Social Impact Assessment

Valley of the Winds wind farm, NSW

February 2022

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1 Introduction

1.1 Overview

This Social Impact Assessment (SIA) has been prepared to support the State Significant Development (SSD) application by UPC\AC Renewables Australia Pty Ltd (UPC\AC) to construct and operate the Valley of the Winds wind farm.

The SIA adopts the framework set out in the Social Impact Assessment Guideline (the 2021 Guideline), published in July 2021 by the NSW Department of Planning, Industry and Environment (DPIE). It also considers the International Association for Impact Assessment's (IAIA) Social Impact Assessment: Guidance for assessing and managing the social impacts of projects (IAIA, 2015) as well as leading practice approaches to social impact management and community benefit planning for wind developments worldwide.

Reference has also been made to the Department of Planning and environment (DPE) Wind Energy Guideline for State Significant Wind Energy Development (DPE, 2016) and key documents authored by the Clean Energy Council including:

- Community Engagement Guidelines for the Australian Wind Industry
- Best Practice Charter for Renewable Energy Developments
- A Guide to Community Benefit Sharing for Renewable Energy Projects.

It has been prepared by a suitably qualified and experienced lead author. A signed declaration certifying that the SIA does not contain false or misleading information is provided at Appendix 1

1.2 Project description

UPC Renewables Australia Pty Ltd, operating as UPC\AC Renewables Australia (UPC\AC) (the Proponent), proposes to construct and operate the Valley of the Winds wind farm (the project).

The project would consist of up to 148 wind turbines and supporting infrastructure, including a high voltage transmission line which would run approximately 13 kilometres from the Girragulang Road cluster to a connection point with the Central-West Orana REZ Transmission line proposed by the NSW Government. The project would supply over 800 megawatts (MW) of electricity into the National Electricity Market (NEM).

The wind farm would be located close to the townships of Coolah and Leadville, with the transmission line running generally south to its connection with the Central-West Orana REZ Transmission line. The project would be entirely within the Warrumbungle Local Government Area (LGA).

The project would involve the construction, operation and decommissioning of three clusters of wind turbines, that would be connected electrically. These are:

- Mount Hope cluster – 76 turbines
- Girragulang Road cluster – 51 turbines

- Leadville cluster – 21 turbines.

The project includes the following key components:

- Up to 148 wind turbines with a maximum tip height of 250 metres and a hardstand area at the base of each turbine
- Electrical infrastructure, including:
    - substations in each cluster and a step-up facility at the connection to the Central-West Orana REZ Transmission line
    - where possible, underground 33 kilovolt electrical reticulation connecting the turbines to the substations in each cluster
    - overhead transmission lines (up to 220 kilovolt) dispatching electricity from each cluster
    - other electrical infrastructure as required including a potential battery energy storage system (BESS)
    - a high voltage transmission line (up to 330 kilovolt) connecting the wind farm to the Central-West Orana REZ Transmission line
- Other permanent on-site ancillary infrastructure:
    - permanent operation and maintenance facilities
    - meteorological masts (up to thirteen)
- Access track network:
    - access and egress points to each cluster from public roads
    - operational access tracks and associated infrastructure within each cluster on private property
- Temporary construction ancillary facilities:
    - potential construction workforce accommodation on site
    - construction compounds
    - laydown areas
    - concrete batching plants
    - quarry sites for construction material (rock for access tracks and hardstands).

At the end of its practical life, the wind farm would be decommissioned, and the site returned to its pre-existing land use in consultation with the affected landholders.

The project is expected to require up to 400 full-time employees during peak construction and approximately 50 full-time employees would be required during operation and ongoing maintenance of the wind farm.

The capital value of the project would be more than $30 million. Accordingly, the project is a State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SR&D) and is being assessed under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

1.3 Objectives of the social impact assessment

This social impact assessment is one of a number of technical assessments that form part of the Environmental Impact Statement for this project. It responds directly to the Secretary's Environmental Assessment Requirements outlined in section 1.4.

Social impact assessment is the process of understanding and managing the social impact of projects and programs on people. This social impact assessment will provide a framework to identify, predict and evaluate likely social impacts to people and proposed responses. The objectives adopted for this social impact assessment include:

- Providing a clear, consistent, and rigorous framework for identifying, predicting, evaluating, and responding to the social impacts of state significant infrastructure, as part of the overall Environmental Impact Statement process
- Facilitating improved project planning and design through earlier identification of potential social impacts
- Promoting better development outcomes through a focus on enhancing positive social impacts and minimising negative social impacts
- Supporting informed decision-making by strengthening the quality and relevance of information and analysis provided to the consent authority
- Facilitating meaningful, respectful, and effective community and stakeholder engagement on social impacts across each Environmental Impact Statement phase, from scoping to post-approval
- Ensuring that the potential social impacts of approved projects are managed in a transparent and accountable way over the project life cycle through conditions of consent and monitoring and reporting requirements.

1.4 Secretary's Environmental Assessment Requirements

Secretary's Environmental Assessment Requirements (SEARs) were issued for the project by DPIE on 9 June 2020, prior to the release of the 2021 Guidelines. Supplementary SEARs were issued in July 2020, to address the requirements of the Australian Department of Agriculture, Water and the Environment. The requirements specific to the social impact assessment, and where these requirements are assessed in this report, are outlined in Table 1.1.

Table 1.1 Secretary's Environmental Assessment Requirements - relevant social impact assessment requirements (DPIE, 2020)

Secretary's Environmental Assessment Requirements	Where addressed
Key Issues	Chapter 7 and 8

Secretary's Environmental Assessment Requirements	Where addressed
Social & Economic: The EIS must include an assessment of the social and economic impacts and benefits of the project for the region and the State as a whole, including consideration of any increase in demand for community infrastructure services.	

1.5 Structure of this report

The structure of this report is influenced by the 2021 Guideline requirements and is outlined below.

Table 1.2 Structure of this report

Chapter	Description
Chapter 1	Introduces the project and structure of this report.
Chapter 2	Establishes the relevant legislative and policy context of the assessment.
Chapter 3	Describes the social locality.
Chapter 4	Describes the methodology for this assessment.
Chapter 5	Provides an overview of engagement related to this SIA.
Chapter 6	Establishes the social baseline.
Chapter 7	Describes and assesses the expected and perceived potential social impacts of this Project.
Chapter 8	Describes social impact enhancement and mitigation measures and outlines residual impacts.
Chapter 9	Provides a framework for monitoring and managing the impacts.

The structure of this report also observes the review questions contained in Appendix C of the 2021 Guideline. The review questions are essentially a checklist for the author to confirm that the 2021 Guideline has been complied with, in undertaking the SIA and preparing this report. A compliance matrix is presented in Appendix 2 to identify where the review questions are addressed in this report.

2 Legislation and Social Policy Context

2.1 Legislative context

The Environmental Protection and Assessment Act 1979 (EP&A Act) sets the legislative context for this assessment. The Secretary's Environmental Assessment Requirements are issued under the provisions of the EP&A Act, and therefore set legislative requirements that this assessment must accommodate.

The NSW Department of Planning, Industry and Environment (DPIE) is the state planning authority for the project. The project has also been determined to be a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 and will be assessed under the bilateral agreement between the NSW and Commonwealth Governments, or an accredited assessment process.

2.1.1 Social Impact Assessment Guidelines

In July 2021, the Department of Planning, Industry and Environment introduced the Social Impact Assessment Guideline 2021. The new guideline requires all State Significant Projects to have a clear and consistent approach to assessing social impacts and builds on the previous 2017 guideline that applied to State significant resource projects.

While not a requirement of the SEARs, UPC\AC has chosen to carry out this assessment in accordance with the 2021 Guideline and aims to identify and manage social impacts by:

- Predicting impacts
- Refining the project to avoid negative impacts and enhance benefits
- Minimising then mitigating negative impacts and maximising benefits
- Managing impacts.

The strategic policy and planning setting of the project is described in brief below to demonstrate how the project ties into broader public policy and the growth of the renewable energy sector in Australia.

2.2 Strategic and social context

2.2.1 Renewable energy in Australia

Australia's vast natural capital means that it has one of the best solar and wind resources on the planet, setting viable foundations for a strong renewable sector, particularly in rural environments.

In 2021, the Clean Energy Council announced that Australia's renewable energy industry passed a significant milestone in 2020, with more than a quarter of the country's total electricity generation coming from renewable sources for the first time. Renewables were responsible for 27.7% of total generation in 2020, an increase of 3.7 percentage points compared to 2019 (Clean Energy Council, 2021). This is despite the challenges of the COVID-19 pandemic.

The construction of wind farms in Australia form part of the wider transition toward renewable energy and a more sustainable future for the country. Wind farms can create significant social, economic and environmental benefits. There are over 100 operational wind farms in Australia, which all make contribution to the enhancement of regional communities nearby the projects (Australia Renewable Energy Agency, 2021). The construction of wind farms in particular play a role in boosting local economies, through landholder agreements, neighbouring property benefits scheme, job creation and supply chain business opportunities.

2.2.2 Renewable energy in New South Wales

In 2020 New South Wales became a leader on renewable energy policy after releasing Australia's most ambitious renewable energy plan - The Electricity Infrastructure Roadmap.

This Roadmap will deliver 12 GW of new transmission capacity in NSW through the Central-West Orana, New England and Southwest Renewable Energy Zones, attracting up to $32 billion in private investment and supporting 3 GW of long-duration storage and firming projects, including pumped hydro, by 2030.

According to the Clean Energy Council, the roadmap will also create 6300 construction and 2800 ongoing jobs in regional Australia, reduce electricity prices in the state by $130 per year for households and $430 for small businesses, and reduce NSW's carbon emissions by an estimated 90 million tonnes. (Clean Energy Council, 2021).

The first pilot zone is the Central-West Orana. Once complete, it is expected that this REZ would power approximately 1.4 million homes (Energy NSW, 2021). The Central-West Orana REZ was formally declared on 5 November 2021 which represents the first step in formalising the REZ under Electricity Infrastructure Investment Act 2020.

Broadly, the REZ would provide more reliable power to regions, reduce wholesale costs, contribute to emissions reduction and engaging communities by helping them to actively participate in the development of energy infrastructure in the region (Energy NSW, 2019).

The Valley of the Winds Wind farm is located within the Central-West Orana REZ.

2.2.3 Leading practice in the industry

The Clean Energy Council of Australia and the DPIE (DPIE, 2021), place substantial focus within their charters and guidelines on a project's ability to facilitate participatory community engagement and on creating positive localised social outcomes through a project, in order to deliver the best outcomes for all stakeholders involved. Emphasis is placed on early community and stakeholder consultation and its continuation throughout a project lifecycle (Clean Energy Council, 2018).

Additionally, wind farm projects often include community benefit-sharing programs, a collaboration between developers, local governments and local community groups. Such initiatives aim to incorporate local communities into the project's development, operations and contributes to broader social cohesion and cooperation, as well as the offering of financial assistance. In 2019, between $24.9 and $29.4 million was paid to local host landholders and into Community Enhancement Funds through renewable energy developments in Australia. The characteristics and nature of the program

differed depending on the localised social context and the project specifications, meaning that local communities can tailor the design and delivery of such programs to meet their own needs, values and aspirations (Australian Wind Alliance, 2019, now known as Re-Alliance).

2.2.4 Community plans and strategies

The project is located within the Warrumbungle Shire Council Local Government Area (LGA). Regional plans which reflect the aspirations of the community have been developed by the State Government and local authorities. These plans are outlined below.

Central West and Orana Regional Plan 2036

The NSW Department of Planning Infrastructure and Environment (DPIE) Central West and Orana Regional Plan 2036 is a 20-year blueprint for the future of the Central West and Orana region and the overarching strategic planning framework.

The vision outlined in the plan is to create a leading diverse regional economy in NSW, with a vibrant network of centres leveraging the opportunities of being at the heart of NSW and outlines the delivery of vision through four goals:

- The most diverse regional economy in NSW
- A stronger, healthier environment and diverse heritage
- Quality freight, transport and infrastructure networks
- Dynamic, vibrant and healthy communities.

The elements of the Regional Plan that are addressed by the project are summarised in Table 2.1.

Table 2.1 Relationship of the project to Central West and Orana Regional Plan

Plan Reference	Regional Plan element	Relevance of the project to element
Direction 9	Increase renewable energy generation. The region has significant potential for renewable energy industries with vast open spaces and higher altitude tablelands with potential for wind power generation, large scale solar energy and bioenergy generation.	The project directly contributes to the achievement of this direction.
Goal 2	A stronger, healthier environment and diverse heritage The Central West and Orana's ecosystems and communities are subject to natural hazards that will be exacerbated by climate change. Innovative ways to manage water, harness renewable energy and prepare for natural hazards will build regional resilience and improve adaptation. Land use and infrastructure planning must respond to these risks.	The project contributes to the achievement of this goal.

Warrumbungle Shire Community Strategic Plan 2017 – 2032

The Warrumbungle Shire Community Strategic Plan 2017-2032 (CSP) is based on broad community consultation across the LGA. The plan identifies the main priorities and aspirations for the local government area and establishes objectives and strategies to achieve those the main priorities.

Within the CSP Council identifies climate change as one of the key challenges for the future of the Shire both now and into the future, stating that one of the Council's goals is to ensure 'the impacts of climate change on our region are well managed and minimised' (Warrumbungle Shire Council, 2017).

The Warrumbungle Shire Council also commits to providing services which support the social and economic values and rest of the community, with a focus on the present and future generations. In turn, the development of a large- scale wind farm within the Shire is fitting in both aligning and helping Council to meet such goals. Relevant elements of the CSP are reported in Table 2.2.

Table 2.2 Relationship of the project to Community Strategic Plan 2017 - 2032

Plan Reference	CSP element	Relevance of the project to the CSP element
Goal: Local Economy	Our economy is strong and sustainable, providing our communities with localized employment opportunities and ease of access to markets, goods and services. LE5.1 Identify and develop opportunities to realise the shire's potential as a location for the production of renewable energies. LE5.2 Work with public and private sector agencies to ensure that mining and extractive industries and renewable energy production operating within the shire results in economic returns for our communities	The project will directly contribute to achievement of this goal.
Goal: Natural Environment Goal	The good health of our natural environment and biodiversity is preserved and enhanced. Indicator: The carbon footprint of our shire is significantly reduced through the high utilisation of renewable energies by local communities, businesses and agencies.	The project will contribute to the achievement of this goal through the provision of a renewable energy source.

3 Social Locality

3.1 The project site

The project is situated in the Central West region of NSW, within the Warrumbungle Shire between the township of Coolah and the Golden Highway. The undulating terrain in this area allows for the wind turbines to be sited on ridgelines within cleared land, currently being used for livestock grazing.

148 wind turbines will be located across three clusters named Mount Hope, Girragulang Road and Leadville. These clusters will be linked electrically and connect to the National Electricity Market (NEM). The project is located within the Central West Orana REZ, a state government lead initiative to encourage industry in the local region. The project site is shown overleaf **Figure 3.1.**

3.2 Defining the social locality

There is no prescribed meaning or fixed, predefined geographic boundary to a social locality; rather, the social locality should be construed depending on its nature and its impacts.

Defining the social locality begins with understanding the nature of the project, the characteristics of affected communities and how positive and negative impacts may be reasonably perceived or experienced by different people. Social impacts in and beyond the project's site boundary, both positive and negative, may also be considered during approval processes in terms of public interest and the suitability of the site for the project.

