EnergyCo manage or reduce potential impacts during construction and operation?
— How can EnergyCo manage or increase potential benefits to the community?
— Thank you for your time, are there any final comments you would like to make?
</td></tr>
</table>

Stakeholder group	Questionnaire
	Thinking of the CWO REZ associated developments: — What do you think would be the implications of temporary workers utilising the local services above? — Are there opportunities for temporary workforce to join local sporting groups, competitions, and social leagues? — What do you think could be done to support local service providers to better meet community needs? — What do you think could done to support the community in accessing local services? — Do you have good examples of proponents' solutions and/or support in the past?

Landowners directly affected and residents/landowners within 500 m of transmission corridor	— How would you describe your local community?
	— What are some of the key priorities and values of the community?
	— What are the current issues/challenges facing your community?
	— What local services and facilities are important to you?
	— What is the predominant use of your land? Residential/agricultural/other business (if so, what kind)
	— Is this property your primary place of residence?
	— If residential, how many people live at this property? And how would you best describe your household? (single, young family, retirees).
	— How many years have you owned this property?
	— Are there any sectors/locations within your property that are key to your operations? (such as access to a certain paddock, bore water etc that are important for the property)
	— Do you generate an income from this property? If so, to what degree are you financially dependent on that income?
	— Do you lease out any part of your property?
	— What do you value most about your property and lifestyle?
	— Will the project affect the income generated by the property or your ability to continue regular activities? Describe.
	— What impacts are you most concerned about? (Noise/land access/visual/economic disadvantage/agency etc.)
	— What are the long-term changes that you think the project will bring to your property – either positive or negative?
	— How do you think the project may impact or provide benefit to (further exploratory questions – in case issue is not raised in the two questions above);
	  — agriculture or productive land?
	  — cohesiveness of your local community and neighbours?
	  — community values, sense of place?
	  — landscape and natural environment?
	— What does a successful project look like for you and your family?
	— How can EnergyCo manage or reduce potential impacts during construction and operation, and bring benefit to the community?

Stakeholder group	Questionnaire
	— ***Landowners subject to agreement question only:*** What would a fair lease acquisition/agreement look like for you'? Do you require support or assistance during the lease/acquisition process? If yes, please describe. — Thank you for your time, are there any final comments you would like to make?

Survey to directly affected landowners	This online survey has been prepared by WSP Australia to prepare a Social Impact Assessment (SIA) for the proposed Central-West Orana Renewable Energy Zone transmission project.
	Your feedback will help us to better understand the potential social impacts of the proposal on landowners, both positive and negative, during construction and operation.
	Your participation on this survey is voluntary and confidential.
	— What is the predominant use of your land?
	  — residential
	  — agricultural
	  — other business (if so, what kind).
	— Would you like to provide us with your address to better understand the location of your property and proximity to the project? No / Yes (Please specify)
	— What postcode is your property located in?
	— How many lots do you own/occupy?
	— Is this property your primary place of residence? Yes / No (skip to question 8)
	  — How many dwellings are located on this property?
	  — How would you best describe your household? Alternatives: Lone person, Couple with children, Couple without children, Single parent with children, Single parent without children, Other (Please specify)
	— Do you derive your primary source of income from your property? (Skip to question 9 if you do not generate income from your property) Yes / No / Prefer not to state
	— What do you value most about your property and lifestyle?
	— What do you see as the main benefits or opportunities relating to the transmission project?
	— What are your key issues or concerns relating to the transmission project?
	— What could EnergyCo do to help address your key issues/concerns?
	— Is there anything else you would like to share about the transmission project?

First Nations	— What are some of the interests or priorities of the local Indigenous community (i.e. within the study area)?
	— What local services and facilities are important to you and your organisation?
	— Are there any specific challenges facing the local Indigenous community?
	— How do you think the project could impact (both positively and negatively) the local Indigenous Community? Any concerns about:
	  — local Indigenous heritage, history and cultural values
	  — employment and livelihoods
	  — cohesiveness of the local community
	  — landscape and natural environment.

Stakeholder group	Questionnaire
	— How could EnergyCo mitigate or manage potential negative impacts? — What can EnergyCo implement to further benefit the local Indigenous community during construction and operations? — Thank you for your time, are there any final comments you would like to make?

Local action groups and community organisation representatives	— Can you tell me a little bit about your organisation/group and what/who you represent?
	— How would you describe your local community? What changes has the community experienced recently?
	— What local services and facilities are important to you and your organisation?
	— Question only to community organisations:
	  — Based on your knowledge, how would you describe the current capacity of the below services to meet community demand (using same table as council questionnaire)
	  — Could you please expand your answer?
	  — Are there any places or segments of the population that are particularly under-served by the services listed above?
	— What potential project benefits and impacts during ***construction*** has your organisation identified?
	— What potential project benefits and impacts during ***operation*** has your organisation identified?
	— Are there any vulnerable members of the community that may be impacted to a greater degree by the project?
	— How can EnergyCo manage or reduce potential impacts during construction and operations, and maximise benefits to the community?
	— Thank you for your time, are there any final comments you would like to make?
	Question only to community organisations:
	Thinking of the CWO REZ associated developments:
	— What do you think about temporary workers utilising local services?
	— What do you think could be done to support continuing and improvement of access to services?
	— Do you have good examples of proponents' solutions and/or support in the past?

Institutional stakeholders and social service providers	— What are the current issues/challenges facing your community/organisation? — To services only: What is the current capacity of your organisation to meet community demand for services in ***the Upper Hunter, Mid-Western Regional, Dubbo Regional and Warrumbungle. LGAs?*** Multiple choice answer: 1. Existing capacity, 2. At capacity, 3. Over capacity — Why? — Potentially – what data/ reports do you use to assess capacity across these catchments? Can we access it? — Do you currently serve temporary workforces in your organisation?

Stakeholder group	Questionnaire
	Thinking of CWO REZ transmission line: — What project benefits and impacts during **construction** has your organisation identified? — What project benefits and impacts during **operation** has your organisation identified? — Are there any vulnerable members of the community that may be particularly impacted/benefited by the project? — How can EnergyCo manage or reduce potential impacts during construction and operation, and bring benefit to the community? — Thank you for your time, are there any final comments you would like to make? **Thinking of the CWO REZ associated developments:** — What would it mean if you had an influx of temporary workers potentially utilising your service? Multiple choice answer: 1. Service would still have capacity, 2. Service would be at capacity, 3. Service would be over capacity, 4. We would seek to expand our capacity — What could be done to support your answer above? — Do you have good examples of proponents' solutions and/or support in the past?

Appendix C

Baseline data

C1 Community

Table C-1 Population and age data

Indicator	Total local social locality		Total regional social locality		Southern Section		Northern Section		Western Section		Eastern Section	
Total population	23,129	100%	152,418	100%	17,303	100%	2,562	100%	306	100%	278	100%
Indigenous population	1,790	7.7%	18,470	12.1%	1,325	7.7%	213	8.3%	23	7.5%	13	4.7%
Age in 10-year groups												
0-9 years	3,118	13.5%	19,899	13.1%	2,413	13.9%	263	10.3%	40	13.1%	14.7%	14.7%
10-19 years	2,878	12.4%	19,570	12.8%	2,142	12.4%	317	12.4%	28	9.2%	12.2%	12.2%
20 -29 years	2,428	10.5%	19,573	12.8%	1,924	11.1%	223	8.7%	24	7.8%	7.9%	7.9%
30 - 39 years	2,967	12.8%	16,819	11.0%	2,344	13.5%	237	9.3%	36	11.8%	13.3%	13.3%
40 - 49 years	2,623	11.3%	18,984	12.5%	1,994	11.5%	242	9.4%	36	11.8%	11.9%	11.9%
50 - 59 years	2,930	12.7%	17,536	11.5%	2,157	12.5%	379	14.8%	31	10.1%	9.0%	9.0%
60 - 69 years	2,719	11.8%	19,570	12.8%	1,924	11.1%	356	13.9%	60	19.6%	14.7%	14.7%
70 - 79 years	2,167	9.4%	18,612	12.2%	1,505	8.7%	336	13.1%	32	10.5%	8.3%	8.3%
80 - 89 years	1,060	4.6%	13,843	9.1%	732	4.2%	180	7.0%	11	3.6%	5.4%	5.4%
90 - 99 years	220	1.0%	6,281	4.1%	169	1.0%	20	0.8%	3	1.0%	0.0%	0.0%
100 years +	0	0.0%	1,262	0.8%	0	0.0%	0	0.0%	0	0.0%	0.0%	0.0%