The following factors have been considered in determining the social locality for the project:

- The nature and scale of the project and its associated activities
- The characteristics of surrounding communities and how positive and negative impacts may be reasonably perceived or experienced by different people, including those that may be vulnerable or marginalised
- The potentially affected built or natural features located near the project that have social value or importance
- Cumulative impacts that may impact affected communities as a result of other projects or operations near the project site, such as the REZ and nearby Liverpool Ranges Wind Farm.
- Any relevant social, cultural, demographic trends or social change processes occurring now or in the past near the project site
- The history of the proposed Project site and the area, and any similar experiences people near the project have had
- The broader (indirect) area of social influence of communities that will be impacted by future incoming workforces, business opportunities, construction access and supply chain routes.

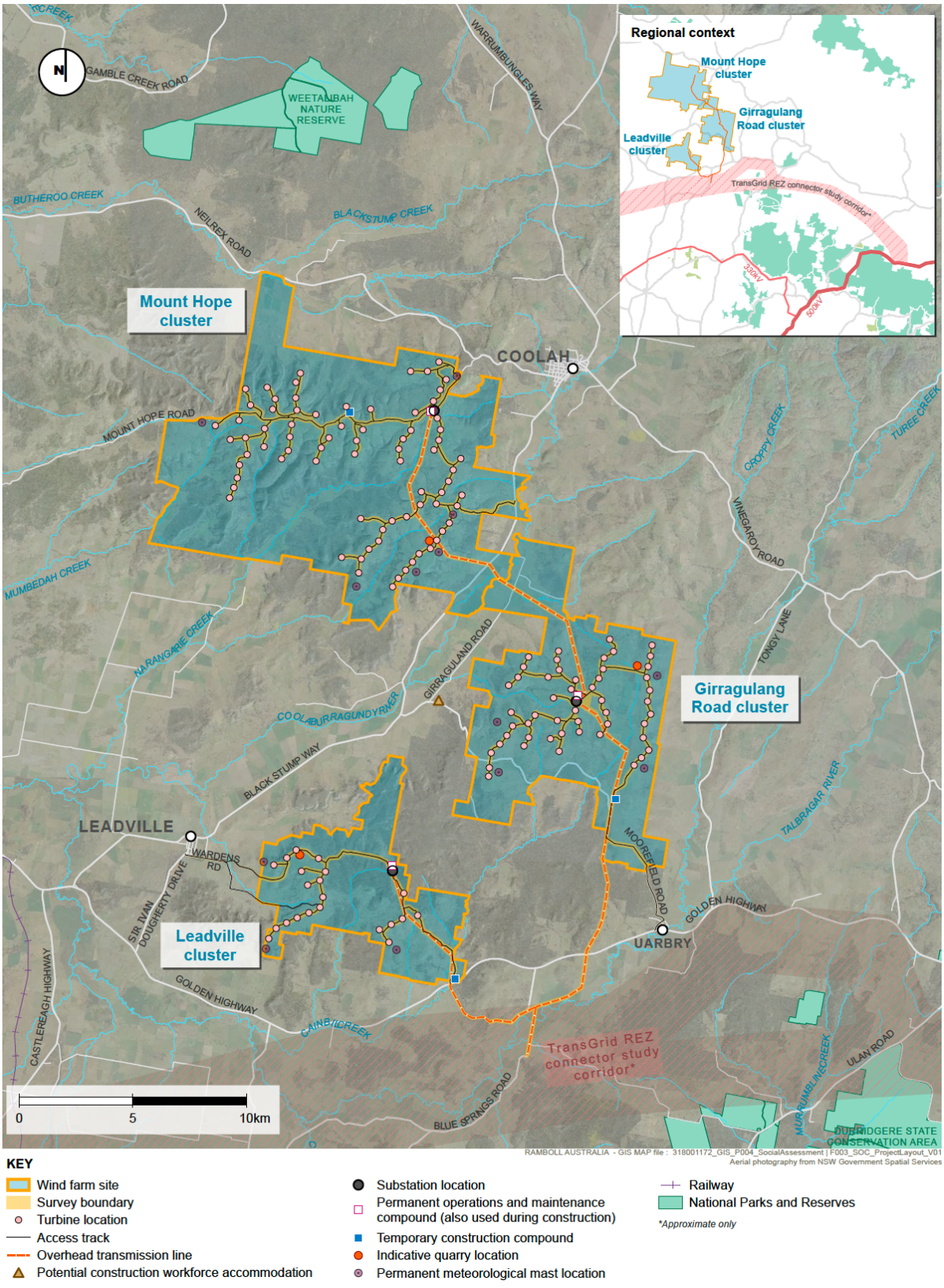

Figure 3.1 Project Site

The following features of the project's social context have been considered in understanding the project's social locality:

- Residents and occupants of associated dwellings and properties of the wind farm site (host landholders)
- Residents and occupants of adjacent dwellings and properties of the wind farm site
- Townships where property owners and residents of associated dwellings frequent for routine personal or economic activities, community activities and to access infrastructure and services
- Residents, service providers and business owners of townships as per point above
- Transportation routes along the Golden Highway to and from Newcastle Port, in particular local roads from the Golden Highway to and from each wind farm cluster
- Locations of council administrations and government services
- Places and areas of social or cultural importance to local residents and in particular of Aboriginal communities
- Places of residence of future construction and operational workforce and their primary dependents.

Figure 3.2 outlines the local government area that the project is situated within, as well as the proximate townships to the project site. This geographical representation outlines the scoped social locality and includes:

- The Warrumbungle Shire
- The rural township of Coolah (the closest to the project site)
- Leadville (of which the Leadville cluster of the project is named after)
- Uarbry (small village that providing an access to the Girragulang Road cluster)
- The rural township of Dunedoo (closest to the Leadville cluster of the project).

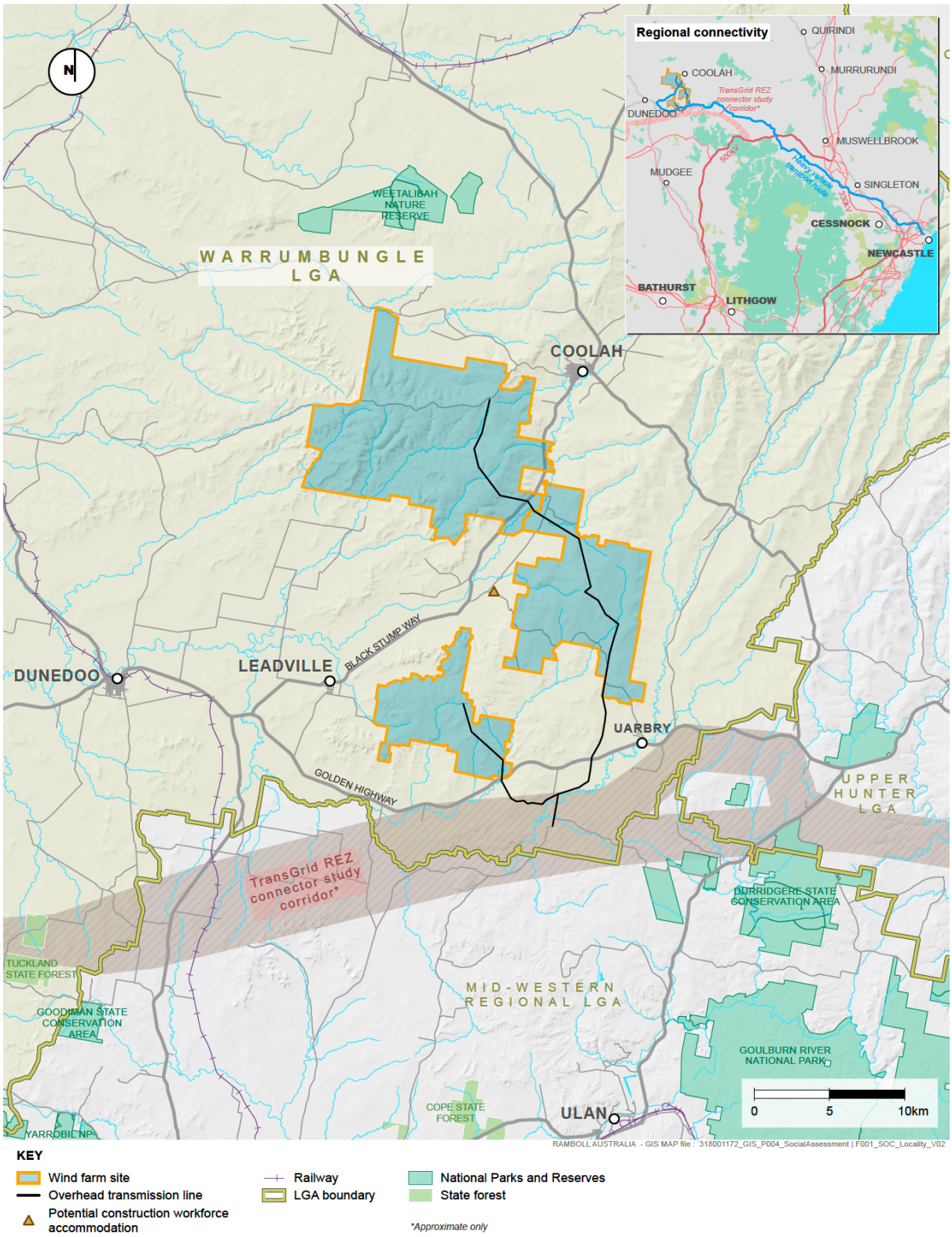

Figure 3.2 Social locality

4 Social Impact Assessment Approach

SIA is an approach to predicting and assessing the likely consequences of a proposed action in social terms and developing options and opportunities to improve social outcomes. Best practice SIA is participatory and involves understanding impacts from the perspectives of those involved in a personal, community, social or cultural sense, to provide a complete picture of potential impacts, their context and meaning.

UPC\AC has been building a local presence in the region since July 2018 through both one-on-one and group meetings with local landholders, neighbouring property owners, Warrumbungle Shire Council, Mid-Western Regional Council, Upper Hunter Shire Council, community groups and local service providers. Relationships with the community have been developed over time, the SIA engagement approach adopted for the current assessment builds on existing relationships and activities and incorporates both qualitative and quantitative research assessment methodology

4.1 Approach to SIA

The SIA approach is outlined in Table 4.1 and enabled the collection of data to address the social impact categories defined in the 2021 Guideline (Table 4.2). The ethics of research involving humans and the principles identified in section 1.2 of the 2021 Guideline are a focus of this SIA.

Table 4.1 Approach to SIA

Approach	Description
Identifying and scoping impacts	• Gaining an understanding of the project's social locality.
	• Considering the characteristic of the communities within the social locality. This is described as the social baseline.
	• Identifying likely social impacts for different groups in the social locality.
Identifying, assessing and monitoring social impacts	• Analysis of unmitigated and mitigated social impacts.
	• Proposing arrangements to monitor and manage residual social impacts.

Table 4.2 Social impact categories (2021 Guideline)

Categories	Definition
Way of life	How people live, how they get around, how they work, how they play, and how they interact each day.
Community	Community composition, cohesion, character, how the community functions, and people's sense of place.
Accessibility	How people access and use infrastructure, services and facilities, whether provided by a public, private or not-for-profit organisation.
Culture	Aboriginal and non-Aboriginal, including shared beliefs, customs, values and stories, and connections to Country, land, waterways, places and buildings.

Categories	Definition
Health and wellbeing	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.
Surroundings	Ecosystem services such as shade, pollution control, and erosion control, public safety and security, access to and use of the natural and built environment, and aesthetic value and amenity.
Livelihoods	People's capacity to sustain themselves through employment or business.
Decision-making systems	Including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

4.2 Social baseline

A key component in the development of the social baseline was the collation and interpretation of relevant demographic data. To provide statistical analysis, the primary areas of interest for the purpose of this assessment and as defined by the ABS (2016) are shown in Table 4.3. The study also uses the state of NSW for comparative purposes.

Table 4.3 Statistical area of analysis

Analysis Area	Geographical boundaries including ASHA Code
Host Landholders / Neighbours / Community	The state suburbs of: • Coolah (11024) • Leadville (12290) • Dunedoo (11316) • Uarbry (139999)
Region	Warrumbungle Shire Local Government Area (18020)

A wide range of social indicators were considered prior to conducting this statistical analysis as well as in the development of the existing social baseline. The selection of social indicators was primarily informed by the key theme contained in the NSW Department of Planning Infrastructure and Environment (DPIE) Central West and Orana Regional Plan 2036.

The baseline also uses the Socio-Economic Indexes for Areas (SEIFA). This is an ABS measure that ranks areas in Australia according to relative socio-economic advantage and disadvantage. There are four different SEIFA measures, however, this report utilises the Index of Relative Socio-Economic Disadvantage (IRSD) as it considers vulnerability. Higher IRSD scores reflect lower levels of disadvantage. The IRSD scores included in this report are for geographical areas at the LGA level. The score is standardised against a mean of 1,000, with a standard deviation of 100.

Finally, the baseline also considers existing social infrastructure. Social infrastructure refers to facilities and services that enhance the social capacity of communities and may include infrastructure related to health, housing, youth, aged care, leisure, community safety facilities and road safety (Franks, 2012). The social infrastructure identified in areas surrounding the project prior to the

commencement of works provide a reference point against which social impacts may be measured. Such impacts can take the form of a decrease in the quantity, diversity, or capacity of the existing social infrastructure, courtesy of demand from an expanded workforce and their relatives relocating to a particular area.

An online desktop search was the method used to determine the existing social infrastructure associated with the project. Data was sourced from a range of websites including

- Warrumbungle Shire website
- NSW Department of Education
- NSW Health
- NSW National Parks and Wildlife Service

Please note: This assessment includes the most current data sources at the time of writing. It is important to note that while the ABS Census 2021 was undertaken in August 2021, the results are released from June 2022 and therefore have not been included in this assessment.

4.3 Stakeholder identification and analysis

Stakeholders can be defined as 'any individual, group of individuals, organisation or politics entity with an interest or stake in the outcome of a decision' (International Association for Public Participation, 2015). For this Project, a stakeholder analysis has been undertaken to identify communities and stakeholders who have an interest in the project and/or be impacted by the project construction, operations or decommissioning. This includes people and groups:

- That are impacted by possible construction, maintenance, operation or decommissioning activities
- With an interest in policy or operational decisions
- With an interest in major project development proposals.

A comprehensive list of stakeholders identified for the purposes of this social impact assessment is provided in **Appendix 3.** An overview of engagement activities undertaken to inform this SIA and key outcomes is provided in **Chapter 5**.

4.4 Identification of social impacts and assessment methodology

4.4.1 Scoping of impacts

The scoping tool contained in the 2017 Guideline was a method implemented during the SIA scoping phase and presented in the Social Impact Scoping Report (Elton Consulting, 2020) (Refer to **Appendix 4**). The issues scoped during this phase were informed by a series of face-to-face meetings and community information forums with the community, a review of project-related technical documents, scan of the public policy and renewable energy sector context, including comparable wind projects in NSW, a high-level overview of the social baseline and observations and findings from the site visit.

The scoped impacts were further refined through the impact assessment phase to reflect ongoing engagement outcomes, assessment progression and to align with the 2021 Guidelines.

4.4.2 Research methodologies

A range of methods were selected for the assessment to address matters requiring further social impact investigations. Table 4.4 lists the methods selected for the SIA and a brief description of the methodology.

Table 4.4 Research methodologies

Research methodology	Description
Semi-structured interviews and online survey	Interviews were used to further explore the social impacts of the project and to collect data, evidence, and insights for those stakeholders nearest to the project Area. The semi-structured interview format provided a flexible structure which allowed the interviewer to create and ask questions about situations as they emerged, and the interviewee to digress and express views freely. An online survey was administered in September 2021 to help further inform the scoped impacts and provide further direction for this assessment. The work of Bradshaw and Stratford (2005) regarding qualitative research design and rigour, was helpful in designing the semi-structured interview methodology and the online survey. The authors provide guidance in relation to participant selection and sampling. Their work explains that in qualitative research, the number of people we interview, communities we observe, or texts we read, is less important than the quality of who or what we involve in our research, and how we conduct that research. Their work emphasises that 'purposive' sampling is typical in this type of research, and that the sample is not intended to be representative given the emphasis is usually on the analysis of meanings.
Exploratory research	Exploratory research involves familiarising a researcher with a topic to satisfy curiosity and improve understanding. Exploratory research is often conducted in areas of inquiry, where the goals of the research are "to scope out the magnitude or extent of a particular phenomenon, problem, or behaviour, to generate some initial ideas (or "hunches") about that phenomenon, or to test the feasibility of undertaking a more extensive study regarding that phenomenon (Bhattacherjee, 2012). For instance, if a community is generally dissatisfied with the operations of a business or government body, exploratory research may be directed at measuring the extent of dissatisfaction or frequency of complaints, and the presumed cause of such complaints. For this assessment, research has included comparative analysis of similar operations. This research assists with scoping out the nature and extent of the problem and serving as a useful precursor to more in-depth research, if required.
Desktop analysis based on specialist studies	The term desktop analysis refers to a study that is carried out primarily through integration of technical assessments into the SIA, rather than physical investigations, that is, it can be done sitting at a desk. For the purpose of this assessment, several social impacts, including cumulative impacts have been mostly assessed in other technical studies in the Environmental Impact Statement, and a desktop analysis has been undertaken to cross-reference and integrate those studies into this report. This

Research methodology	Description
	methodology is then further complemented by methodologies outlined previously such as qualitative assessment and research methodology to provide additional supporting evidence.
Opt-out survey methodology	Random telephone survey conducted by an independent researcher of residents in the LGA, which is an opt-out research methodology. An 'opt-in method' for measuring impact for different projects and actions are effective when wanting to determine the opinions of those with a vested interest in the topic, but not necessarily when wanting to obtain opinions and attitudes of the whole community. An opt-out survey was used to gain broader community sentiment and perception relating to the project's social impacts across the affected LGA. The random survey undertaken during January 2022 by an experienced, independent research (n=100) and outcomes provided in Appendix 5.

4.5 Risk assessment

To assess the potential impacts, a risk assessment was carried out to determine the overall significance rating of the potential social impact with and without mitigation. The impacts have been evaluated according to the 2021 Guideline.

As part of this risk assessment, consideration was given to:

- The likely population to be affected, separately for each component of the project
- The timing of the potential social impact
- The potential impact characteristics that were assessed during the scoping phase (extent, duration, scale, sensitivity)
- The potential level of significance of the potential social impact, considering the likelihood and magnitude of the potential social impact
- Any residual negative social impacts and how they would be experienced by affected people.

The tables used to evaluate the likelihood of both positive and negative social impacts and inform the magnitude of each impact before and after mitigation or enhancement are adapted from the 2021 Guideline and provided for reference in provided in Appendix 6.

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

4.6 Assumptions

Assumptions applied to complete this social impact assessment include:

- The key findings of the background studies and technical reports are accurate
- Social data available for each study area accurately reflects the community demographic profile
- Outcomes of the community consultation and engagement undertaken to date accurately reflect community views.

5 Engagement approach and outcomes

A participatory engagement approach has been undertaken to inform this SIA and builds upon the extensive engagement carried out by UPC\AC as part of the development of the Environmental Impact Statement (EIS) since July 2018. This chapter provides a summary of the engagement approach and outcomes specific to this SIA.

5.1 EIS engagement activities

UPC\AC has been building a local presence in the region through both one-on-one and group meetings with local landholders, neighbouring property owners, Council, community groups and local service providers. An overview of the engagement undertaken by UPC\AC during the assessment phase is provided is **Table 5.1** and communication tools shown in **Table 5.2.** Further detail is provided in chapter 5 of the EIS.

Table 5.1 EIS Engagement Summary

Methodology	Timing	Stakeholders	Quantity
One-on-one meetings	Through EIS phase	Host Landholders Neighbouring landholders Special interest groups Wider community Government Stakeholder	189 97 17 203 23
Community information sessions and stands	Between February 2020 and February 2022	Residents of Coolah, Uarbry, Dunedoo, Leadville and Surrounds	10 sessions in total attended by approx. 200 people in total.
Virtual updates	6th to 10th September 2021	During COVID-19 lockdowns virtual project update meetings were advertised and undertaken with interested community members.	3
Group meetings	Through EIS phase	Special interest groups Government Authorities	4 26

Table 5.2 Communication tools

Communication tools	Distribution
Letterbox drop	750 within 5km of site
Advertisements in local papers:	6 x Coolah District Diary 6 x Dunedoo District Diary 5 x Coonabarabran Times 4 x Mudgee Guardian
Noticeboard flyers	8 flyers distributed on noticeboards in surrounding communities

Communication tools	Distribution
Direct mail	74 (Excluding host landowner communications)
Email	>570 emails
Project website and social media	Those with internet access with an interest in the project https://www.facebook.com/valleyofthewinds https://valleyofthewinds.com.au

5.2 Participatory SIA Engagement

Impartial and participatory engagement was undertaken independently of the project EIS engagement activities to further inform the SIA. The tools used to achieve the desired SIA consultation outcomes and the timing are shown in Table 5.3.

Table 5.3 SIA engagement approach and timing

Research methodology	Timing	Reach	Respondents
Opt-out survey (random)	17 to 28 January 2022	20k surrounding project site including Dunedoo, Coolah and Surrounds	100
Semi-structured interviews	December 2021 – February 2022	Over 100 attempted contacts	49 respondents including nearby neighbours, host landholders, community groups, elected representatives, emergency services and local business.
Online survey	September 2021	Sent to 92 residences via email and direct mail Approx. 3500 through the district diaries	27 respondents
Total respondents			176

5.3 Summary of SIA engagement outcomes

5.3.1 Opt-out survey

The random survey was undertaken during January 2022 by an experienced, independent research company. The research centred around the towns of Coolah and Dunedoo, seeking a sample size of n=100 adult residents in total. Key findings included:

- 50% of respondents supported (in general) wind farms being built in their region, against 25% opposed (and the balance unsure or neutral). Of four energy infrastructure options offered, only solar farms were more popular (at 58% support) - compared to 27% support for large-scale batteries, and 18% for a gas-fired power station.

- After being informed of the Valley of the Winds wind farm, 60% of residents supported the proposed wind farm (Coolah 61%, Dunedoo 59%), against 18% opposed (Coolah 23%, Dunedoo 15%), with the balance neutral or unsure.
- In terms of their major concerns, 15% (unprompted) were worried about the visual aesthetic of wind turbines, 14% concerned about noise and traffic during construction, and 10% worried about noise during operation. The only other concerns of note were impact on farming land, and the reliability/life cycle/disposal options for wind turbines (at 5% each).
- 63% supported a workers camp accommodation being used (against 22% opposed and the balance neutral or unsure).

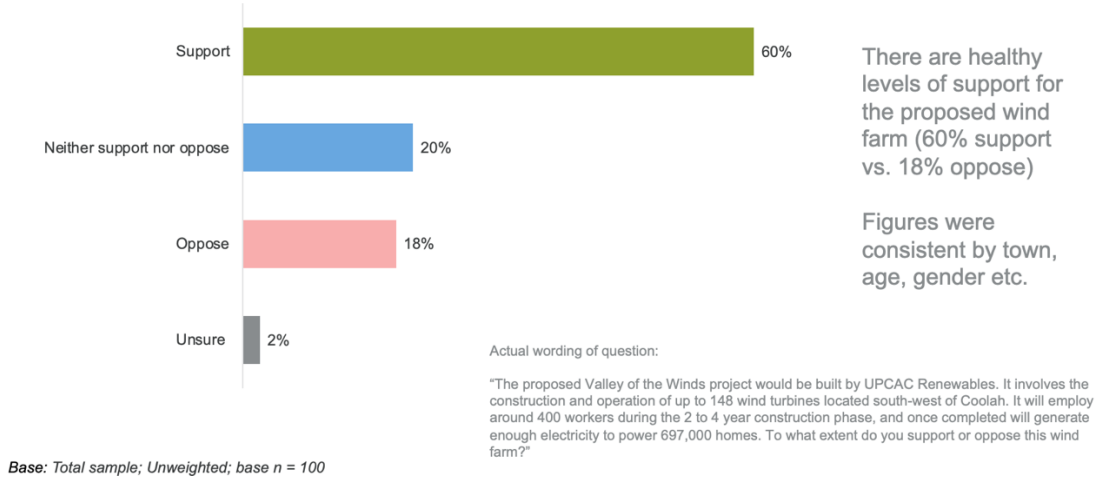

Figure 5.1 support of the proposal (source Taverner Research)

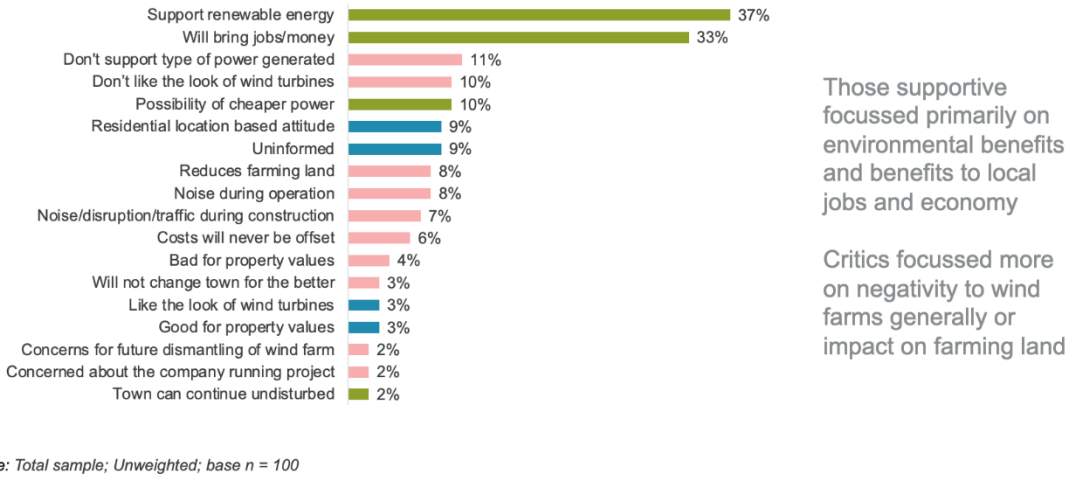

Figure 5.2 Reasons for support or opposition (source Taverner Research)

5.3.2 Semi-structured interviews

Between December 2021 and February 2022, a number of targeted interviews were carried out by AAP Consulting Pty Ltd to inform the SIA. The breakdown of interviews by stakeholder group is provided below.

Stakeholder group	Respondents
Host landholders	12
Nearby neighbours	12
Special interest groups including local community groups, health, emergency services and community representatives	8
Local business and employment industry	9
Wider community including representative from a comparative project	9
Aboriginal groups	1
Total respondents	**51**

Key themes emerging from consultation are shown in **Figure 5.3** and **Figure 5.4** (unprompted). The themes are broken down into stakeholder groups by frequency of feedback. It should be noted that stakeholders were able to raise multiple issues or concerns. By stakeholder group, the most frequently raised issues include:

- **Host landholders:** Community investment, leading to improved sustainability and enhancing resilience. Distributive equity of benefits – the investment should stay in the towns most impacted by the project. Decommissioning and how turbines will be pulled down and disposed of.
- **Nearby neighbours:** Changes to the visual landscape and how they experience their surroundings and the potential negative impact on property values.
- **Community groups:** Community investment. Concerns around distributive equity and how the community funds will be administered.
- **Local business and industry:** Economic contributions and sustainability. Including employment and training opportunities, and economic benefits to local businesses and suppliers.
- **Wider community:** Community investment, employment and job opportunities. Concerns around distributive equity and how the community funds will be administered.

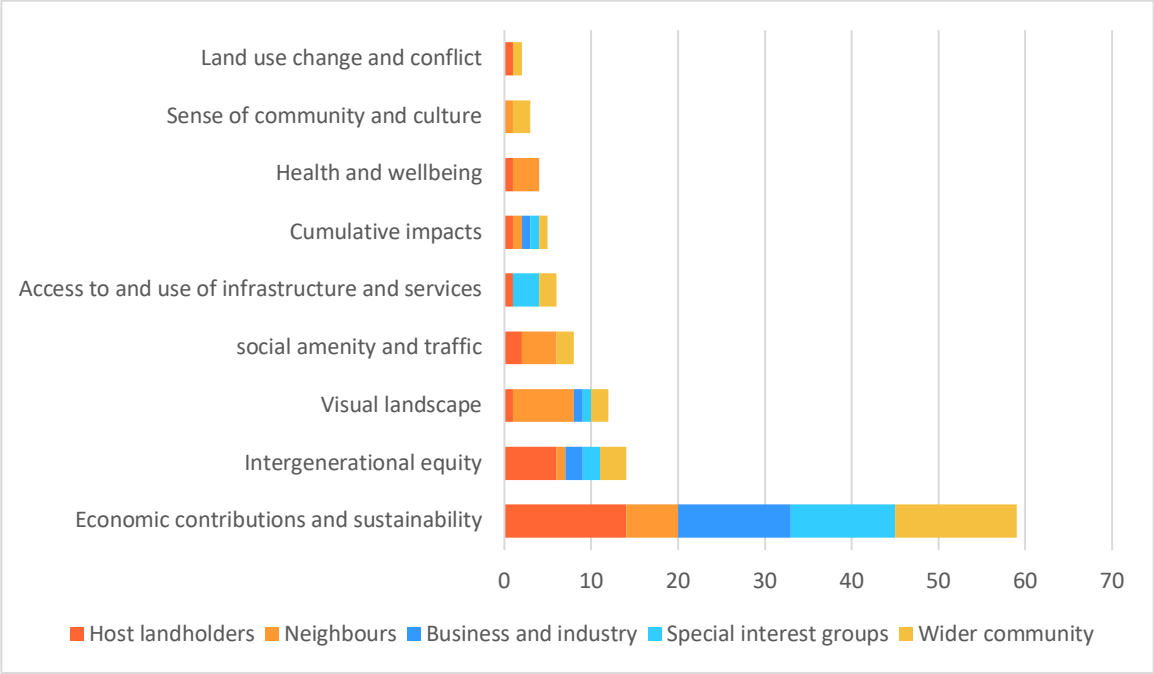

Figure 5.3 Impact themes during targeted engagement (unprompted)