Table C-2 Regional population growth 2011–2021

Year	Dubbo regional LGA	Narromine LGA	Mid-Western LGA	Upper Hunter LGA	Warrumbungle LGA	Gilgandra Shire LGA	Muswellbrook LGA	Cabonne LGA	Liverpool Plains
2011	49,079	6,832	23,020	14,206	9,898	4,515	16,328	13,211	7,480
2012	49,397	6,795	23,343	14,388	9,849	4,464	16,398	13,322	–
2013	49,757	6,761	23,742	14,514	9,743	4,428	16,415	13,473	–
2014	50,322	6,721	24,059	14,508	9,689	4,382	16,431	13,506	–
2015	50,847	6,668	24,374	14,412	9,622	4,342	16,435	13,511	–
2016	51,404	6,617	24,546	14,344	9,562	4,298	16,462	13,577	7,687
2017	52,463	6,593	24,874	14,310	9,485	4,302	16,510	13,673	–
2018	53,520	6,578	25,152	14,282	9,444	4,296	16,502	13,713	–
2019	54,282	6,556	25,379	14,270	9,364	4,318	16,529	13,751	–
2020	54,910	6,510	25,538	14,269	9,341	4,321	16,506	13,787	–
2021	55,518	6,448	25,704	14,254	9,254	4,319	16,463	13,760	7,551

C2 Livelihoods

Table C-3 Employment, industry and income

Indicator	Total local social locality		Total regional social locality		Southern Section		Northern Section		Western Section		Eastern Section	
Employment												
Unemployed	480	2.8%	2,832	2.5%	374	2.9%	48	2.7%	0	0.0%	5	2.5%
Employed (Part time, full time and away from work)	10,515	45.5%	68,364	44.9%	8,112	46.9%	989	38.6%	167	54.6%	121	43.5%
Not in the labour force	6,236	27.0%	39,827	26.1%	4,518	26.1%	805	31.4%	62	20.3%	79	28.4%
Industry of employment												
Ag, forestry and fishing	856	8.1%	7,574	11.1%	336	4.1%	321	32.5%	76	45.5%	69	57.0%
Mining	1,677	15.9%	5,065	7.4%	1,421	17.5%	30	3.0%	0	0.0%	8	6.6%
Manufacturing	373	3.5%	3,255	4.8%	317	3.9%	8	0.8%	0	0.0%	0	0.0%
Construction	763	7.3%	5,321	7.8%	616	7.6%	58	5.9%	12	7.2%	3	2.5%
Accommodation and food services	806	7.7%	4,418	6.5%	655	8.1%	49	5.0%	0	0.0%	0	0.0%
Transport, postal and warehousing	274	2.6%	2,410	3.5%	204	2.5%	31	3.1%	0	0.0%	0	0.0%
Median weekly household income												
Less than $650 (low)	2,121	19.1%	34,120	23.9%	1,299	18.6%	399	30.5%	42	30.4%	37	21.6%
$650 to $1,449 (lower middle)	2,620	23.6%	47,826	33.5%	1,884	27.0%	307	23.5%	37	26.8%	34	19.9%
$1,449 to $2,499 (upper middle)	1,690	15.2%	22,791	16.0%	1,380	19.8%	102	7.8%	18	13.0%	13	7.6%
$2,500 or more (high)	1,373	12.4%	5,505	3.9%	1,305	18.7%	23	1.8%	0	0.0%	8	4.7%

Table C-4 SEIFA IRSAD scores

Area	IRSAD Score	IRSAD Quintile
Southern Section		
Barneys Reef SSC	–	–
Beryl SSC	983	3
Birriwa SSC	983	3
Bungaba SSC	882	1
Cooks Gap SSC	899	1
Cope SSC	882	1
Cumbandry SSC	882	1
Cumbo SSC	894	1
Goolma SSC	1044	4
Gulgong SSC	903	1
Guntawang SSC	1011	4
Mebul SSC	1011	4
Merotherie SSC	987	3
Mogo SSC	–	–
Moolarben SSC	995	3
Munghorn SSC	–	–
Tallawang SSC	983	3
Tichular SSC	–	–
Turill SSC	909	1

Area	IRSAD Score	IRSAD Quintile
Two Mile Flat SSC	1011	4
Ulan SSC	894	1
Wilpinjong SSC	–	–
Wollar SSC	894	1
Yarrawonga SSC	882	1
Cooyal SSC	995	3
Linburn SSC	995	3
Home Rule SSC	966	2
Canadian Lead SSC	966	2
Eurunderee SSC	1068	5
St Fillans	966	2
Stubbo SSC	987	3
Galambine SSC	1057	5
Mudgee SSC	948	2
Northern Section		
Dunedoo SSC	922	1
Leadville SSC	966	2
Coolah SSC	946	2
Uarbry SSC	966	2
Cobbora SSC (Dunedoo)	922	1

Area	IRSAD Score	IRSAD Quintile
Western Section		
Elong Elong SSC	1040	4
Gollan SSC	1044	4
Spicers Creek SSC	1045	4
Eastern Section		
Cassilis SSC	962	2
Regional social locality		
Dubbo Regional LGA	953	3
Narromine LGA	927	2
Mid-Western LGA	942	2
Upper Hunter LGA	958	3
Warrumbungle LGA	912	1
Gilgandra Shire LGA	906	1
Liverpool Plains LGA	906	1
Muswellbrook LGA	912	2
Cabonne LGA	997	4

Table C-5 Community events in the local social locality

Event	Timing	Details	Location
Central West Cycle (CWC) Trail	All year	The Central West Cycle (CwC) trail creates a loop around the central west of NSW of almost 400 km. It is a very generous bike trail designed to give cyclists a week-long ride and a great, memorable cycling experience. The loop will encourage new visitors to come the Central West of NSW and breathe life into the small villages and towns (CWC, 2023).	The CWC trail follows the quiet backroads in a circuit through Mudgee-Gulgong-Dunedoo-Mendooran-Ballimore-Dubbo-Geurie-Wellington-Goolma-Gulgong to Mudgee
Heritage Lawson Heritage Festival	Annually in June	Gulgong Henry Lawson Heritage Festival is held on the long weekend in June each year to commemorate Henry Lawsons birthday. The event includes market stalls, a street parade, poetry, short story readings and a literary award (Arts Out West, 2023).	Gulgong
Mid-Western Regional Seniors Festival	Annually in February	The festival celebrates the role and contributions of older adults to our local communities. It's the largest of its kind in the southern hemisphere (NSW Seniors Festival, 2023).	Mudgee
Gulgong Show	Annually in February	The Gulgong Agricultural Show is held in February each year.	Gulgong
Mudgee Show	Annually in March	Mudgee Show is held on the first full weekend of March each year. The show is a family friendly event with a rodeo on Friday night and family fun on Saturday (Mid-Western Regional Council, 2023).	Mudgee
Mudgee Glow	Annually in March	Mudgee CBD will light up with illuminated displays, food and entertainment on Friday, 31 March for a free family night out. Watch spectacular projections as a number of key buildings, including Mudgee Town Hall, are lit up and enjoy roving entertainment and food trucks (Mid-Western Regional Council, 2023).	Mudgee
Wings, Wheels and Wine	Annually in April	A variety of aircrafts will put on a spectacle in the skies above Mudgee Airport, with classic cars, motorbike stunts, and local food and wine stalls to explore. A perfect day out for the family (Mid-Western Regional Council, 2023).	Mudgee airport
18th National Historical Machinery Association Rally	Annually in April	The National Historical Machinery Association (NHMA) Rally involves stationary displays of antique machinery and equipment as well as a tractor pull, grand parade, earthmoving demos and much more.	Bombira