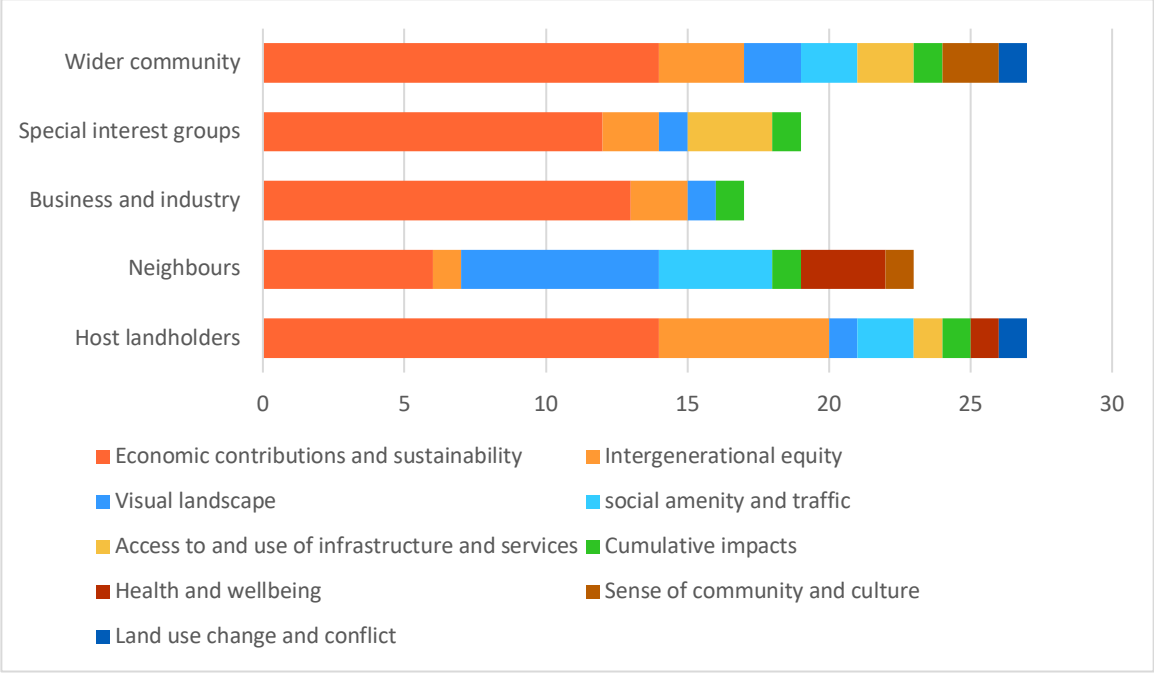

Figure 5.4 Impact themes by stakeholder group (unprompted)

5.3.3 Online survey

An online survey was administered in September 2021 to help further inform the scoped impacts and provide further direction for this assessment. The survey was advertised in local papers, included in direct mail outs and emails to nearby neighbours and host landholders and accessible via the project website. The survey included a series of open-ended and choice questions and received a total of 84

responses, which full completion rate of 25% (21 completed responses). The key themes from the online survey included:

- The positive impact on livelihoods, including the additional income to landholders and the injection of revenue into the broader community. This included increased employment opportunities, increasing local spending for businesses within the surrounding towns, and improving resilience to drought and other natural disasters experienced by rural communities.
- Distributive equity of income
- Visual impacts
- Concerns that during the construction phase, the temporary accommodation needs of workers would increase rental prices and impact the lower-income earners within the community. As a result, they could no longer afford housing and may be forced to relocate, negatively impacting their standard of living.

The outcomes of consultation informed the assessment of perceived social impacts which is discussed in chapter 7.

6 Social Baseline

This chapter presents the social baseline for the project and describes the social context without the project. It documents the existing social environment, conditions, and trends relevant to the project and defines characteristics of the communities within the project's social locality, including any vulnerable groups.

It considers any built or natural features on or near the project that could be affected and the intangible values that people may associate with these features. Examples may include a sense of place or belonging and the relevant social, cultural, demographic trends or social change processes occurring now or in the past near the project and in the broader region.

Relevant to this discussion are changing employment patterns, shifting land uses or population and demographic changes, and how people have felt or experienced these changes.

The social baseline provides a point of comparison – it can be used as reference against which to measure the impacts of the project as it develops, and/or to determine the adequacy or otherwise of existing facilities (Vanclay, 2015).

For the purpose of this assessment, a summary of the social baseline is provided in this body of this report to provide an overview of the existing environment. Additional supplementary data that supports the assessment such as the community profile dataset and the social infrastructure is included in Appendix 6.

6.1 The social baseline at a glance

A brief overview the characteristics of the community is provided below, with more context provided in the proceeding sections. Key characteristics include:

- Rural community with an ageing population
- This aging population is reflected in employment, with only 47 percent of the population reported as participating in the labour force
- Strong reliance on rural based industries
- Strong social ties with higher-than-average volunteer rates
- Substantial difference in digital inclusion and access to mobile networks when compared to urban areas
- Strong connection to country, with Aboriginal persons accounting for approximately 10% of the population
- Limited public transport options which flows on to lower accessibility to community and health services, often located in the larger regional centres of Dubbo and Tamworth, or Newcastle and Sydney.

6.2 Regional context

The project sits on the outskirts of the Central West and Orana Region, in the Warrumbungle Local Government Area. The Warrumbungle Shire includes the towns of Coonabarabran, Baradine, Binnaway, Coolah, Dunedoo and Mendooran as well as several small villages such as Bugaldie, Cobbora, Goollhi, Kenebri, Leadville, Merrygoen, Neilrex, Purlewaugh, Rocky Glen, Uarbry, Ulamambri, Weetaliba and Yearinan. The largest town is Coonabarabran (Warrumbungle Shire Council, 2017).

The LGA of the Warrumbungle Shire is home to 9,209 people (ABS, 2020). This represents a decrease from the 2016 Estimated Resident Population (ERP) of 9,562, or 353 persons. The annualised growth rate from 2016-2020 was almost -1% compared to 1.38% for New South Wales. In terms of multiculturalism and ethnic diversity, the majority of residents in the shire are Australian born (81%) with 87% only speaking English at home. 10% of those who took part in the 2016 census did not state the language spoken at home.

The Warrumbungle region also has a rich Aboriginal history. The northern part of the shire is home to the Gamilaraay people while the southern part of the shire is home to the Wiradjuri people. Also, the nations of the Weilwan and Kawambarai (Werriri) come into the Shire on the western border. The history, traditions and culture are being recognised as an important part of the Shire's history (Warrumbungle Shire Council, 2021). Aboriginal residents account for approximately 10% of the Warrumbungle population (ABS, 2016).

Statistics show that the population is ageing. The median age in Warrumbungle Shire is 50 years compared to 45 years in 2011. The percentage of the community 60 years or older is 34%. For New South Wales this is 22% (Remplan, 2021). This aging population is reflected in employment, with only 47% of the population reported as participating in the labour force.

Of those participating in the labour force, just over half (56%) of residents in the Warrumbungle LGA work full-time and 31% part-time, with the most common industry being beef cattle farming. When understanding the implications of the construction of a wind farm in the Warrumbungle Shire, particularly regarding traffic and noise, it is worth considering that over half of local residents drive to work (55%) while others (15%) work from home (ABS, 2016).

The economy in the LGA relies on rural based industries, such as sheep and cattle farming and cropping. To a lesser extent, other economic drivers include tourism and coal mining in the south of the Shire. The Agriculture, Forestry and Fishing industry sector makes the greatest contribution to economic output in the region, which at $274.2 M accounts for 32% of total output. This industry sector is also the largest employer with 900 jobs which represents 29% of total employment within the region (Remplan 2021).

The shire has also endured several significant natural disasters over recent years including drought, the Sir Ivan bushfire of 2017, major flooding in 2019/2020 and again in 2021 and the mouse plague of 2021. Covid-19 has also impacted regional communities in terms of economic prosperity and availability of labour for seasonal farm work.

In terms of crime, Warrumbungle Shire's crime figures are much better than surrounding Shires (Warrumbungle Shire Council, 2020) with crimes related to domestic violence down 6% in 2021 when compared to 2016 (NSW Bureau of Crime Statistics and Research, 2021).

Social ties between people in the area are strong. Volunteer rates are noticeably higher than NSW with 28% of the population taking part in voluntary work through a community or organisation, compared to 18% in NSW. Mobility rates are also stable – with over half of the population having lived in the area for at least five years (ABS, 2016).

There are substantial differences in digital inclusion between Australians living in rural and urban areas which is evident through connectivity to internet. In Warrumbungle Shire, only 67% of households have access to the internet, compared to 82.5% of households across NSW. The take up of the NBN continues to close the gap in access for rural Australia, however connections to the internet have become evidently important during the past 18 months with the COVID-19 pandemic, particularly during the state-wide lockdowns, where households have had to rely on internet connectivity to access tele-health services and stay in touch not only workplaces, but family and social groups.

In terms of transport, it is anticipated that connectivity to the new Western Sydney International Airport will drive innovative economic opportunities and see an increase in visitors to the region.

In terms of vulnerability, this assessment has reviewed the Socio-Economic Indexes for Areas (SEIFA). This is a suite of indexes that have been created by the Australian Bureau of Statistics from social and economic Census information. Specifically, this assessment looks at the Index of Relative Socio-economic Disadvantage (IRSD), a general socio-economic index that summarises a range of information about the economic and social conditions of people and households within an area.

The SEIFA score for Warrumbungle Shire in 2016 was 913. Across Australia's local government areas SEIFA scores range from 188 (most disadvantaged) to 1186 (least disadvantaged). The Warrumbungle Shire ranks 82 out of 544 local government areas with SEIFA scores in Australia, there are 462 local government areas which are less disadvantaged, and there are 81 local government areas that are more disadvantaged (ABS, 2016). This score is reflective of a number of indicators, including the lower incomes (weekly household income in the Warrumbungle Shire was $878, compared to the NSW average of $1486) and the lower level of educational attainment (14.6% of the population's highest level of educational attainment is was year 9, compared to 8.4% of the NSW population).

6.3 Local context

6.3.1 Coolah

Coolah is a small rural town within the Warrumbungle LGA of approximately 1,300 residents across the State Suburb (SSC) and an Aboriginal population of 5% (ABS, 2016). The Coolah community is largely dependent on land-based livelihoods, with a focus on livestock and farming and a history of the timber industry. The majority of residents (83%) are Australian born, highlighting their connection to and interest in the local area and its future. The primary livestock industry is indicative of the physical landscape of the area and is therefore important to consider when understanding the impacts of the project in relation to existing land uses and community values.

Coolah is the gateway to the Coolah Tops National Park, where bushwalking, mountain biking and camping are popular activities (Visit NSW, 2020). Community infrastructure within Coolah includes a primary school, sporting grounds, a seasonal swimming pool, a visitor and recreational centre, a local town hall and a golf club.

The town traces its heritage to the 'black stump', a reference to the limits of colonial settlement. The Australian colloquial saying 'Beyond the black stump' – beyond European civilisation or deep in the outback - is closely associated with Coolah and has ties all the way back to Governor Darling's 1826 limit on authorised settlement (Visit NSW, 2020). Today the Black Stump Rest Area marks the location of the colonial boundary.

In terms of liveability, Microburbs rates Coolah very highly in terms of safety (10/10), lifestyle (8/10), tranquillity (9/10) and community (9/10). This is reflective of very low crime rates, local options for popular public social activities and community infrastructure within Coolah such as sporting grounds, the Coolah Memorial Swimming pool, a visitor and recreational centre, a local town hall and a golf club. It is also reflective of the open spaces, abundance of opportunity to explore the natural environment and low population density (Microburbs, 2021). In terms of housing stock, as at 19 January 2022 there were limited rentals available in Coolah and surrounds, with realestate.com having zero listings, while the local real estate (Piper Real Estate) had three listings. There were also 11 properties available for sale, with five of those already under offer (realestate.com.au, January 2021).

Reflective of the regional context, volunteer rates in Coolah are also quite high with 28.5% of the population doing voluntary work through an organisation. This represents quite a strong connection to place and community, with research showing that volunteers are much more likely to be involved in other aspects of community life than non-volunteers such as attending community events, providing a service or activity in their local area and are more likely to provide informal assistance to someone outside their own household than non-volunteers (Volunteering Australia, 2021).

6.3.2 Dunedoo

Dunedoo is slightly smaller than Coolah with 1,221 residents of which Aboriginal residents make up approximately 8% of the population (ABS, 2016). It has the eldest of the populations, when compared to Coolah and Leadville, with almost 60% of the population over the age of 50.

Dunedoo is located closest to the Leadville cluster of the project, at the junction of the Golden and Castlereagh highways by the Talbragar River. It is often a travel stopover location with a variety of accommodation offerings, local pubs and the Dunedoo Museum.

Similar to Coolah, Dunedoo's primary industries are agriculture with mixed farming practices and significant cattle and sheep industries. Many local families have worked on the land in Dunedoo since the district was first settled by white people in the 19th Century (Dunedoo.org.au).

In terms of transport, there are no active passenger trains travelling to Dunedoo, but the rail line is still used as an active goods rail line, from Newcastle to Adelaide. Visitors to the region primarily travel by car.

Again, reflective of the region, volunteer rates are above the state average (29% compared to 18%) with the community supported by the Dunedoo and District Development Group. This group seeks to ensure the growth of the area and organises the Bush poetry festival attract visitors from across the region each year (Visit NSW, 2020). The Dunedoo Show and Tunes On the Turf, an annual music festival, also attracts both visitors and the local community to the town, encouraging community cohesiveness, connection and supporting the local economy.

Dunedoo also has a number of educational facilities including the Dunedoo Central School, St Michaels and the Dunedoo Preschool. It also hosts a branch of the TAFE Western.

In terms of income, Dunedoo has the lowest weekly household income of the three state suburbs, with a weekly income of $871 compared to the NSW average of $1486). However, home ownership is higher in the area (69% of homes owned outright, or with a mortgage, compared to 64% of the NSW population). This is reflective of the older and more settled population. Similar to Coolah, availability of rental properties and housing stock for purchase is very limited.

6.3.3 Leadville

Leadville is a small rural town of 169 residents (ABS, 2016), 22 km east of Dunedoo, of which the Leadville cluster of the project is named after. Almost half of Leadville's residents (42%) work in the livestock industry.

While only a small town, the Aboriginal population is 5%. The site of modern-day Leadville lies on the traditional lands of the Wiradjuri people, close to the lands of the neighbouring Kamilaroi people that lie to the north and east.

The origins of the town are associated with the nearby silver-lead ore deposits; the former Mount Stewart, Extended, Mount Scott, Grosvenor and Latimer Mines are nearby. The old mines can be seen from the roadside at Leadville. There is an information board concerning the mining operations (aussietowns, 2021).

In Leadville, of all households, 69% were family households, 25% were single person households and 6 were group households. Of the families 48% were couple families with children and 52% were couple families without children. Only half of the households had connection to the internet, reflective of the substantial differences in digital inclusion between rural and urban areas.

Within the town there is the Leadville Hall which is used for social gatherings and events as well as the Leadville church (Warrumbungle Shire Council, 2016). The Leadville Hall was refurbished in 202 with funding provided by the NSW State Government with the Stronger Country Communities Funding (Warrumbungle Shire Council, 2020).

6.3.4 Uarbry

Uarbry is a village in the Warrumbungle Shire of New South Wales, Australia. At the 2016 census, Uarbry had a population of 49. The Sir Ivan bushfire almost destroyed Uarbry in February 2017. The fire destroyed 35 homes in Uarbry and the surrounding areas, including the Uarbry Community Hall and St John's Anglican Church. In addition, it destroyed more than 55,000 hectares and 5700 kilometres of fencing and over 2000 livestock (Mudgee Guardian, 2017).

The village is slowly rebuilding new homes. A large covered outdoor area and picnic area have also been built on the site where the community hall once stood. This facility has several mixed uses, including being used as a meeting place for the community and as a stopover for caravans and camping.

6.4 Cumulative projects

In this SIA, cumulative impacts refer to the combined effect of impacts from several activities on a particular value or receiver. According to the SIA Guideline, cumulative impacts can take three forms. They can be:

- Spatial impacts; occurring over the same area, such as trucks from multiple operations which may produce a cumulative noise impact along a common haulage route,
- Temporal; vary over time, such as the construction of multiple large projects over the same timeframe which may produce a spoke in temporary worked in an area, creating a cumulative shortage of accommodation, or
- Linked impact; involve more complex interactions – on impact may trigger another.

Given the location of the project in the Central West Orana REZ, there have been a number of other renewable energy projects that are operating, under construction or are currently being planned. The SIA includes a review of a select number of comparable projects in the region to identify how communities have responded to these proposed developments and inform an understanding of the potential cumulative impact associated with multiple nearby projects.

Figure 6.1 shows the status of nearby projects to the project. Table 6.1 provides an overview of those projects shown in the figure that may have the potential contribute cumulative impacts within the social locality and include Liverpool Range Wind Farm (approved but seeking modification), Dunedoo solar farm (approved), Stubbo solar farm (approved) and The Barneys Reef Wind Farm (in planning phase). The Central West Orana REZ has also been included. The review has been informed following a review of Major Projects listed on the DPIE Major Project Register, reviews of relevant strategic plans and websites, and feedback from early engagement. A more comprehensive overview of cumulative impacts is reflected in Chapter 18 of the EIS.

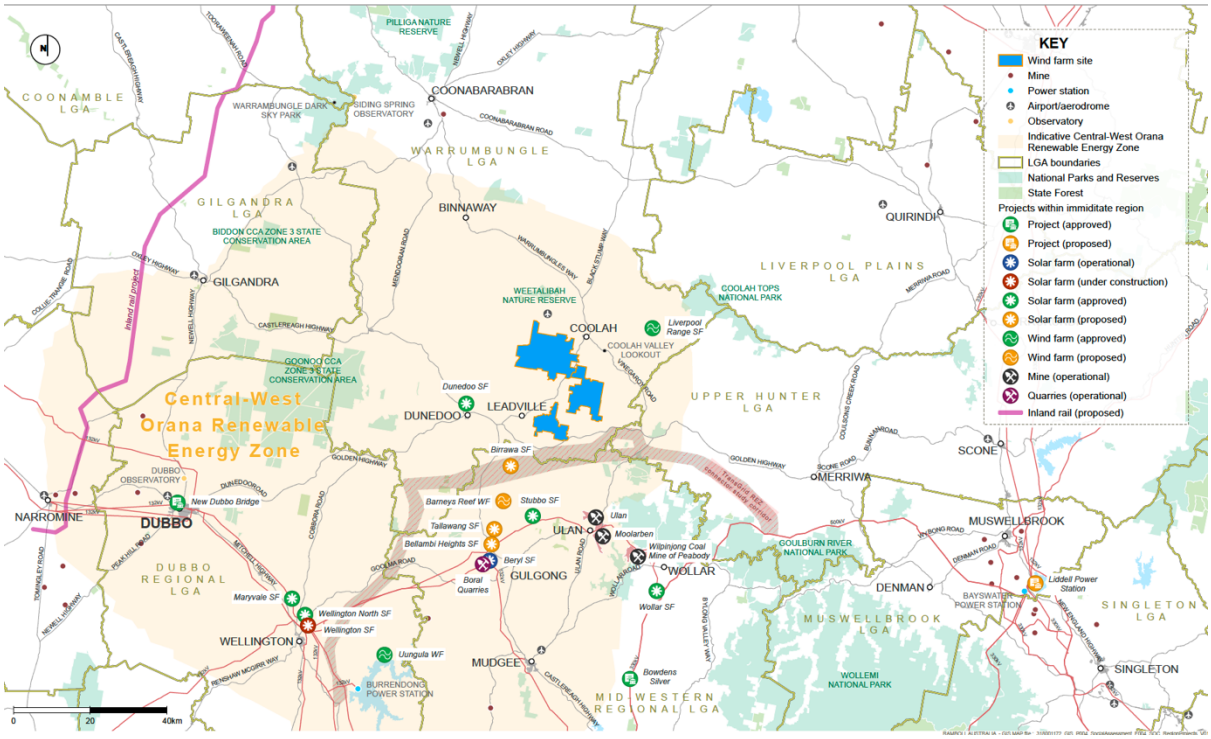

Figure 6.1 Nearby projects

Table 6.1 Nearby projects and linkage to Valley of the Winds

Project	Status	Proximity and direction from the project	Project details
Beryl Solar Farm	Operational	33 km south-west	Commenced operations in June 2019 Capacity of up to 95 MW 30-year operational project life Development footprint of 225 ha Peak workforce of approximately 150 jobs
Boral Quarries Beryl	Operational	33 km south-west	Construction material mining
Ulan Mine	Operational	30 km south-east	Open cut and underground mine Mine life approved to 2033 Production of up to 20 Mt of run-of-mine coal per annum Peak workforce of 931 persons
Moolarben Mine	Operational	27 km south-east	Open cut and underground mine Mine life approved to 2038 Production of up to 16 Mt of run-of-mine coal per annum Peak workforce of 740 persons
Wilpinjong Mine	Operational	35 km south-east	Open cut mine comprising seven mining areas Production of up to 16 Mt of run-of-mine coal per annum

Project	Status	Proximity and direction from the project	Project details
			Mine life approved to 2033 Peak workforce of 625 persons
New Dubbo Bridge (Newell Highway)	Approved	92 km south west	New bridge over the Macquarie River and construction of around 2.2 km of new highway Construction scheduled 2022 – 2025
Liverpool Range Wind Farm6	Approved	6 km east of	Proposed 282 wind turbines Capacity of up to 1000 MW Peak workforce of approximately 800 jobs
Uungula Wind Farm	Approved	70 km south west	Proposed 97 wind turbines Capacity of up to 400 MW Peak workforce of approximately 250 jobs
Dunedoo Solar Farm	Approved	16 km west	Construction scheduled to commence 2021 (12-month program) Capacity of up to 66 MW 30-year operational project life Development footprint of 95 ha Peak workforce of approximately 100 jobs
Bowdens Silver Project	Approved	66 km south-east	Open cut silver, zinc and lead mine Extraction of up to 29.9 Mt of run-of-mine ore per annum Mine life of 23 years
Wollar Solar Farm	Approved	50 km south-east	Construction scheduled to commence in mid-late 2020 (approximate 22-month construction period) Capacity of up to 290 MW 30-year operational project life Peak workforce of approximately 300 jobs
Maryvale Solar Farm	Approved	70 km south-west	Capacity of up to 125 MW 25-year operational project life Peak workforce of approximately 150 jobs
Wellington Solar Farm	Under construction	70 km south-west	Capacity of up to 174 MW 12 month construction period 30-year operational project life Peak workforce of approximately 200 jobs
Wellington North Solar Farm	Approved	70km south-west	Capacity of up to 300 MW 24 month construction period 30-year operational project life Peak workforce of approximately 400 jobs
Stubbo Solar Farm	Approved	20 km south	24-month construction program Construction anticipated to commence late 2021 400 MW solar farm with 200MW battery storage 30-year operational project life Peak workforce of approximately 400 jobs

Project	Status	Proximity and direction from the project	Project details
Liddell Power Station	Proposed	143 south-east	Demolition and rehabilitation works of power station and associated infrastructure Closure and demolition over approximately 10 years Ongoing maintenance and rehabilitation to continue for approximately 10 years Closure commencing in 2022 Peak workforce of approximately 75 - 100 jobs
Tallawang Solar Farm	Proposed	30 km south-west	34-month construction program Capacity of up to 500 MW 35-year operational project life Peak workforce of approximately 430 jobs
Barneys Reef Wind Farm	Proposed	18 km south	Proposed 63 wind turbines Capacity of up to 441 MW Peak workforce of approximately 340 jobs
Birriwa Solar Farm	Proposed	14 km south	36-month construction program Capacity of up to 600 MW 30-year operational project life Peak workforce of approximately 500 jobs
Melbourne to Brisbane Inland Rail (specifically the Narromine to Narrabri section)	Proposed	97 km west of the site	Four year construction period Construction anticipated to commence late 2021 306 km of new single-track within a new rail corridor with a minimum width o 40m Peak workforce of approximately 2,000 jobs
Bellambi Heights Solar Farm	Proposed	40 km south of the site	200 MW solar farm and 200 MW BESS
Energy Co Wollar Substation	Proposed	70 km south of the site	Upgrade/expansion of the existing Wollar Substation
Energy Co Transmission line	Planning phase	13 km south-east of the	Details to be confirmed

6.5 Social baseline summary

This baseline presents some of the strengths and challenges facing communities in the locality and it has been used as a basis, where possible, to assess the social impacts of the project. From a review of the baseline, it is possible to identify a number of key issues and opportunities for the Warrumbungle area, as listed below:

- Developing more and diverse employment, education and training services/opportunities for local people
- Protecting key community values including local communities; rural lifestyle; social/community and recreation facilities and events; traditional community and family values

- Job growth and economic diversification (including creative economy, small business, tourism, agriculture, renewable energy, retail, health services)
- Access to education and community service provision
- Access to quality health services
- Conservation of heritage and environment.

Inherent within the SIA process is the need to identify and empower vulnerable groups. “Although vulnerability is context dependent and can include a very wide range of groups, typically the concept includes Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people” (Vanclay, 2015).

From the social profile analysis undertaken for the project, it is possible to assess key areas of community resilience and risk in the Warrumbungle LGA. The key findings are summarised in Table 6.2 and identifies several population groups as potentially having vulnerability to the social or economic changes that the project, and the cumulative effects of other developments across the region, may bring. These include:

- Low income earners, the elderly and youth
- Property owners within the social locality
- Services providers, including those providing short term accommodation options within the social locality for the purpose of tourism
- Local job seekers
- Aboriginal and First Nations people
- Regular users of short-stay accommodation and tenants within the private rental market

Table 6.2 Social baseline summary

Strengths	Vulnerabilities	Potential implications for vulnerable groups
Abundant and diverse natural capital, including diversity of natural resources, heritage items, agricultural lands, and national parks and reserves.	Competing land uses in the region and managing community perceptions.	Ongoing potential for conflict between different and similar industries utilising the natural capital of the area, particularly property owners who use the land for agricultural production and those who provide accommodation for tourism and short term stays.
Stable population mobility and strong community support, showing strong ties to community connections, leading to community strength and resilience.	Population decline, ageing population and skills shortage. New production technologies and changing skill requirements. Technology gap between regional and metropolitan NSW – include access to internet.	Those with low education qualifications have reduced resilience to changes in employment due to unforeseen circumstances. Reduced access to support networks.

Strengths	Vulnerabilities	Potential implications for vulnerable groups
A broad range of cultural, sporting and recreational activities with schools and health services and opportunities for tourism	Increasing costs of services, facilities and maintenance of assets, and the number of short-term accommodation and longer-term rentals options. Attracting GPs and other professionals to smaller communities. Access to quality education opportunities and limited public transport options	Potential further restrictions to access to services for vulnerable groups due to influx of workers from major works. Opportunity to provide additional opportunities to marginalised and vulnerable communities,
Improving renewable energy services to the area, including the Central-West Orana Renewable Energy Zone.	Temporary reduction in social amenity during construction Impact on livelihoods and existing industry due to changes in land ownership.	Potential further restrictions to access to services for vulnerable groups due to influx of workers from major works and competing land use priorities.
Strong housing market for homeowners and investment properties.	Limited housing stock in both the rental and buying markets.	Higher rental and property prices, or limited availability of housing for those most vulnerable.
Strong rural based industries	Lack of economic diversity and job opportunities for vulnerable communities including youth, those needing assistance and aboriginal communities.	Employment and training opportunities, and opportunities to strengthen community resilience to natural disasters such as drought, fires and floods.

7 Assessment and Prediction of Social Impacts

State significant projects can impact people in many ways, both positive and negative. The SIA process assesses a project from the perspective of people – meaning a development is more likely to be socially sustainable if the expected and perceived impacts on people are understood, managed and/or mitigated.

The aim of this chapter is to provide an overview of the expected and perceived social issues that require additional assessment, including the consideration of the likely duration, extent, sensitivity and severity of potential social impacts. In the context of this assessment, the word perceived has been interpreted as "noticing or becoming aware of something" or "to understand or think of somebody/something in a particular way" (Oxford English Dictionary, 2022).

Therefore, this section discusses how the community understands and interprets the social impacts (potential effects or influences of the project) and their associated risk (exposure to danger, harm or loss). These impacts are then further assessed to predict the residual social impacts following project refinements, mitigation or enhancement (chapter 8).

This section has been informed by the research methodology outlined in section 4.4.2 including engagement with the local community and stakeholders, research and analysis of the area surrounding the project, technical assessments and review of comparative projects.

7.1 Likely and perceived positive and negative social impacts to people

Perceived impacts identified by research participants cover a range of social impact categories and reflect the fears and aspirations of the stakeholders consulted. Table 7.1 defines the social impact themes that fall within each of the 2021 Guideline social impact categories (refer to Table 4.2) and demonstrates the interrelationships that exist between the social impacts raised.

Following the table, this section provides further detail on each of the social impact themes identified by community stakeholders in relation to the project. Each section begins with the *unmitigated* social risk rating (perceived).

Table 7.1 Likely and perceived social impacts

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Social impact category (Guideline)
Visual Landscape	S01	Changes to the visual landscape affecting how people experience their rural surroundings	Construction and operations	Surroundings
	S02	Multiple renewable energy projects and changes to the regional visual landscape affecting and how people experience their rural surroundings	Construction and operations	Surroundings

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Social impact category (Guideline)
Social amenity	S03	Decline in social amenity or way of life due to construction impacts such as dust and noise	Construction	Way of life
	S04	Operational noise generated by wind turbines, causing a decline in social amenity and how people experience their rural surroundings	Operations	Way of life
	S05	Increased traffic causing increased road safety risks for road user and further decline in quality of roads	Construction	Way of life, health and wellbeing
	S06	Multiple concurrent projects leading to impacts on the road network and a decrease in road safety	Construction	Community, way of life
Sense of community and culture	S07	Changes to local population causing a decline in the composition and character of the community	Construction and operations	Community
	S08	Changes to community composition potentially leading to increase in community resilience and changes to the way the community functions	Construction and operations	Community
	S09	Changes to land use resulting in a sense of loss of Aboriginal cultural heritage values	Construction and operations	Culture
Land use change and conflict	S10	Changes to the existing land use resulting in potential loss of native flora and fauna, changing how people experience their environment	Operations	Livelihoods, surroundings
	S11	Changes to land use affecting the availability of land for agricultural purposes	Operations	Livelihoods, surroundings
	S12	Changes to land use affecting the availability of land for agricultural purposes, negatively impacting agricultural resources and production and affecting rural landscapes	Operations	Decision making systems
Access to and use of infrastructure and services	S13	Decline in access to affordable housing, accommodation and community services due to temporary increase in population	Construction	Accessibility
	S14	Increased pressure on community services during construction should multiple concurrent projects occur	Construction	Accessibility

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Social impact category (Guideline)
Economic contributions and sustainability	S15	Enhanced wellbeing from job opportunities and training, including increased opportunities for vulnerable groups	Construction and operations	Livelihoods, community
	S16	Community investment initiatives leading to improved sustainability and enhancing resilience	Construction and operations	Livelihoods, community
	S17	Fear that the presence of the project will devalue properties	Construction and operations	Livelihoods
	S18	Distributive equity and decision-making systems	Construction and operations	Decision making systems, community, livelihoods
	S19	Multiple concurrent and nearby major projects leading to reduced levels of social cohesion, creation of skills shortages or a shortfall in supplies	Operations	Surroundings, community, livelihoods
Intergenerational equity	S20	Windfarms as an alternate energy source and the associated carbon costs.	Operations and policy	Surroundings Decision making systems
	S21	Future land use and rehabilitation	Policy	Decision making systems, surroundings
	S22	Changes to existing land use generating an alternate revenue stream for host landholders leading to improved resilience through income diversification	construction and operations	Surroundings
	S23	Level of trust in decision making systems and lack of national strategic direction around renewable energy	Policy	Community, accessibility
Health and wellbeing	S24	Potential negative health impacts because of the transmission lines and other infrastructure, anxiety around the permanent change to surroundings	Operations	Livelihoods

7.1.1 Visual landscape

(S01) Changes to the visual landscape affecting and how people experience their rural surroundings: social risk (unmitigated) assessed as medium for host landholders, high for nearby neighbours and medium for wider community

The likely changes to the visual landscape were identified throughout community engagement as a key consideration of the project. The primary concerns related to an increase of built infrastructure, associated changes to the rural character of the landscape and the how this would affect how people experienced their surroundings, as well as their lifestyle choices.