Event	Timing	Details	Location
Mudgee Classic	Annually in May	Set in New South Wales' beautiful Mudgee wine region, the Mudgee Classic caters for all levels of cycling ability, the event offers four courses: 175 km Maxi Classic, 125 km Challenge Classic, 65 km Rouleurs Classic and the 55 km Dirty Mudgee (Mudgee Classic, 2023).	Mudgee
Gulgong Prince of Wales Eisteddfod	June	The Gulgong Eisteddfod showcases the talents of the youth in our region in three disciplines: Dance, Music and Speech. The Eisteddfod gives competitors the opportunity to perform in front of a live audience and professional adjudicators and receive valuable feedback. For many it is an important springboard into varied careers within the performing arts (Mid-Western Regional Council, 2023).	Gulgong
UneARThed	June	UneARThed Art Show and Exhibition is a diverse art and culture event that showcases local, regional and interstate artists (Mid-Western Regional Council, 2023).	Gulgong
Mudgee Small Farm Field Days	Annually in July	The Mudgee Small Farm Field Days is a two-day, annual event that has been running for over 40 years. The event promotes innovation and sustainability in agriculture and rural living (Mid-Western Regional Council, 2023).	Gulgong
Mudgee Running Festival	Annually in August	Mudgee's running festival includes a marathon, half marathon, 10 km fun run or 5 km fun run (Mid-Western Regional Council, 2023).	Mudgee
Flavours of Mudgee Street Festival	Annually in September	Flavours of Mudgee is a free community street festival event which showcases local stallholders and their regional wine, food, and produce, as well as entertainment in Mudgee's charming CBD (Mid-Western Regional Council, 2023).	Mudgee
Sculptures in the Garden	October	Sculptures in the Garden is an exciting event that combines garden design, Australian sculpture and traditional art mediums in beautiful garden and vineyard surrounds (Mid-Western Regional Council, 2023).	Mudgee
Gardens of Mudgee	October	A fundraising project of the Rotary Club of Mudgee to support local community organisations.	Mudgee

Event	Timing	Details	Location
Dunedoo Make n' Grown Market	Monthly in June, July & August	The Made n' Grown Market is known as the friendliest little Market in the Central West, with stalls selling fresh produce, small livestock, artisan products and handmade items (Warrumbungle Shire Council, 2023).	Dunedoo
Tunes on the Turf	Annually in November	Tunes On The Turf is a music festival booked in for the second weekend in November every year at the Dunedoo Sports Club.	Dunedoo
Dunedoo Show	Annually in February	Events include steer and poddy calf riding, dog jumping, whip cracking, Jack Russell Races, post splitting and chainsaw races.	Dunedoo
Cassilis Rodeo	Annually in January	The Cassilis Rodeo is held annually in January.	Cassilis
Mudgee Farmers Markets	Third Sunday of the month	The Mudgee Farmers' Markets are an authentic Farmers' Market and operate under strict Farmers' Market guidelines. All produce sold at the markets is created as close to our market as possible. All products sold have been grown, reared, caught, brewed, pickled, baked, smoked or processed by the stallholders themselves (Mudgee Fine Foods, 2023).	
Gulgong Market	Fourth Sunday of the month	Gulgong Markets are a group of local art, crafts, food plants and produce stalls that come together every fourth Saturday in Coronation Park, Gulgong.	Gulgong

C3 Accessibility

Table C-6 Accessibility

Indicator	Total local social locality		Total regional social locality		Southern Section		Northern Section		Western Section		Eastern Section	
No. of dwellings	11,113	100%	142,728	100%	6,976	100%	1,307	100%	138	100%	171	100%
Unoccupied private dwellings	1,337	12.0%	11,451	8.0%	945	13.5%	209	16.0%	18	13.0%	60	35.1%
Tenure type												
Owned outright	3,149	28.3%	35,158	24.6%	2,174	31.2%	462	35.3%	57	41.3%	56	32.7%
Owned with a mortgage	2,739	24.6%	43,771	30.7%	2,143	30.7%	208	15.9%	29	21.0%	16	9.4%
Rented	2,413	21.7%	39,200	27.5%	1,913	27.4%	215	16.4%	19	13.8%	15	8.8%
Occupied rent free	322	2.9%	1,719	1.2%	256	3.7%	37	2.8%	3	2.2%	11	6.4%

Appendix D

Engagement summary

D1 Landholder engagement summary

D1.1 Online survey findings

A total of 104 responses were received, from which only 53 people provided answers to all survey questions. Eighty-one per cent of respondents used their land primarily for agricultural purposes and only three people reported the main use of their land to be for other business (retail and depot).

In addition, 36 per cent of respondents mainly used their land for residential purposes, while 81.3 per cent of respondents used their land primarily for agricultural purposes (of the 75 people who answered the question). However, from the respondents that used their property for agricultural purposes, 87.1 per cent (54 people) reported the property as their primary place of residence (of the 62 people who answered this question)

Responses from the survey with relevance to the benefits and opportunities of the project were grouped into the following themes:

- operations: lower carbon emissions, renewable energy delivery, cheaper energy
- construction: improved road infrastructure and local employment opportunities.

Eighty-two per cent of those that responded to the question 'What do you see as the main potential benefits or opportunities relating to the transmission project?' (54 people) responded that they saw 'no benefits' resulting from the project. This response was most prevalent in Coolah (2843 postcode) (16 out of 42), followed by Merriwa, Cassilis, Uarbry (2329 postcode) (13 out of 42) and Mudgee (2850 postcode) (10 out of 42) (Figure D-1).

The respondents reported that renewable energy delivery was a potential benefit of the project however, this was only raised in five per cent of the open-ended responses to this question. Figure D-1 provides a summary of the themes amongst responses, which have been categorised by postcode.

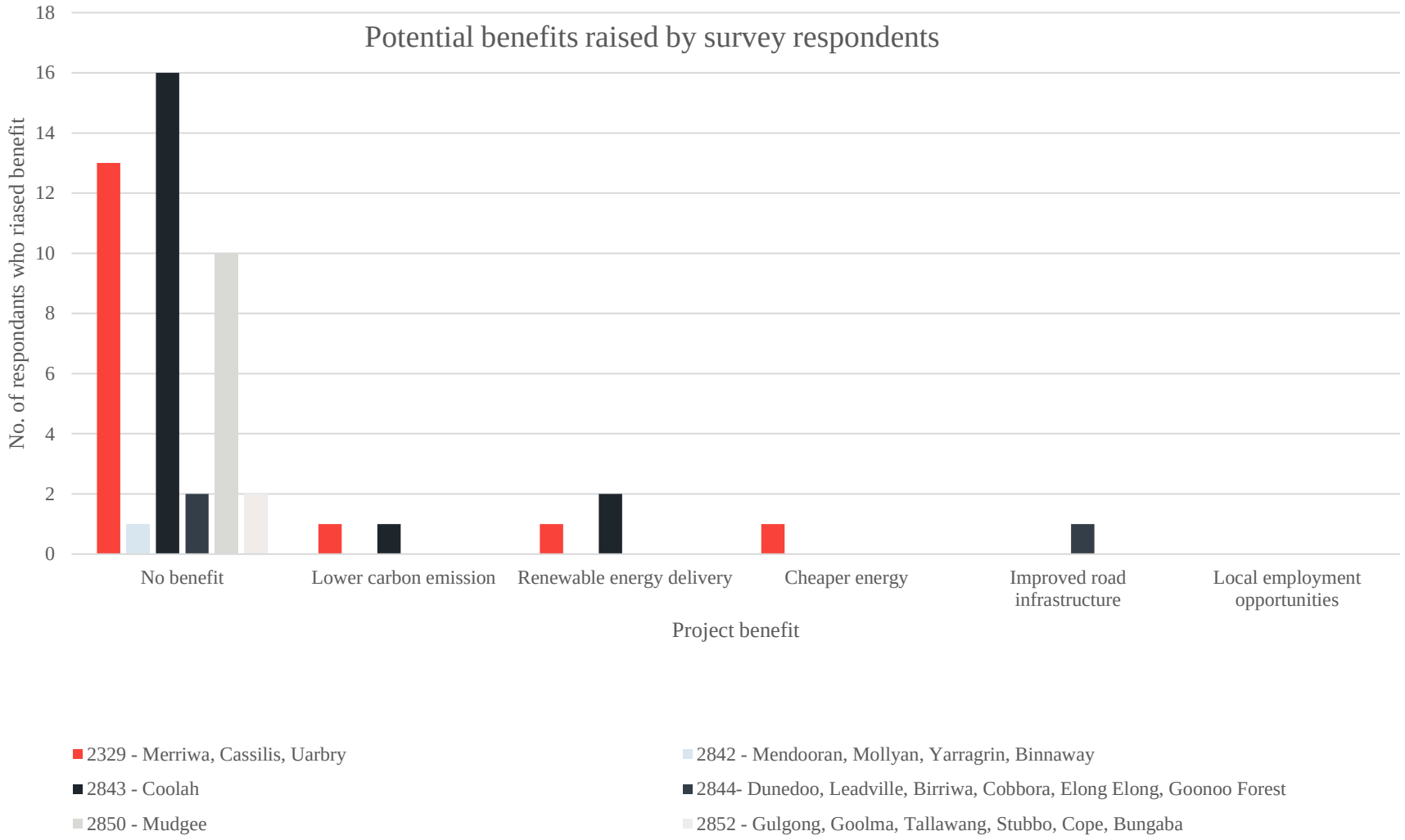

Figure D-1 Project benefits raised by survey respondents

D1.2 Project impacts and community concerns

The top three concerns and/or impacts identified in the survey responses were:

- the visual impact of the transmission line (15.5 per cent)
- the location of the project (13.8 per cent); and
- the impact of the infrastructure to the agricultural and farming businesses within the area (12.1 per cent).

Figure D-2 highlights the key words from the respondents when asked about the impacts of the project and any concerns. Some of the most common words to appear in responses include ‘noise pollution’, ‘devaluation’, ‘biosecurity’, and ‘view’, all of which correlate with the quantitative analysis of the survey responses (see Figure D-3). Figure D-3 details the themes raised by the community in response to the question, ‘what are your key issues or concerns relating to the transmission project’ and are categorised by the postcodes within the local social locality.

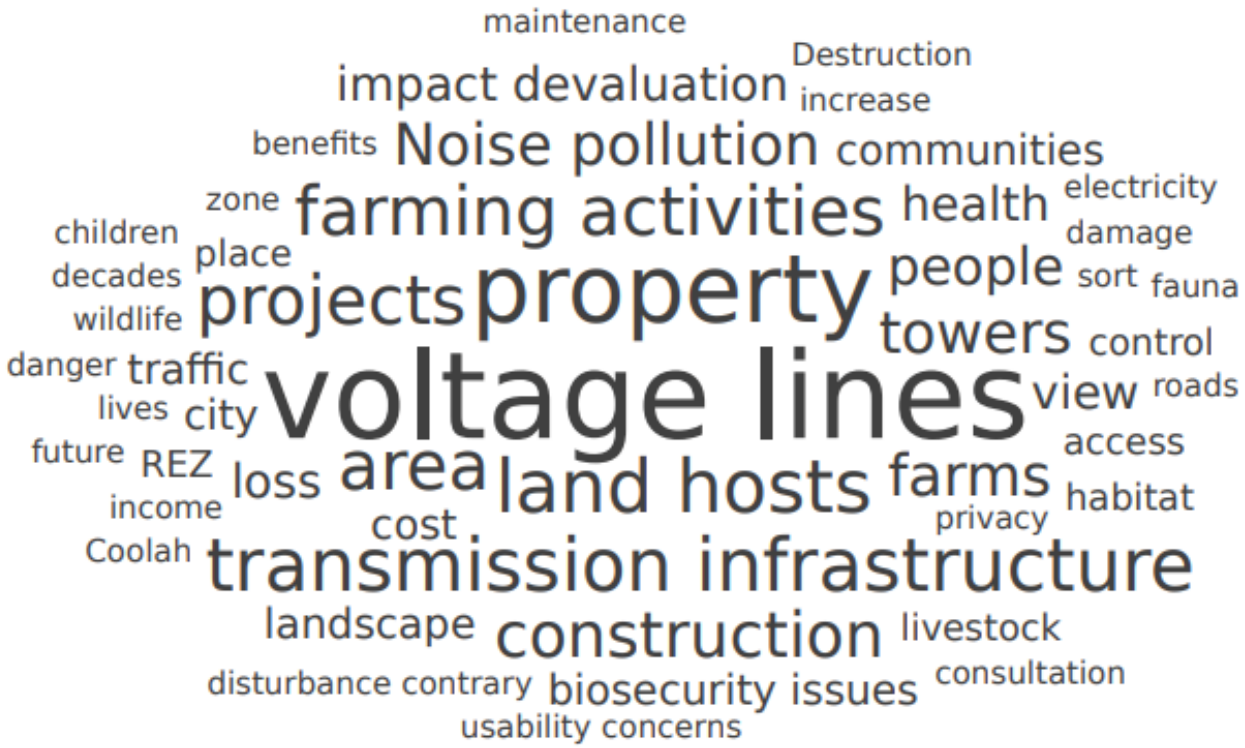

Figure D-2 Key words from the online survey question pertaining to the impacts of the project