The impact varied between stakeholder groups with some nearby neighbours fearing that the size of the turbines would detract from the natural landscape – something that they highly valued and was a primary consideration for moving to, or remaining in, the area. Some host landholders also expressed concerns over the look of the turbines and what they would potentially see from their properties, while others were more concerned about how the turbines would be physically placed.

"I won't necessarily see the ones on my property, but I will see the ones towards Mount Hope Cluster"

"They (the turbines) can be beautiful and majestic but 148 is a lot and if they were all crammed in a row it would be 'dead ugly'"

Generally, the impact of wind turbines on the visual landscape is a very subjective matter with perspectives differing depending on location, local context and place attachment. Some individuals enjoy seeing wind turbines in the landscape, while others find them unappealing. The wider community, including business and community groups, had a lower level of concern, with some suggesting that the turbines could attract tourist to the area or provide a change in scenery for road users.

Visual impacts are regularly raised on comparative wind projects across NSW as evidenced by a review of the submissions report for the nearby Liverpool Ranges Wind Farm and the scoping report of Barneys Reef Wind farms. Transgrid, initially engaged by Energyco, also carried out engagement between December 2020 to September 2021 about the Central West Orana REZ who also heard from many people that they were concerned their views or outlook could be affected by the lines and towers associated with new infrastructure.

(S02) Multiple renewable energy projects and changes to the regional visual landscape affecting and how people experience their rural surroundings: social risk (unmitigated) assessed as low for wider community

A small number of respondents to the random survey also noted the cumulative impact of a number of renewable energy projects in the area were negatively affecting the views in rural NSW.

7.1.2 Social amenity and traffic

This theme relates primarily to the impacts on way of life and rural lifestyle including the social amenity impacts as a result of construction, such as dust and noise, and impacts from an increase in construction traffic, as well as operational noise.

(S03) Decline in social amenity or way of life due to construction impacts such as dust and noise: social risk (unmitigated) assessed as medium for host landholders and low for nearby neighbours

(S04) Operational noise generated by wind turbines, causing a decline in social amenity and how people experience their rural surroundings: social risk (unmitigated) assessed as medium for host landholders and low for nearby neighbours

The potential noise impact from both construction and operational project activities was raised as a key concern primarily by host landholders and adjacent nearby neighbours, predominately during the one-on-one conversations with UPC\AC and in conversations at the various community information sessions.

Community responses were typically concerned with the potential impact of noise on their social amenity with noise sources such as the batch plants and concrete facilities during construction and the operational noise of the turbines, with a small number also concerned about associated dust. A small number of community members from Coolah queried whether the sound from the turbines would be heard in Coolah itself.

(S05) Increased traffic causing increased road safety risks for road user and further decline in quality of roads: social risk (unmitigated) assessed as medium for host landholders, medium for nearby neighbours and medium for the wider community

The increase of construction related traffic on both the local road network and private property was raised by host landholders and nearby neighbours, as well as the wider community. This mostly related to the potential for increased heavy vehicle traffic to cause increased road safety risks for road users, traffic congestion, road maintenance and a further decline in quality of local roads.

A review of the most recent available crash data has been obtained for a five-year period between 2015 to 2019, using the Transport for NSW interactive accident history database. The data shows that the Golden Highway recorded eight serious injuries, there were six serious injuries along Black Stump Way, two serious injuries along Vinegaroy Road and one serious injury along both Sir Ivan Dougherty Drive and Castlereagh Highway. A total of eight moderate injuries occurred along Black Stump Way and Golden Highway. Four single-vehicle fatal crashes were recorded in the area over the five years, including two on the Golden Highway, where fatigue was deemed a factor in the incidents, one on Black Stump Way, where the vehicle struck an animal, and one on Neilrex Road, during the evening hours. This is considered a relatively high proportion of fatal accidents in comparison with the NSW average.

During the random survey, of those respondents that had concerns relating to the project, 8 cited concerns around noise during operation and 7 cited concerns around noise, disruption, and traffic during construction (n=100).

(S06) Multiple concurrent projects leading to impacts on the road network and a decrease in road safety: social risk (unmitigated) assessed as low for the wider community

In terms of the impact on the road network, there was a specific concern that the increased construction traffic from concurrent projects would cause greater road safety risks for other road users, increase commuter travel times, and decrease the quality of the road network. This is considered a cumulative impact.

7.1.3 Sense of community and culture

Sense of community refers to the perceived changes to cohesion and character of the community, including impacts on cultural heritage. This encompasses impacts associated with sense of community and population change.

(S07) Changes to local population causing a decline in the composition and character of the community: social risk (unmitigated) assessed as low for wider community

A small number of community stakeholders expressed concern that the changes to the local population due to an influx of construction workers could potentially change the social fabric of the community, something that they value about living in a rural area. There was some concern that there could be an increase in antisocial behaviour brought about by the introduction of the construction workforce with one respondent to the random survey raising social issues being felt in Wellington as a result of construction in terms of theft and drugs as a comparative example.

"I do know in the past they have had trouble at the solar farm in Wellington with theft, drugs and immigration ….it's not a good look for a local area"

Some stakeholders who declared to have lived in the area for several decades stated that they had already seen the community change in a negative way in direct response to properties being purchased by renewable energy companies, and that generations of families are leaving the area.

Some stakeholders also raised concerns the project would unequally benefit some people over others which could damage neighbourly relations and lead to the growth of mistrust and speculation across the community.

"I have some issues with all of these projects around the haves and have nots, for those who are impacted not being well compensated"

(S08) Changes to community composition potentially leading to increase in community resilience and changes to the way the community functions: social impact (unmitigated) assessed as low positive for wider community

Conversely, other community stakeholders believed that the town would continue undisturbed or that the potential longer-term benefits for the community in terms of community investment and employment opportunities, would either entice people to stay in the area for longer (particularly the younger generation) or bring new people to the area.

"We are a small country town, hopefully some people will stay"

"30 permanent positions in Coolah will bring new families, new life"

(S09) Changes to land use resulting in a sense of loss of Aboriginal cultural heritage values: social risk (unmitigated) assessed as low for Aboriginal people

The consideration of intangible harm to aboriginal cultural heritage through cultural or spiritual loss is an important social consideration, specifically regarding the potential loss of diminution of traditional attachment to the land or connection to Country and associated cultural obligations. During fieldwork

undertaken for the Aboriginal Cultural Heritage Assessment, no specific cultural values pertaining to the project boundary were raised by aboriginal participants and the general feeling was that the topography of the project area would not have attracted long term occupation in the past. There were no additional comments in regards to this during the targeted engagement.

7.1.4 Land use change and conflict

This theme explores the potential impact of the project on the existing environment including native flora, fauna and waterways and the potential changes to land use affecting the availability of land for agricultural purposes.

(S10) Changes to the existing land use resulting in potential loss of native flora and fauna, changing how people experience their environment: social risk (unmitigated) assessed as low for wider community

During the random survey, a small number of respondents (6) raised concerns that the project would negatively impact existing habitats with some concerns about impacts to fauna particularly birds and bats (n=100). These ecological impacts directly related to a potential change in their surroundings, something which they valued. One respondent specifically raised concerns around impact to waterways in the area – a precious resource in these rural communities.

(S11) Changes to land use affecting the availability of land for agricultural purposes: social risk (unmitigated) assessed as low for wider community

The changes to land use affecting the availability of land for agricultural purposes was raised twice during the targeted interviews by a host landholder and a member of the community. While some comments specifically related to this proposal, this impact was also raised in the cumulative sense, with the potential negative impact renewable energy is having on the availability of agricultural resources and production within both the REZ specifically, and NSW more broadly.

Given the dominance of land base industries in the region, there is a greater social commentary around this issue.

(S12) Cumulative impact of multiple nearby projects affecting the availability of land for agricultural, negatively impacting regional agricultural resources and production and affecting rural landscapes: social risk (unmitigated) assessed as low for the region.

There was a small number of stakeholders who were concerned about the loss of important agricultural land in the Central West, with the NSW Energy and Environment Minister making a commitment to balancing the land-use in the region to ensure renewable energy projects aren't being built on prime agricultural land.

7.1.5 Access to and use of infrastructure and services

(S13) Decline in access to affordable housing and accommodation, and community services due to temporary increase in population: social risk (unmitigated) assessed as high for wider community

During early engagement, the increased pressure on housing and accommodation due to the construction workforce was raised by community members as an area of concern. The temporary accommodation needs of construction workforce was raised during early engagement primarily due to the existing shortage of local accommodation for both long term residents and visitors to the area.

The potential strain on local accommodation and housing (both affordability and availability), was also raised as a concern with a fear that the accommodation needs of workers would potentially increase rental prices and impact the lower-income earners within the community which could lead to some people within the community no longer being able to afford housing or being forced to relocate.

Related, there was a fear that that the existing health and community services would also be unable to support the construction workforce.

"There's not enough infrastructure in the area to support the construction workforce …the town can't support this"

Respondents also raised the cumulative impacts of having several projects in one area—specifically, the implications on access to services such as health, welfare, water and sewerage. One respondent noted that Coolah was already nearing capacity and that the construction phase would impact the accessibility and availability of these essential services.

Although competition for accommodation was raised as a concern, it was also identified as an opportunity for local businesses, with some local service providers welcoming the opportunity to house and provide services to the construction workforce. Several stakeholders also identified potential infrastructure upgrades as one of the key possible benefits that could come about because of the project; respondents specifically identified improvements to roads, improved health services and opportunities that would keep the younger generation in Coolah.

(S14) Cumulative impact of increased pressure on community services during construction should multiple concurrent projects occur

During engagement, a number of cumulative impacts were raised relating to the project in combination with other relevant planned future projects. Primarily these related to the rate of change across the Central West and Orana region, due to the growing number of proposed and active development projects combined with the REZ and the associated cumulative changes caused by these activities, including increased pressure on community services and the impact on the road network.

7.1.6 Economic contributions and sustainability

Economic contributions and sustainability was the most frequently raised theme and primarily related to four key areas:

- enhanced wellbeing from job opportunities and training, including increased opportunities for vulnerable groups
- community investment initiatives leading to improved sustainability and community resilience
- impact on property values
- distributive equity and decision-making systems.

(S15) Enhanced wellbeing from job opportunities and training, including increased opportunities for vulnerable groups: social impact (unmitigated) assessed as high for wider community, youth and aboriginal people

Local businesses and community groups focussed on the economic benefits the project could provide to the local community and the indirect impacts on people's livelihoods such as an anticipated increase in commercial activity for local service providers and suppliers in nearby townships during the construction period and the potential positive flow-on social benefits:

"They (the wind farms) are going to be good for the towns because they will create jobs, good paying jobs, so that will bring up the standard of the town"

Driving local employment and procurement policy was a strong theme for UPC\AC to provide support to local businesses and suppliers through both education and time.

"We need sufficient time for local companies to prepare themselves and get involved"

"Some businesses may need help with their tenders during the procurement phase of the project. You need to take businesses through it step by step".

However, this potential positive impact was countered by a concern that the construction phase of the project would potentially drain the local labour force, who would be more attracted to working on the wind farm due to higher salaries and greater opportunities, when compared to what small local businesses can afford. It was noted that this local skill drain was already happening due to the nearby mines and that Coolah was already in need of skilled and unskilled workers to support existing businesses, local councils and other enterprises.

Several community groups and businesses described the potential social benefit that the project could offer through diversification of skills and vocational training, and the establishment of a new industry sector for regional areas, including providing more opportunities for youth.

"Wind farms will give the young people more opportunities to stick around, and the money will be there"

"Education and training opportunities for local students are important so they can transition into jobs in the maintenance side once construction is finished"

A stakeholder from the employment and training sector noted that to really enhance the opportunities for vulnerable communities, including youth and aboriginal people that employees in regional areas need to have a deep understanding of the issues in the area and tailor employment programs and training opportunities to meet the needs for the area. For example, looking at transport options to and from work and ensuring that youth and vulnerable people can see that there is an employment pathway progression citing that if a young person sees progression long term, they are more likely to stay.

During a review of comparative project, including the Sapphire Wind Farm near Inverell, feedback was obtained from the Inverell Chamber of Commerce relating to the operations of the wind farm and their experiences during construction. Their feedback included the importance of a strong local procurement policy that ensures local businesses and suppliers are provided with a number of opportunities.

"Giving back is what keeps the community on side"

(S16) Community investment initiatives leading to improved sustainability and community resilience: social impact (unmitigated) assessed as high positive for wider community

Wind farms were also linked to improved social sustainability outcomes and enhanced resilience for a regional community that has been through several natural disasters over the past five years including drought, the Sir Ivan bushfire, floods and the mouse plague.

Some respondents noted the positive impact that income diversification would have on both the livelihoods of individuals arising from hosting of project infrastructure including ancillary infrastructure and access routes, as well as the opportunities to strengthen community resilience with community enhancement funds and benefit sharing opportunities.

"Wind farms are drought resistant. In drought windfarms help further sustain the farm. It's good for sustaining towns through natural disasters"

Changes to existing land use generating an alternate revenue stream for host landholders leading to improved resilience through income diversification is further discussed in section 7.1.7.

(S17) Fear that the presence of the project will devalue properties: social risk (unmitigated) assessed as medium for nearby neighbours

Some nearby neighbours and respondents to the random survey also expressed concern over potential devaluation of properties due to the proximity of the project infrastructure and perceived this to be detrimental to people's livelihoods and their futures. This was also a key concern heard by Transgrid during their engagement between December 2020 to September 2020 about the Central West Orana REZ. Conversely, during the random survey 3 respondents thought the wind farm would drive-up property values and bring people to the region. In this area of social influence, being a drought-prone region, land values are particularly susceptible to external forces.

(S18) Distributive equity and decision-making systems: social risk (unmitigated) assessed as high for the wider community

As referred to in section 7.1.3, some nearby neighbours and community representatives noted concerns that the potential additional income would not be distributed equally amongst the community, with the host landholders potentially becoming wealthier, while those neighbouring properties were negatively impacted by the social amenity issues such as noise and visual impacts.

A frequently cited concern across all methods of engagement was the distribution of community benefit and how this would be administered. Some community members contrasted this with negative experiences they had experienced with other renewable energy companies, where it was felt that they had not been listened to in terms of the community enhancement fund and what the community needed.

The community expressed a strong desire to be part of the decision-making systems in terms of the Voluntary Planning Agreement (or community enhancement fund). Some also expressed disappointment that they were yet to be formally engaged in managing the fund's distribution and

had limited understanding of the regulatory components of the Voluntary Planning Agreement. It was also suggested by several respondents that any community enhancement fund should be managed independently of Warrumbungle Shire Council and focus on the needs of Coolah and surrounds.

Commonly cited was the need for improved health services and opportunities that would keep the younger generation in Coolah.

(S19) Cumulative impact of multiple concurrent and nearby major projects leading to reduced levels of social cohesion, creation of skills shortages or a shortfall in supplies social risk (unmitigated) assessed as low for wider community

During engagement, a number of cumulative impacts were raised relating to the project in combination with other relevant planned future projects. Primarily these related to the rate of change across the Central West and Orana region, due to the growing number of proposed and active development projects combined with the REZ and the associated cumulative changes caused by these activities.

The cumulative impact concerns primarily related to the potential for multiple concurrent and nearby major projects leading to reduced levels of social cohesion, creation of a skills shortages or a shortfall in supplies, increased pressure on community services and the impact on the road network.

7.1.7 Intergenerational equity

Intergenerational equity refers to addressing the needs of the present generation without compromising the ability of future generations to meet their own needs (IAIA, 2003). For the purpose of this assessment, issues that have emerged relating to intergenerational equity include impacts relating to future land use, climate change, renewable energy as a reliable energy source and the potential future opportunities associated with the investment in infrastructure and technologies.

(S20) Wind farms as an alternative energy source, including associated carbon costs: social risk (unmitigated) assessed as low for the wider community

Understanding public acceptance around wind energy can be complex, while some respondents to the targeted interviews were supportive of wind farms as an alternate energy source, they were concerned about the impact it would have on the community, primarily in terms of visual impacts and changes to the rural environment. Other respondents were unsupportive of wind farms in general, with one respondent citing an individual belief that the carbon cost of construction would offset any positive impacts.

"The cost to build them is phenomenal and a lot of the money is spent off shore. I am also concerned about the carbon cost of construction."

This was also reflected in the random survey by a small number of respondents (18%) whose negativity towards wind farms related to their lack of support of the type of power generated, the look of turbines, as well as the impact on farming land.

(S21) Future land use and rehabilitation: social risk (unmitigated) assessed as medium for host landholders, low for nearby neighbours and low high for the wider community

Future land use and rehabilitation was also raised during the targeted interviews by two respondents who expressed concerned that the turbines wouldn't be removed at the end of operation and that they would remain an eyesore. Other comments relating to impacts on people's surroundings included the uncertainties around the decommissioning process and the return to prime farming land and the recycling of wind farm components.

I have heard that they won't be able to recycle some of the elements of the turbines and that the wings will need to go to landfill. That's quite a big impact"

(S22) Changes to existing land use generating an alternate revenue stream for host landholders leading to improved resilience through income diversification: social impact (unmitigated) assessed as high positive for host landholders and low positive for nearby neighbours

As noted in section 7.1.6 some respondents noted the positive impact that income diversification would have on the livelihoods of host landholders, with changes to existing land use generating an alternate revenue stream for host landholders leading to improved resilience through income diversification. This was seen to provide a level of confidence and comfort in terms of the ability of landholders to support their families now and into the future. This is also an important aspect of the NSW Electricity Infrastructure Roadmap that sees renewable energy as a way to help drought-proof traditional farming communities, providing new income streams for landholders that host electricity infrastructure (DPIE, 2020).

(S23) Level of trust in decision making systems and lack of national strategic direction around renewable energy: social risk (unmitigated) assessed as low for wider community

There was also a lack of trust in the decision-making systems and concerns that there was a lack of national strategic direction around renewable energy and that the community was both fatigued and overwhelmed by the number of projects proposed in the area. A community representative expressed a desire for UPC\AC and other proponents of renewable energy projects in the region to exercise "thought leadership" and to advocate for strategic thinking in facilitating the local community's ability to participate in the energy transition.

7.1.8 Health and wellbeing

(S24) Potential negative health impacts because of the transmission lines and other infrastructure, anxiety around the permanent change to surroundings: social risk (unmitigated) assessed as low for nearby neighbours

A small number of respondents raised concerns around the potential health impact of project infrastructure including the transmission lines in relation to the electric and magnetic fields and the harmonics of the blades:

"In Europe they affected people's health due to harmonics from the blades that would give people vertigo and make them feel nauseous".

Increased levels of stress and anxiety as a result of the project impacting on the wellbeing of individuals was also raised by one respondent.

Concerns around health and wellbeing was also a concern heard by TransGrid during their engagement between December 2020 to September 2021.

8 Social impact enhancement, mitigation and residual impacts

The aim of the SIA is to assess the proposed change to the current baseline social environment should the project proceed. This section responds to the identified unmitigated social impacts in the previous chapter including identification of proposed mitigation and enhancement measure. It also highlights the enhancement of positive impacts and discusses residual negative social impacts.

The SIA has utilised data from several sources to develop a layered picture of the potential social impacts arising from the Project. This section further assesses the social impacts associated with the Project, providing a detailed ranking of impacts according to a number of key criteria, as defined in the SIA Guideline (DPE, 2021).

Specifically, this section:

- Considers project refinements to either avoid or minimise impacts
- Considers technical assessment outcomes, social research and measures to mitigate impacts
- Re-evaluates and describes the expected residual impact after the social impact mitigation.

Where it is assessed that there will be a *'negative'* residual risk, this is referred to as a ***social risk***. Where the mitigated risk is '*enhanced',* this is referred to as a ***social impact (positive).***

8.1 Project refinements

In the early phases of project planning and during the assessment phase, a number of project refinements were undertaken in direct response to community feedback and likely, perceived or anticipated social impacts. A summary of refinements to the main project elements is presented in Table 8.1. A more comprehensive list of project refinements is provided in the EIS.

In addition to the more significant refinements outlined below, there have also been various minor refinements to the project layout not captured here, to reduce potential environmental and social impacts of turbines and ancillary infrastructure and to enhance the functionality of the wind farm layout.

Table 8.1 Summary of key project refinements

Project element	Change	Key reasons for refinement	Related social impact category
Wind farm site	Removal of turbine clusters	Reduction of potential cumulative environmental and social impacts.	Surroundings Way of life
	Additional properties added	Include additional land parcels which provides increased flexibility within the development footprint to avoid/exclude areas of environmental significance, whilst maximising the electricity generation potential	Surroundings

Project element	Change	Key reasons for refinement	Related social impact category
		of the infrastructure of the available development footprint.	
Turbine layout	Reduced number of turbines and refinement of turbine locations	• Avoid sensitive environmental areas and • Address social equity concerns associated with landholder agreements and available compensation. • Optimise wind resource access. • Address engineering constraints and opportunities.	Surroundings Livelihoods Community Decision making systems
High voltage transmission line	Connect to the Central-West Orana Renewables Energy Zone (CWO REZ)	Minimise environmental and social impacts, reduce the number of landholders affected by the required high voltage transmission line, and provide connection to the CWO-REZ transmission line.	Surroundings Way of life
Potential workforce accommodation area	Location for potential workforce accommodation area identified	Location identified in response to feedback from social impact assessment survey and community concern about regional availability of accommodation for the peak workforce. The potential accommodation area is subject to further consideration and consultation with Warrumbungle Shire Council.	Accessibility Community

8.2 Mitigated social impacts and residual social risk

The following sections consider project refinements to either avoid or minimise impacts, technical assessment outcomes, social research and mitigation and enhancement measures in response to those social impacts identified in Chapter 7. Each section begins with the mitigated social rating (residual impact following mitigation) and follows with justification of the rating.

8.2.1 Visual landscape

(S01) Mitigated social risk assessed as low (C1) host landholders, medium (C2) for nearby neighbours and low (D1) for wider community.

The Project site is situated in the Central Western Tablelands Region of NSW. The area's undulating terrain allows for the wind turbines to be sited on ridgelines within cleared agricultural lands that are currently used for livestock grazing. A total number of 148 turbines will be divided amidst 3 clusters. These are the Mount Hope cluster (76 turbines), Girragulang cluster (51 turbines) and Leadville cluster (21 turbines). The three clusters will be linked via a high voltage transmission line.

UPC\AC has been engaging with local landholders and neighbouring property owners since 2018. As outlined in Table 8.1, during this time a number the project design, development footprints and placements of the turbines have progressively evolved to minimise or avoid visual impacts, where possible. The Landscape Visual Impact Assessment (LVIA) for the proposal, undertaken by Moir

Landscape Architecture (2022), identified that the visual impact of the wind turbines is lessened as the distance of the vantage point from the Project is lengthened and that the topography surrounding the wind turbines significantly alters the visibility of the proposed development from many vantage points.

The LVIA concluded that the greatest visual effect is most likely to be felt by residents in the immediate vicinity of the wind farm and that mitigation methods incorporated into the design process in conjunction with landscape and visual screening will have a positive effect on reducing visual impact of the project. Additional proposed measures to mitigate the visual impact include:

- Finishing the turbines selected for the project with a low reflectivity surface treatment and using consistent colouring for the blades, nacelle and tower
- Not include unnecessary lighting, signage or logos
- Utilise or upgrade existing roads, trails or tracks to provide access to the proposed turbines to reduce the need for new roads
- Where possible use underground cabling to connect wind turbines to the electricity grid and use of existing transmission lines where possible.

The LVIA concluded that through mitigation methods it will be possible to significantly reduce the visual impact to an acceptable level at sensitive viewpoints such as rural residential properties.

While it is inevitable that the placement of wind turbines in a rural landscape will alter the existing landscape character of the area and this assessment recognises that how these impacts are received are largely dependent on the individual viewer's sensitivity to, and acceptance of, change. This was reflected in the feedback received during consultation with some stakeholders seeing turbines as an interesting feature of the landscape, while others, particularly nearby neighbours, had a more critical perception of the visual presence of the wind farm.

With the abovementioned mitigation measures in place, it is still likely that a number of residences would still experience some residual visual impacts during the life of the Project due to the topography and locations of the existing dwellings. By way of more direct compensation for this change, UPC\AC has also established a Neighbouring Property Benefit Scheme (NPBS) to provide a direct benefit to eligible properties, build trusting and long-term relationships. This is separate to the compensatory agreements with host landholders. While this scheme has primarily been met with positive feedback, some beneficiaries of the scheme still felt that it couldn't compensate for the impact to their surroundings and how they experienced their rural environment.

Considering outcomes of both the technical assessment, implementation of mitigation measures and project refinements, it is assessed that the Project will have a medium mitigated social impact on those nearby neighbours who will experience some form of change to their visual landscape with a lower level of compensation than those host landholders, and a low mitigated social impact for both host landholders and the wider community.

(S02) Mitigated cumulative social risk assessed as low (D1) for wider community.

In terms of cumulative impacts, the Liverpool Range Wind Farm is sited southwest of the Coolah Tops National Park with the nearest turbine approximately 10 kilometres northwest of the project. The LVIA concluded that due to the relatively close proximity of the LRWF to the VOTW Project, a small number of dwellings will potentially be able to see both projects from their properties and have been assessed by the LVIA as having 'low' cumulative impact ratings primarily due to a combination of existing structures and vegetation on properties reducing the potential visibility, and distance to the turbines. However, in some instances, additional screen planting would further reduce the visibility of the Project and further reduce cumulative visual impacts. Views to both wind farms would also be available from the town of Coolah, however there are limited opportunities to view both Projects simultaneously and where views to both projects are available the Projects are likely to be distant with no opportunities to view both projects in their entirety.

In terms of the broader community those travelling through the region, the LVIA concluded that as there are limited opportunities to view both LRWF and VOW projects simultaneously, it is unlikely the perception of the regions broad landscape character will be altered as a result of the project.

Given the outcomes of the technical assessments, it is assessed that the Project will have a low cumulative social impact.

8.2.2 Social amenity and traffic

(S03) Mitigated social risk assessed as medium (C2) for host landholders and nearby neighbours.

Community responses regarding construction noise were typically concerned with the potential impact of noise on their social amenity generated from noise sources such as the batch plants and concrete facilities during construction. Marshall Day Acoustics have carried out a preliminary assessment of construction noise that identifies the potential for some exceedances to the recommended noise levels for activities such as construction of access roads, compounds and general earthworks. Once a more detailed schedule of equipment and plant items, construction method and work areas are known, a detailed Construction Noise and Vibration Management Plan will be prepared.

An air quality impact assessment (AQIA) has been prepared by Ramboll to assess the potential impacts associated with the construction of the project. The results of the assessment indicate there are no predicted exceedances of the air quality criteria for all particulate size fractions, all relevant averaging periods and project-only and cumulative scenarios. Air quality management measures will be included in the construction environmental management plan for the project. The construction environmental management plan will outline the management measures to control and minimise dust generation from the project. Water and/or dust suppressants will be applied to exposed areas, stockpiles and unsealed roads using a water cart and water sprays will be activated during material crushing and injected during drilling.

Considering the limited information available for this SIA, it is considered that it is possible that the project will have a medium social risk to nearby sensitive receivers during the construction of the project and that further consideration of mitigation measures are required.

(S04) Mitigated social risk assessed as low (D2) for host landholders and nearby neighbours. No residual social risk is expected for the wider community.

In planning the layout of the project, careful consideration has been given to the location of the turbines and any potential operational noise impacts. A detailed noise and vibration assessment has been prepared as part of the EIS for the project (Marshall Day Acoustics, 2022) to determine the potential for operational noise impacts as a result of the Project including noise emissions from the turbines and substations. The assessment found that the proposed wind turbine layout would meet NSW's strict noise limits of 35dB(A) at all non-associated dwellings, except for one dwelling when considering one of the modelled turbine types showing an exceedance of 0.2dB(A)in the worst-case scenario. This slight exceedance is only modelled to occur in the worst-case scenario and will be managed through potential micro siting of the turbine, mitigation measures outlined in the noise and vibration assessment and in direct consultation with the owner.

If the project is granted consent, a noise and vibration management plan will be developed that identifies how compliance with the wind farm's operational noise limits will be demonstrated, including details of testing procedures and reporting time frames following commencing of operation of the wind farm and compliance monitoring. It is recommended that this compliance monitoring is easily accessed by the community to build transparency and trust in the monitoring process and outcomes.

Given the above, the Project is assessed to have a low social risk for operational noise and the impact on way of life for nearby neighbours and host landholders, and negligible impact on the township of Coolah.

(S05) Mitigated social risk assessed as low (D2) for host landholders, nearby neighbours and the wider community. (S06) Mitigated social risk assessed as low (C1) for the wider community.

The increased traffic on both the local road network and private property through the introduction of construction-related vehicles was raised by host landholders and nearby neighbours, as well as the wider community. This mostly related to the potential for increased traffic to cause increased road safety risks for road users, more traffic and a further decline in quality of local roads.

A detailed traffic and transport assessment has been prepared by SCT Consulting (2022) which found that the project would generate the greatest traffic and transport impact during the construction peak period for the Mount Hope cluster, as it has the most turbines, however, given the low volume of background traffic in the vicinity of the study area, these additional trips are forecast to have minimal impact on the surrounding road network's operational performance.

In terms of road maintenance and/or the reduced quality of local roads, the assessment of forecast peak construction traffic volumes indicate upgrades would be needed along the access roads to the three clusters and to some intersections to allow oversized deliveries, prior to construction commencing. This includes local roads that travel through the small village of Uarbry, including Short Street and Moorefield Road. Short Street is an unsealed local road, providing access to the village of Uarbry from the Golden Highway. Moorefield Road is a local road that extends from Black Stump Way to Short Street (via Wyaldra Street, Main Street and Turee Street in Uarbry).

It is also important to consider the potential impacts on public transport and active transport modes. As noted in the social baseline, there are no regular public bus services or active transport facilities in the vicinity of the wind farm site and given the rural setting of the area there is very limited pedestrian demands. A coach service that operates as part of Transport for NSW TrainLink and provides single weekly service connections between Lithgow rail station and Coolah. There is also a school bus service operated by Grace Coaches to Sacred Heart Catholic Primary School (Coolah), Coolah Central School and Mendooran Central School.

Given that construction workforce trips would typically occur outside of school travel times, they are not expected to interfere with school bus services – however should the project be approved, direct engagement with these public transport operators should be prioritised to minimise any potential impacts on the operation of these services, particularly if temporary traffic management is required to facilitate oversized deliveries of wind turbine components, construction machinery and batch plant components. Once in operation, the project is forecast to generate about 50 vehicles to / from the project in each peak period, which is also forecast to have minimal impact on the road network.