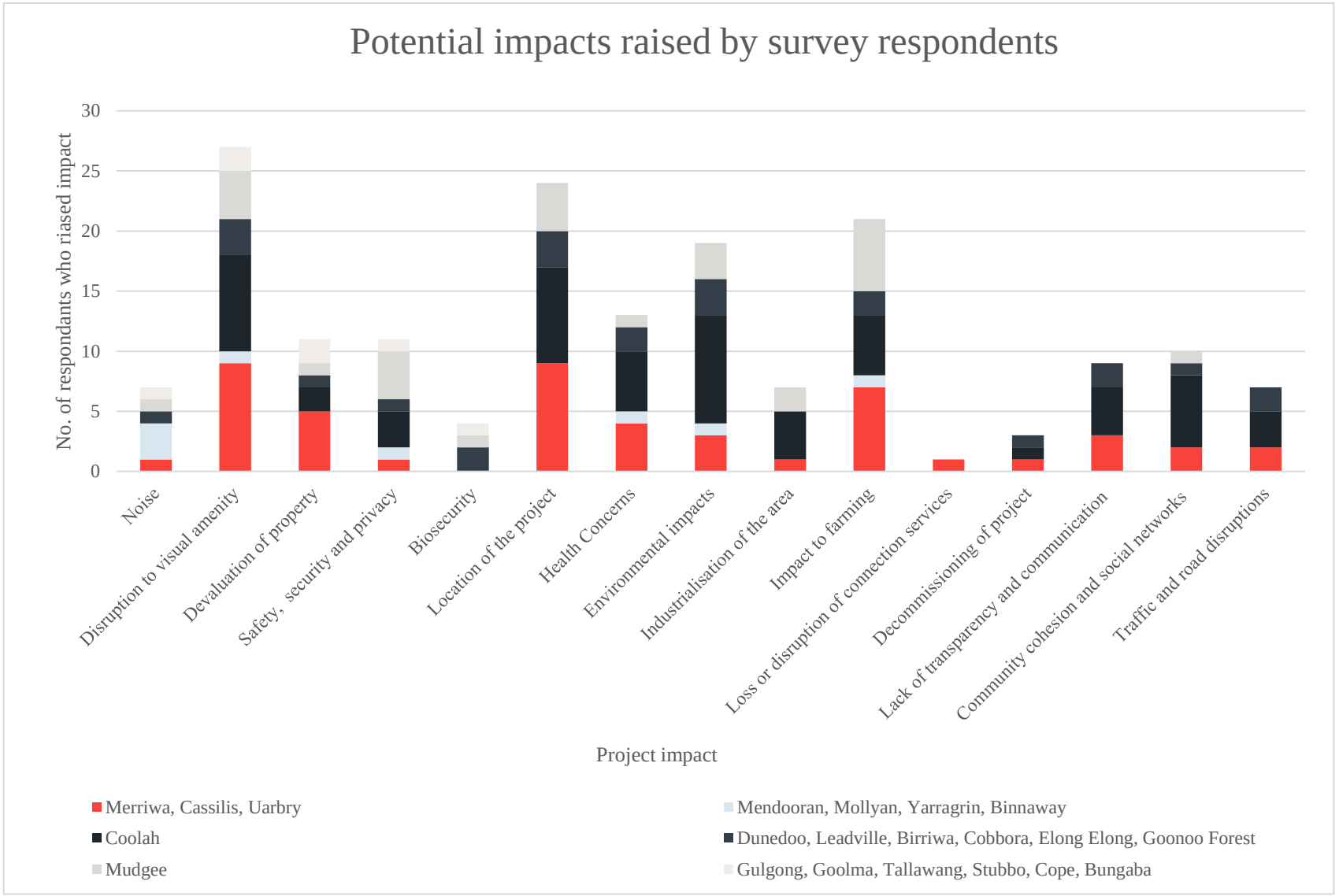

Figure D-3 Project impacts raised by SIA survey respondents

Table D-1 Feedback from landowner interviews

Social impact category	Landowner perceptions of impacts related to the project	Where addressed in this paper
Way of life	Interference of construction activities with farming operations, especially the movement of cattle stock (Elong Elong, Coolah, Stubbo, Uarbry and Leadville, Dunedoo) and the movement of large farming equipment (Merotherie, Bungaba, Elong Elong). Host landowners also raised the expectation that construction would be undertaken during respectful working hours (Cope).	Section 6.2.2 and Section 6.1.1
	Host landowners reported the expectation that areas already hosting infrastructure would be used for the transmission line and the location of the project lay down areas would not impact existing farming infrastructure and/or improvements to farms (Cope, Coolah).	Section 7.2.1
Community	Direct and cumulative accommodation requirements for temporary workers, which may result in the increase in pressure on social infrastructure and services (e.g. medical, waste, and supermarket) (Leadville and Merotherie landowners).	Section 6.1.3
	Displacement of community members due to cumulative demand on housing (Merotherie).	Section 6.1.3
	Direct and cumulative changes to community cohesion (Leadville, Coolah, Merotherie, Mudgee, Tallawang, Elong Elong, Uarbry, Dunedoo). For example, one of the landowners stated: “The Renewable Energy Zone is actually dividing us, and that’s tough, because there’s not a lot of us here and we need to stick together”	Section 6.1.1 and EIS Appendix E
	Community members expressed concerns about the future consequences of approving this project. For example, the transmission line may encourage developers to construct more infrastructure and renewable energy project within the community (Merotherie, Coolah)	EIS Appendix E
Accessibility	Road upgrades and maintenance was identified as a benefit for the general community (Coolah, Leadville, Stubbo, Tallawang, Elong Elong, Dunedoo) and specific host landowners with current accessibility issues (Leadville, Dunedoo, Uarbry).	Section 6.4.2
	The local communities would not receive direct benefits such as lower energy bills as the energy generation is for coastal cities (Cope, Leadville).	Out of scope of this report.
	Potential impacts to connectivity such as, phone service, TV, and internet (Uarbry).	Section 7.4.1
Culture	Potential impacts to Aboriginal heritage onsite (Leadville)	Section 6.6.1

Social impact category	Landowner perceptions of impacts related to the project	Where addressed in this paper
Health and Wellbeing	Direct and cumulative impacts from dust, noise, and vibration during the construction of the project (Stubbo, Cope, Merotherie). Specific concerns were raised about noise and vibration affecting hearing impaired people and students when construction vehicles pass near schools (Merotherie).	Section 6.5.1
	The project would require heavy vehicles and has the potential to increase the traffic on the local and regional road network during the construction of the project. The floods have deteriorated the road network and Council has limited funds and contractors to maintain already existing damage (Coolah, Leadville, Stubbo, Tallawang, Elong Elong, Uarbry, Dunedoo). There are some concerns about Council postponing road upgrades and maintenance as the project may provide these services (Dunedoo). Potential impact to agricultural stock which leaves properties with an increase in vehicle movements as a result of the construction of the project, there is the indirect danger this poses for road traffic and local communities (Stubbo).	Section 6.5.2
	Direct and cumulative health and wellbeing impacts (e.g. anxiety and stress) due to the uncertainty of unknown development, construction, and operation of the project (Merotherie, Leadville, Uarbry, Dunedoo).	Section 6.5.1
	Concerns around the transmission line increasing risk of bushfires and impacting access for emergency services, due to project infrastructure. This concern has been heightened since the 2017 bushfires. Landowners have reported high levels of concerns about the RFS and Airservices Firefighting Services capacity to intervene in the vicinity of project infrastructure. This concern was exacerbated when referring to other renewables developments in proximity to the Transmission project (Stubbo, Uarbry, Coolah, Leadville, Merotherie, Elong Elong). In addition, the location of the energy hub is difficult to access via road and as such, access by emergency services may be impacted (Merotherie).	Section 7.5.2
	Concerns from the community about working underneath and/or around powerlines and the proximity of households to project infrastructure. This has the potential to affect the health of the local community for example, a perceived increased exposure to radiation (Leadville, Coolah, Tallawang).	Section 7.5.1
Surroundings	Land erosion and clearing during construction of the project (Uarbry, Leadville, Tallawang).	Section 7.3.1
	Environmental concerns, including the Kurrajong trees in Stubbo and wildlife (e.g. eastern quolls, kingfishers, and the woody box tree). This includes the cumulative impacts to biodiversity within the area; within Leadville the woody box grassland and ridges are protected.	Section 6.7.1
	Potential impacts from the waste generated from the construction of the project (Merotherie).	Section 6.4.1

Social impact category	Landowner perceptions of impacts related to the project	Where addressed in this paper
	Landowners expressed concerns with the changes to the landscape in particular, those households that are already in proximity to other REZ projects. Community members have reported the current aesthetics and vistas of the surrounding area a very important feature of their environment (Leadville, Cope, Merotherie, Bungaba Elong Elong Dunedoo Stubbo Tallawang, Uarbry, Coolah).	Section 7.6.1
	Concerns about the lifespan of the infrastructure, the decommissioning process, and the environmental impact of the REZ (including this project). Community representatives from Leadville raised concerns about the status of the project infrastructure when new technology is invented.	EIS Appendix E
	Impacts of the project to local hydrology and impacts to flooding within the area (Dunedoo).	Section 7.6.2
Livelihoods	Biosecurity risks from machinery, vehicles and people entering properties was raised as a key concern for landowners who undertake farming activities. This concern was also supported by neighbouring landowners who identified that weeds and pests can easily be transmitted from property to property or even from the use of common public roads (Coolah, Stubbo, Uarby, Leadville, Mudgee, Dunedoo, Tallawang)	Section 6.3.4
	Host landowners in Leadville raised concerns about potential requirements to knock farming infrastructure down during construction (such as fencing).	Section 7.3.1
	The potential loss of trades that currently service local community and businesses to the project. This may consequently impact farming activities and productivity in particular, those that are time critical (Leadville).	Section 6.3.3
	Potential for employment opportunities for the local community and the benefits to the local economy (Cope, Dunedoo, and Mudgee).	Section 6.3.2
	The remuneration and compensation for host landowners is not in line with land value. Expressions around the uncertainty and inequality in compensation amongst different towns and community members (Coolah, Stubbo, Coolah, Cope, Tallawang).	Section 7.3.1
	Improved livelihoods as a result of lease payments received by individuals is a benefit and would support income to these specific properties.	Section 7.3.2
	Host landowners are concerned about the direct and cumulative impacts on property value based on changes to landscape and potential constraints to farming and residential activities within properties (Uabry, Coolah, Cope, Bungaba Mudgee, Elong Elong, Coolah, Leadville, Stubbo, Dunedoo, Tallawang).	Section 7.3.1
	Cumulative impacts to agricultural land. Food production is essential, and all projects are going onto productive land (Leadville).	EIS Appendix E
	Implications of hosting project infrastructure is unclear and unknown to properties. The coexistence of farming industries within the area and the REZ are imperative (Stubbo, Bungaba, Mudgee, Merotherie).	Section 7.3.1

Social impact category	Landowner perceptions of impacts related to the project	Where addressed in this paper
	Direct and cumulative impacts of the project on productive land. This includes the decrease in land value and potential for generational farming. Decreased value of farming and generational farming (Uarbry, Dunedoo, Merotherie, Coolah).	EIS Appendix E
Decision-making systems	A number of landowners declared to have received limited detailed information about the location of infrastructure at their property (Uabry, Cope, Leadville, Merotherie). The lack of information provided to the community has created a lack of trust in the process and EnergyCo (Leadville, Uarbry and Mudgee).	Section 6.8.1 and Section 6.5.1
	Lack of consistency as previous agreements (with Transgrid) and promises made to communities were not adhered to. For example, a 35kv was installed 30 years ago and farming infrastructure was destroyed in the process and not repaired (Cope, Dunedoo, and Leadville).	Section 6.5.2 and Section 6.8.1
	Inequality in benefit distribution. Includes energy generation benefits and compensations or agreement for only hosting infrastructure. Community benefit distribution is also inequal. Leadville is not classed as a community (Leadville).	Section 7.1.1 and EIS Appendix E
	Lack of information about lease agreement process or compulsory acquisition was raised by a limited number of landowners (Uarbry, Coolah, Uarbry). A lack of transparency from the proponent has been expressed by community representatives. As such, they have suggested more effective and frequent engagement and engagement with the community has been expressed.	Section 6.8.1
	In very specific cases, landowners (about three people) reported a lack of respect and felt under pressure from one of the land agents, to the point of feeling harassed. According to one of the interviewed, a formal letter was sent to the land agent to request the agent stop requesting access to property.	Section 6.8.1
	Concerns have been raised about the communities' unsuccessful experiences with REZ projects in the past. This is carrying through to this project and many do not trust the proponent to stick with agreements and arrangements. There has been no provisions made for mediation, financial counselling, and delivery of information about the project has been poor.	Section 6.8.1
	Fear among the community that allowing this project to proceed would give rise to more development and the continuation of the REZ. It is acknowledged that engagement has been undertaken by each project however, there has been no involvement in the development of the REZ (Leadville).	EIS Appendix E

D2 Council engagement summary

Table D-2 Feedback from council interviews

Impact category	Council perceptions of impacts related to the project	Where addressed in this report
Way of life	The project would require heavy vehicles and has the potential to increase the traffic on the local and regional road network. Councils suggest the road network is already in poor condition due to underfunding. The increase in road use would impact the road network (Dubbo Regional Council, Upper Hunter Shire Council, Mid-Western Regional Council).	Section 6.2.2
Community	Access to a larger skilled workforce once the project is complete due to upskilling of people within the local area (Mid-Western Regional Council)	Sections 6.3.2 and Section 6.3.1
	Voluntary planning agreements need to be established between EnergyCo and other proponents for region to benefit (Mid-Western Regional Council).	Section 6.8.1
	Large workforce numbers can increase pressure on police services, which has the potential to affect the perceived safety and security of the community. Security and safety concerns around alcohol-related behaviours have been expressed (Upper Hunter Shire Council, Dubbo Regional Council, Mid-Western Regional Council).	Section 6.1.3
	Visual impacts of the project creating division amongst community (Mid-Western Regional Council).	Section 6.1.1
Accessibility	REZ projects are likely to increase the demand for short-term accommodation. Lower income households within the region and tourism accommodation would be impacted as a result (Upper Hunter Shire Council, Dubbo Regional Council, Mid-Western Regional Council).	Section 6.1.1 and EIS Appendix E
	Presence of workforce required for REZ projects within the region has the potential to increase the pressure on health and wellbeing services within the area. There is a shortage of general practitioners and specialist medical services in the region and the project may further increase this pressure. The older population and children would be the most impacted (Mid-Western Regional Council, Upper Hunter Shire Council, Dubbo Regional Council).	Section 6.4.1
	Capacity for wastewater and waste is already low and therefore cannot accommodate the increase in temporary population associated with the workforce required for the project (Mid-Western Regional Council, Dubbo Regional Council). Some towns only have one supermarket, which occasionally have empty shelves. Gulgong is the closest town to the majority of the REZ projects and transmission line. The increase in temporary population of the area associated with the influx of workers has the potential to impact the food supply (Mid-Western Regional Council).	Section 6.4.2

Impact category	Council perceptions of impacts related to the project	Where addressed in this report
Health and Wellbeing	Potential impact from Electric Magnetic Fields (EMFs) (Upper Hunter Shire Council).	Section 7.5.1
	Potential impact to the local farmers mental health, in particular the long-term residents. There would be cumulative impacts for individual landowners for example, the potential to disrupt people's sense of place, family tradition and farming history (Mid-Western Regional Council)	Sections 7.2.1 and Section 6.2.1
Surroundings	Potential visual and noise impacts (Upper Hunter Shire Council).	Section 6.7.1
	Transmission line impacts visual amenity of area. Agricultural community value their current surroundings with lower infrastructure load. The project has the potential to create a loss of sense of place amongst community (Mid-Western Regional Council)	Section 7.6.1
Livelihoods	Flow on economic effects associated with the project, such as income generated by the project workforce, use of local supply chains, and increase in local wealth (Dubbo Regional Council, Upper Hunter Shire Council).	Section 6.3.1 and Section 6.3.2
	Loss of quality agricultural land. Suggestions were made to adopt a mixed-use approach to land use within the area, which would benefit the region (Dubbo Regional Council, Upper Hunter Shire Council, Mid-Western Regional Council).	Sections 7.2.1 and Section 7.3.1
	Financial benefits to landowners through private property easements. This money has the potential to be invested into local farms (Upper Hunter Shire Council).	Section 7.3.2
	The benefits associated with the transition from mining to renewable energy. This would provide opportunities for workers within the mining and ancillary industries to support projects like this (Upper Hunter Shire Council).	Sections 6.3.1 and EIS Appendix E
Decision-making systems	Lack of communication from REZ consultants, which leads to misunderstanding amongst the community (Mid-Western Regional Council).	Section 6.8.1, and EIS Appendix E
	Engagement fatigue within the communities and among Council (Mid-Western Council).	Sections 6.8.1 and EIS Appendix E

D3 Community representative group engagement summary

Table D-3 Feedback from community representatives

Social Impact Category	Community representative group perceptions of impacts related to the project design and construction	Where addressed in this report
Way of life	In addition to Inland Rail, there are 12 projects within the area. The potential for cumulative impacts from these projects (e.g. timing) is of concern (Wollar, Dunedoo, Gulgong).	EIS Appendix E
	Interactions between the workforce and community has the potential to impact perceived safety, security, and health and wellbeing of the local communities. Specific raised about drug and alcohol related use and respect for the local surroundings (Wollar, Cassilis, Mudgee, Turill, Dunedoo Branch).	Section 6.2.2
Community	Concerns the project may impact community cohesion and the social fabric and network of the area (Dunedoo).	Section 6.2.1
	The project would require heavy vehicles and has the potential to increase traffic on the local and regional road network.	Section 6.2.2 and Section 6.5.2
Accessibility	Indirect impacts on the community from the influx of a large workforce. The workforce has the potential to increase the pressure on local services (e.g. medical and food) and accommodation facilities, which are already sparse (Mudgee).	Sections 6.1.3 and Section 6.4.1
	Impact on connectivity (e.g. phone service and internet connection).	Sections 6.4.2 and Section 7.4.1
Culture	The construction area is within a fossil field and there are Aboriginal heritage sites. It is an important area for Australian history that would be destroyed if the project proceeds. The shire understands where the Aboriginal heritage sites are when developing the area, but community believes that the proponent would have little to no understanding of the local area and therefore heritage may be impacted (Dunedoo).	Section 6.6.1
Health and Wellbeing	Concern about cumulative impacts of magnetic radiation, with big transmission lines so close together and overarching existing projects (Wollar) More information is needed regarding the risk management plan regarding potential fire risks. Concerns were expressed about locating two transmission lines so close together (Wollar).	Section 7.5.1 and Section 7.5.2
	Concerns about increased and more intense windstorms and flooding events. Concern about the transmission line potentially falling over (Wollar)	Section 7.6.2
	Concerns around the transmission line increasing risk of bushfires and impacting access for emergency services, due to project infrastructure. In addition, the location of the energy hub is difficult to access via road and as such, access by emergency services may be impacted (Merotherie).	Section 7.5.2

Social Impact Category	Community representative group perceptions of impacts related to the project design and construction	Where addressed in this report
Surroundings	Concerns about traffic related risks to local fauna (Wollar and Dunedoo) and vegetation clearing. In particular, the potential impact to native trees (Wollar).	Section 6.7.1 and Section 7.6.1
	Concern about visual impacts and aesthetics were raised by people living in Wollar, Mudgee and Cassilis.	Section 7.6.1 and Section 6.2.1
Livelihood	Opportunity for jobs and training for younger population (Mudgee).	Section 6.3.2
	Potential for Cassilis residents to have cheaper energy through micro energy hub and as such, reduce cost of energy for low socio-economic areas (Cassilis).	Out of scope of this report.
	There is a trades and labour shortage in Mudgee because of construction demands. It is challenging getting contractors and tradespeople for existing work, which has an impact on the operation of local businesses (Mudgee).	Section 6.3.3
	Additional people coming to Mudgee, and related social and economic growth, such as new restaurants, equipment, infrastructure and funding associated with more people in town (Mudgee).	Section 6.1.3 Section 6.3.1
Decision-making systems	Concerns about communication, engagement, and assessment of impacts process (Wollar, CWA Mudgee, Cassilis Development Group, and Turill community Centre).	Section 6.8.1

D4 Aboriginal engagement

Engagement with Aboriginal organisations as part of the SIA consisted of representatives from the NSW Aboriginal Land Council (NSWALC) and Aboriginal Affairs NSW being members of the Central-West Orana REZ working group, and interviews with Aboriginal organisations. Feedback from this engagement illustrated key aspirations and potential benefits potentially associated with the project, including employment, education and economic benefits for local Aboriginal communities and people.

Opportunities for local Aboriginal Employment and procurement during the construction of the project was raised by all Aboriginal organisations. Interviewees stated that within the local and regional Aboriginal community there are existing local workers, businesses and suppliers that would be able to service the project, and with sufficient early communication, collaboration and training, additional workers and businesses could build sufficient skills and capacity to contribute to the project. Stakeholders discussed the importance of engaging local Aboriginal workforce and businesses, in terms of the potential "*life changing*" benefits and social outcomes these opportunities could have for the local community more broadly. Employment of local Aboriginal residents may contribute to fostering aspirations and goals amongst young people in the community, as well as providing increased local spending and economic stimulus, which may in tern help to build a "*booming Aboriginal community with self-confidence*" and enhanced future experience and opportunities within the renewable energy and construction sectors. Some stakeholders raised suggestions regarding collaborating with LALCs to identify LALC owned land where workforce accommodation sites could be constructed, with potential opportunities to return housing back to the community following the completion of the project, to be used for crisis and emergency housing. Other suggestions included collaboration with local Indigenous employment organisations and social services to ensure Aboriginal workforce were receiving appropriate wellbeing, health and social support during their employment.

Cultural awareness and competency were also raised by some stakeholders as a key issue, with one interviewee stating that "the contractor needs to have an understanding of how the Aboriginal community functions and will need to consider sorry business and other cultural protocols (time off etc.)". Other considerations including wellbeing and mental health support, transport to and from site, and general flexibility in terms of absences and personal requirements. It was suggested that EnergyCo and the contractor could improve their understanding of the local cultural and social context by working alongside Aboriginal organisations and services.

Another reoccurring theme that was raised during consultation was ensuring adequate engagement, communication, and collaboration with local Aboriginal groups, organisations and services. It was noted that there are many existing Aboriginal focused services and organisations across the regional social locality that may be able to provide additional insight to EnergyCo to help coordinate key Project requirements including local employment, training, businesses, suppliers, workforce accommodation sites, and health and support services. It was noted that early consultation with key organisations (including LALCs, Aboriginal health services, employment services, and education organisations) may help to maximise potential positive outcomes while also streamlining this process for EnergyCo and the contractor. Furthermore, in some cases (including other renewable energy projects in the region), Aboriginal stakeholders and communities have been the last people to know about projects, and there has been limited awareness, communication or collaboration from proponents, resulting in minimised social benefits and outcomes for the community. One stakeholder stated that the local Aboriginal "*community has been burnt, they have had to liaise with so many groups just for nothing to happen on the ground, so the question becomes, why would they want to come to meetings*"? Additionally, it was noted that many of the EnergyCo meetings that have occurred in the region have been in targeting rural, farming areas, and there has been less of a presence in town (where most Aboriginal community members live). The establishment of an Aboriginal working group was suggested by some stakeholders as a mitigation measure [unaware of its existence] in order to bring together key organisations and services to help guide and inform the project.

Key findings from the in-depth interviews with Aboriginal representative groups also included the following themes:

- current social issues in the community include lack of housing, education and unemployment
- early advertisement and communication of workforce and procurement requirements
- limited available housing and accommodation in the local and regional area, which may be impacted by the influx of non-resident workforce
- concerns regarding community cohesion impacts due to the influx on non-resident workforce into the region (noting previous instances of conflict and violence involving FIFO/DIDO workforce in local communities)
- there are opportunities for the project to support a range of Aboriginal businesses, including more significant procurement needs (such as construction materials) down to smaller workforce requirements (including laundry and accommodation services)
- concerns regarding potential ecological impacts associated with infrastructure (including fire and erosion), and how that could alter the surrounding land and animals
- concern regarding potentially decreased land values, and associated impacts on LALC properties
- potential opportunities for alternative local, more affordable energy sources (particularly within discrete/Aboriginal communities)
- desire for additional education regarding safety and awareness around transmission lines targeted at the local Aboriginal community.

D5 Stakeholder management measure recommendations

Table D-4 Management measure recommendations raised by stakeholders

Primary impact category	Stakeholder recommended management measures	Where considered and addressed in this report
Community	To address accommodation constraints during construction and leave a positive legacy for the community it was suggested to explore opportunities to create accommodation facilities for workers that can be used by the community post-construction (e.g. used as affordable housing in the community) and to source workforce locally.	Sections 6.1.2 and 8.1
Community	To establish a positive relationship with the non-local temporary workforce the following was recommended by stakeholders: — ensure non-local workforce respect the area and wear high viz uniforms so they can be easily identified — encourage workforce to relocate to the area permanently — encourage opportunities for workforce to join clubs and community groups and give paid volunteering leave to volunteer with the RFS and SES.	Sections 6.1.3 and 8.1
Community	Stakeholders identified the following opportunities to maximise benefits during the operation phase of the project: — benefit communities evenly in the local area and consider smaller townships — community facilities and infrastructure to be developed and maintained for the community – sporting fields, shade at the pool — benefits should be managed by local community groups.	Out of scope of this report.
Way of life	Landowners hosting infrastructure recommended the following: — access agreements that promote communication and detail construction working schedule — EnergyCo should be accountable for any onsite issues and resolve accordingly — take a photo of the site at each stage of construction to ensure everything is restored to its original form.	Sections 7.2.1, 6.4.2 and 8.1
Way of life	Neighbouring landowners suggested for EnergyCo to provide more information about traffic plans and proposed stock crossings during construction.	Sections 7.3.2 and 8.1
Way of life	During operations it was recommended to continue to provide information regarding fire plans, access and project maintenance.	Sections 7.6.2 and 8.1
Livelihoods	To enhance local economic benefits the following was recommended: — utilising the local quarry to source materials for the roads — employing local people and incentivising succession planning for businesses.	Sections 6.3.1, 6.3.2 and 8.1

Primary impact category	Stakeholder recommended management measures	Where considered and addressed in this report
Livelihoods	Regarding biosecurity risks the following was recommended: — installation of wash down bays and ensure they are used properly — maintain a record of all vehicles and personnel that enter properties and keep gates closed — use landholder vehicles when entering properties.	Sections 6.3.4 and 8.1
Livelihoods	Some hosting landowners stated that they expected the transmission line would be constructed in the area with pre-existing powerlines, to minimise impacts to productivity and aesthetic values. Alternatively, where pre-existing transmission lines are not present, some landowners suggested locating the corridor in bushland section of property. This would allow for additional clearing and land that could be used for agriculture.	Sections 7.2.1 and 8.1
Livelihoods	To enhance landholder livelihoods, some landowners suggested extending the 20 year period of lease payments, as transmission lines will still be onsite for a longer period.	Sections 7.3.1 and 8.1
Livelihoods	The establishment of a targeted First Nations liaison group for the project was suggested to bring together key organisations and services to help guide and inform the project.	Section 8.1
Accessibility	Regarding social services and infrastructure, stakeholders suggested brining in additional nurses, doctors, and aged care staff into the local area, and potentially stay in the region long term.	Sections 6.4.1 and 8.1
Accessibility	To mitigate any potential telecommunications disruptions, residents suggested that mobile and WIFI reception should be improved to be more reliable.	Addressed in EIS cumulative impact chapter
Accessibility	Regarding roads and traffic, the following were recommended: — upgrades to roads and road infrastructure (kerbing, signage, gutters) — rebuild existing damaged roads — establish a program where all REZ projects work together to monitor road networks.	Out of scope of this report
Accessibility	To maximise access to renewable energy by the community, it was recommended to work with the community in stablishing micro renewables to ensure each community has its own local renewable power supply.	Out of scope of this report
Accessibility	Regarding the project location the following was recommended: — ensure that the project does not impact productive agricultural land and consider avoiding these areas — consider alternative options for the transmission line such as State National Parks and Mining land — consider construction of the transmission lines closer to cities or in the ocean.	This issue was addressed during project design

Primary impact category	Stakeholder recommended management measures	Where considered and addressed in this report
Health and wellbeing	To mitigate air quality impacts, the following were recommended: — avoid construction during dry periods and ensure dust suppression is maintained — minimise disruption to land and surrounds where possible.	Addressed by the air quality technical report
Health and wellbeing	The following was recommended to address construction traffic related concerns: — minimise traffic and implement carpooling policies — signalling during works at intersections with information about heavy traffic movements and sending text message or via Community Facebook page. — be mindful of cattle crossing for planning transport routes. — more community consultation regarding proposed construction transport route.	Section 8.1
Health and wellbeing	Landowners hosting infrastructure recommended the following in regard to the lease agreement process: — be open and upfront with information, and ensure that if there is going to be compulsory acquisition the information is clear and easily available — enhanced access to mediation, financial counselling, and delivery of information to communities.	Section 7.2.1
Health and wellbeing	Landowners recommended the following to address property market changes: — engage a valuation expert to discuss potential property value loss — ensure that lease agreements consider all impacts (both short term and long term), including potential changes to property values — provide compensation in the case that property values decrease.	Sections 7.5.3 and 8.1
Health and wellbeing	Regarding bushfire risks during operation the following was suggested: — ensure that there is a cleared easement area/buffer zone to manage fire hazards — contributions and sponsorships of local emergency services which will benefit all members of the community and throughout the region benefits and relies on these services (RFS, SES) — consideration of opportunities for the construction workforce to volunteer/undertaking training with the RFS and SES.	Sections 7.5.2 and 8.1
Surroundings	Regarding visual impacts, the following was suggested: — align transmission lines with existing infrastructure routes — utilise public and mining land where possible, including existing and rehabilitated mine sites — paint transmission lines to reduce the visual impact and mitigate light reflection — consider opportunities for underground transmission lines.	Sections 7.2.1, 6.7.1 and 8.1
Surroundings	Provide additional information regarding risk management plans in place to help community members feel confident that risks are being adequately managed.	Sections 8.1

Primary impact category	Stakeholder recommended management measures	Where considered and addressed in this report
Decision-making systems	Regarding decision-making decisions and communications, the following was suggested: — improve community consultation, including increased project transparency and awareness of other REZ projects in the area — establish additional community reference groups in each impacted LGA to increase the involvement of the community and landowners — early information sharing and communications with the community to ensure early discussions and awareness of the project. Avoid last minute consultation during the agreement stage and approaching construction — create a central hub for EnergyCo's project and their status with adequate resourcing and a functional website — improved communication and actively informing and contacting local community members and stakeholders, including phone calls, face to face meetings and follow up communications — undertake more research within the community to understand the environment and people, and inform planning processes.	Section 8.1

Appendix E

Author declaration

E1 SIA team and author declaration

The SIA has been developed by an experienced team of social scientists. Carla Martinez is the lead author for Phases 1 and 2 of the SIA. Carla holds a Master of Development Practice majoring in Planning for Social Development from the University of Queensland. Carla has also completed a SIA course from the University of Strathclyde. Carla is a SIA practitioner with experience in the resource and energy sector in Chile and Australia, having led SIAs in NSW, Queensland and South Australia. Her SIA experience in Australia includes:

- Tchelery Windfarm, NSW (2023): Neoen.
- Gippsland Offshore Windfarm, Victoria (2023): Iberdrola.
- Clean Energy Precinct, NSW (2023): Port of Newcastle.
- Mineral Sands Atacama Project, South Australia (2022): Iluka Resources.
- Eathorpe Battery Storage Facility, NSW (2022): Neoen.
- Albury to Illabo Inland Rail, NSW, Australia (2021): Australian Rail Track Corporation.
- Burra Park Precinct stage 1, NSW (2021): BHL.

Caitlin Treacy has supported the development of the SIA. Caitlin holds a Bachelor of Arts (Honours) major in Anthropology from the University of Queensland. Caitlin is a SIA practitioner with experience working on both private and public sector projects in NSW, Queensland and South Australia.

Carla Martinez and Caitlin Treacy are members of the Environmental Institute of Australia and New Zealand.

Finally, Felicity Richards acted as the technical reviewer of the SIA. Felicity is a SIA specialist at WSP with over 10 years experience in the field. Her expertise is SIA in major infrastructure and development projects across Australia. Felicity holds a Master of International Business from Monash University and has completed a Graduate Certificate in Social Impact Assessment at Macquarie University.

Author declaration

This report was prepared by Carla Martinez, Principal – Communities and Social Performance at WSP Australia. Carla holds a Bachelor of Public Administration from the University of Santiago, a Diploma of Environmental Management and a Diploma of Community Relations from the Catholic University of Chile, Master of Development Practice major in Planning for Social Development from the University of Queensland. Carla has also completed a SIA course from the University of Strathclyde.

The assessment was undertaken during June 2022 and May 2023, based on information available at the time of writing.

It contains information relevant to the SIA for the project, and to my knowledge does not contain information that is false or misleading.

Carla Martinez, BPA, MDP, GradCertSIA
Principal, Communities and Social Performance, WSP Australia

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