The traffic and transport assessment found that while the effect of the short-term construction traffic increase is not expected to substantially impact road safety in and around the study area, there is still a risk with construction traffic interacting with general traffic, with elevated risk when construction-related vehicles are entering and leaving construction sites.

There is also an additional community perceived risk associated with heavy vehicle movements. The traffic and transport assessment predicted four heavy vehicles entering and four heavy vehicles leaving the study area in each peak hour. The transportation of project infrastructure, such as wind turbines, would require over-size over-mass (OSOM) vehicles which would require a specific permit and likely occur outside of hours and under police escort vehicles as part of a convoy.

Impacts on road safety for all users during construction would be mitigated through the provision of a Construction Traffic Management Plan (CTMP), which would be developed in consultation with Transport for NSW and Council. This would include the development of construction staging and temporary works plan that minimise conflicts with the existing road network with clear advance identifiers of construction activities and vehicles to warn motorists on approach to the worksite access points. This plan would also seek to minimise any delays, disruptions, and safety risks, which would be incorporated in the Traffic Management Plan (TMP),and would include details such as Traffic Guidance Schemes, Temporary Traffic Staging, Road Occupancy Licence (if required), Chain of Responsibility compliance, driver's code of conduct, dilapidation survey, controls for transport and use of dangerous goods.

In addition, this SIA also recommends that the CTMP should involve targeted engagement with the coach service that operates as part of Transport for NSW TrainLink and the school bus service operated by Grace Coaches to further mitigate any potential conflicts with heavy vehicle movements between the hours of 7am and 5pm, showing consideration of the hours of operation for these important services in a regional community. Targeted engagement should also be directed towards the small village of Uarbry who will see an increase in vehicle movements through the local village.

The CTMP should also outline an adaptive monitoring and management strategy that responds to any unforeseen matters that may arise. Timely and clear community notification should also be provided

relating to traffic impacts that is accessible to all community members, including those people with disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities and youth including those young Learner and Provisional drivers on the road network.

Assuming the implementation of identified mitigation measures above, the Project is assessed to have a low mitigated social risk.

8.2.3 Sense of community and culture

(S07) Mitigated social risk assessed as low (C1) for the wider community. (S08) Mitigated social impact assessed as medium (C3) (positive) for the wider community.

The presence of a construction workforce can often have different impacts on a community than a more permanent, operational workforce. Usually, a construction workforce is temporary and transient in nature, residing in a location in proximity to a project, with the workforce moving on to the next project once the construction period is complete. Due to the temporary, transient nature of construction work, families may often not accompany the worker, preferring to live in one permanent location while the construction worker travels away and resides at a location in proximity to the Project, and most returning on weekends.

The construction workforce on site at any one time will vary depending on the timing of the various construction components of the Project. The construction workforce is estimated to peak at approximately 400 full time equivalent employees during the peak construction phase. To understand the potential (reasonable) worst case scenario for population change associated with the construction workforce, the following assumptions have been made:

- due to the temporary nature of the construction workforce, the families of the workforce will most likely not relocate with the worker
- all construction workers will relocate into the area for the construction period (worst case population change for the construction period)
- the workforce may wish to temporarily reside as close as possible to the Project, where a range of accommodation facilities and services are available (worst case), or may live within the region more broadly and drive-in and drive-out daily
- all other factors will remain proportionally the same over the construction period.

This section will examine the potential impacts of population change, as a result of the Project, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 10% in a local area is likely to have a major consequence.

The percentage of population change that will occur due to the influx of the construction workforce can be estimated using the peak workforce figure of 400 persons. The estimated influx of the construction workforce for the Project in the Warrumbungle Shire Council Area would constitute approximately a 4.3% temporary increase in population. This figure assumes that none of the workforce will live and work in Warrumbungle Shire Council Area and represents a worst-case scenario.

While UPC\AC will aim to target a high percentage of local hires through a local participation plan, it is recognised that a portion of labour would need to be sourced from outside the region. This is due to many factors, including other developments in the area competing for skilled local hires, specialised skills not being readily available locally, or lack of available local workforce. UPC\AC will work with Warrumbungle Shire Council and the community to develop a local participation plan that maximises local hires wherever possible.

Table 8.2 predicted temporary population change (construction)

Level of analysis	Population size	Proposed construction workforce	Percentage (%) change
Warrumbungle Shire Council LGA	9,209 (ABS, 2020).	400	4.3%

While the influx of a construction workforce has the potential to influence population change, this change will be temporary in nature – ramping up and down over a 4-year period.

In regard to workforce accommodation, there was a common sentiment that Coolah and surrounds may face challenges in accommodating the construction workforce in the existing housing stock. In direct response to this concern, UPC\AC is investigating a temporary workforce accommodation area which is further assessed in section 8.2.5.

In terms of the operation workforce, about 50 full time equivalent employees would be required during the operation and maintenance of the wind farm (refer to section 4.9 of the EIS). The Project would see employment for these workers for the life of the wind farm, which would have flow on effects of the use of local services and participation in community life; as well as the subsequent economic flow on effects to the locality, LGA and the wider region through annual household expenditure (workers and their family members).

Changes to community composition and character

This section describes the potential impacts that the Project may have on sense of community and social cohesion as a result of population change and impacts on community values. The introduction of new groups of people to an area can alter existing values and sense of community. Coakes (1995) discusses many different elements that comprise a 'sense of community' including the need for shared value, social interaction, and connection to a common structure (e.g. geography, gender, culture). While most communities are generally resilient to natural population change, a rapid or massive change can often have adverse social impacts.

As discussed earlier, the Project will trigger population change as a result of an influx of a construction workforce. However, this influx is only likely to contribute less than 5% population change to the Warrumbungle Shire LGA (4.3%), which has been classified as a 'low' social risk.

A review of population characteristics for the Warrumbungle shire shows that fewer people call Warrumbungle home in 2020 compared to 2010 with a modest decline in population of 712 people (9.921 in 2010 compared to 9209 in 2020) (Remplan, 2021) and that the population is aging.

During engagement we also heard that the younger generations tended to leave either to further their education or for larger regional centres and cities for job opportunities. This is reflected in the

age profile of residents living in the shire – in 2020, 60-69 was the dominant age profile and less than 40% of the population were under the age of 40 (Remplan, 2021). This is further supported by *Regional NSW: A demographic and economic snapshot* (Briefing Paper No 01/2020, Parliament of NSW). This briefing paper suggests that a 'brain drain' is occurring in which regional students move to capital cities for tertiary education, but do not subsequently return to the country.

Despite the population decline, there continues to be a feeling that people who currently live in the area are committed to the area and willing to support their community and there are strong social ties, for example, through volunteerism. The ABS data relating to volunteerism indicates that volunteer rates in both Coolah and Dunedoo are noticeably higher than NSW with 28 per cent of the population taking part in voluntary work through a community or organisation, compared to 18 per cent in NSW. Providing opportunities for new people to move into the area and changes to community composition can also potentially lead to increase in community resilience by bringing about economic growth, additional community investment opportunities and improvements to services.

It is noted that there is always a level of risk associated with immigration to a community however a point of difference between UPC\AC is that they are an Australian based company that develops, builds, owns, and operates wind and solar farms as an Independent Power Producer. Given they will be part of the community throughout the entire life cycle of the project, through planning, construction, operation and decommissioning they have a vested interest in ensuring that their policies and their workforce contribute to the social fabric and development of the region. This will be achieved through the appointment of a full time, locally based resource prior to and during construction with experience in community relations and workforce engagement. Key responsibilities of the role would be:

- Community and workforce engagement and communications, including media
- Responding to community enquiries and complaints
- Event planning and participation
- Community benefit sharing implementation
- Local participation plan implementation

Workforce engagement activities would be aligned with Human Resource policies and initiatives that promote positive workforce behaviours and participation in community activities.

In light of the assessment above, it is possible that the impact on sense of community (due to population change as a result of the Project) will have a minor impact on the current population, resulting in a 'medium' mitigated social risk ranking. Conversely, it is also considered possible that the changes to community composition will increase community resilience and how the community functions in a positive way, during both construction and the operation of the wind farm, resulting in a medium positive mitigated social impact.

(S09) Mitigated social risk assessed as low (C1) for Aboriginal people.

The Project has undertaken an Aboriginal Cultural Heritage Assessment (ACHAR) to better understand the cultural heritage values of the Project in consultation with the Registered Aboriginal Parties (RAPs), Knowledge Holders and Local Aboriginal Land Councils.

The assessment of potential impacts to the Aboriginal archaeological values shows that there are 6 sites (4 new and 2 existing) that may be impacted as well as a potential ring tree. The potential ring tree is located between a proposed access track and the overhead transmission line and UPC\AC has committed to the protection of this tree. The project layout was further refined to avoid impacts on all but one site. Control measures to minimise the disturbance to this site have been developed in consultation with Registered Aboriginal Parties and will be captured in an Aboriginal Cultural Heritage Management Plan that will be developed prior to construction and include measures such as additional research involving non-invasive recording, mapping, and photography and the collection and recording of surface artefacts.

As noted in the ACHAR, the social and cultural value of Aboriginal sites is mainly determined through consultation with Aboriginal people and generally, the Aboriginal community regard all sites as having high cultural significance. This is due to all sites, even displaced artefact sites, being able to provide a connection to their ancestors, as well as being a tangible reminder of the past Aboriginal occupation of the area. A copy of the draft ACHAR was distributed to all RAPs for review on 29 September 2021 and no feedback was received relating to the social or cultural value of the newly recorded sites or the broader survey boundary area. Consequently, the ACHAR, for the purposes of assessing the potential impact to Aboriginal cultural heritage, accorded high social and cultural values.

Considering all of the above, the impact of the Project on Aboriginal community culture, heritage and values is assessed as a low mitigated social risk.

8.2.4 Land use change and conflict

This theme assesses the potential impact of the Project on the existing environment including native flora, fauna and waterways and the potential changes to land use affecting the availability of land for agricultural purposes.

(S10) Mitigated social risk assessed as low (C1) for the wider community.

During engagement, biodiversity impacts were raised by only a small number of respondents, primarily in regard to impacts potential existing habitats and the potential impacts to birds and bats from blade strikes.

Early site surveys were undertaken in 2019 which helped to identify areas of high biodiversity values which were considered during further refinements of the layout to avoid, minimise and mitigate impacts to biodiversity values. Nine plant community types were recording during the surveys including one endangered ecological community listed under both the Biodiversity Conservation Act 2016 (BC Act) and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and two plant community types recognised as Critically Endangered Ecological Community under the BC Act and EPBC Act. Assessment and survey of potential threatened species habitats recorded fifteen threatened fauna species and one flora species within or adjacent to the wind farm site. A detailed

biodiversity management plan will be developed by UPC\AC prior to commencement of construction to minimise and manage biodiversity impacts of the project.

Specifically, in regard to bird and bat strikes, a bird and bat adaptive management plan (BBAMP) will be developed for the project which will include a number of specific measures such as:

- up to 12 months of bird utilisation studies at the 33 designated sites described in this report, across four (4) seasons, to provide more accurate risk data
- carcass monitoring during the first 2 years of the operation of the wind farm, to estimate the number of birds and bats struck by turbine blades
- a strategy and notification protocol in the event that the wind farm significantly impacts protected or threatened species.

This assessment considers that with project refinements to avoid impacts, the implementation of a Biodiversity Management Plan, a Bird and Bat Adaptive Management Plan and a biodiversity offset strategy, the residual mitigated impacts relating to the potential loss of native flora and fauna and how people experience their surroundings will be low.

(S11) Mitigated social risk assessed as low (C1) for the wider community.

The changes to land use affecting the availability of land for agricultural purposes were only raised twice during the targeted interviews by a host landholder and a member of the community. While some comments specifically related to this project, this impact was also raised in the cumulative sense, with the potential negative impact renewable energy is having on the availability of agricultural resources and production within both the REZ specifically, and NSW more broadly.

The land required for wind farm developments is generally minimal. Land is required for the tower (about 100 m2 each) and access roads (usually gravel, between 6 and 12 m in width) running between each turbine. For this project, approximately 549 ha of land impacted by project disturbance footprint could potentially be used for agricultural production - beef cattle grazing and cultivation of oats or barley for grain.

An economic assessment for the project has been carried out by Gillespie Economics (February 2022) and concludes that the agricultural impacts of the project are less than 0.26% of agricultural activity in the region and hence are insignificant.

Impacts on agricultural activity are for the term of the project and are not anticipated to impact the capability of the land for future agricultural production. Once the project reaches the end of its investment and operational life, the Project infrastructure will be decommissioned and the development footprint returned to its pre-existing land use, namely suitable for grazing of cattle or cultivation of oats and barley, or another land use as agreed by the Project owner and the landholder at that time.

While there is a loss of potential agricultural activity to the region, remuneration from hosting wind turbines generally outweighs any loss of production. Landholders can negotiate with developers' ways to minimise production losses. This is a private economic decision made by the project landholders for which they are compensated.

The economic assessment also concludes that the regional economic activity impacts of potential foregone agricultural activity are less than those of the construction and operation of the project. Therefore, as well as the economic benefit to project landholders, in terms of economic activity, the regional economy will also be better-off.

(S12) Mitigated social risk assessed as low (D1) for the wider community.

Regarding further economic diversification in the region, community concerns relate to the cumulative impacts of renewable energy upon competing land uses including farming and agribusiness. Comparative projects within the REZ, including the recently approved Uungula Wind Farm found that wind harvesting is a passive land use that can co-exist with grazing activities, which are expected to continue concurrently throughout the project lifespan with land being rehabilitated upon project decommissioning. As such, the project will not compromise or significantly diminish the availability of land for primary production purposes within the project site or surrounding council area.

Given the above, this assessment considers that the changes to land use and the subsequent effect on the availability of land for agricultural purposes for host landholders a low social risk. Similarly, the cumulative impacts on the availability of land for agricultural purpose as a result of projects is also assessed as a low social risk.

8.2.5 Access to and use of infrastructure and services

(S13) Mitigated social impact assessed as medium (C3) positive for the wider community
(S14) Mitigated social risk assessed as low (D2) for the wider community.

Accommodation

During early engagement, the increased pressure on housing and accommodation due to the construction workforce was raised by community members as an area of concern. There was a common sentiment that accommodation needs of the construction workforce including the potential drive in - drive out nature of the workforce would place pressure on the availability of short-term accommodation and drive-up rental prices – impacting on both tourists to the area and vulnerable community groups such as low-income earners, who could potentially be displaced from housing as a result.

A nearby project recently published an 'Economic Impact and Regional Housing Demand Fact Sheet, that suggested there were 762 unoccupied dwellings in the shire. However, this was based on 2016 ABS Census data and doesn't account for the changes that have occurred during the past five years including an increase in the construction and operation of nearby solar farms and mines and the impact of COVID-19. Through a review of online data sources such as realestate.com.au and domain.com.au, as well as targeted consultation with accommodation providers and real estates, the availability of short-term rental accommodation is low. In terms of housing stock, as of 19 January 2022 there were limited rentals available in Coolah and surrounds, with realestate.com having zero listings, while the local real estate (Piper Real Estate) had three listings. There were also 11 properties available for sale, with five of those already under offer (realestate.com.au, January 2021). As of 22 February 2022, only one property was available to rent on realestate.com.au and

domain.com.au in Coolah and surrounds. A local accommodation provided also noted that they were 'booked out by tradies' as it was.

In direct response to this issue, UPC\AC has identified a potential area for temporary workforce accommodation (workers camp) to be established to accommodate the peak workforce, which is subject to further consideration and consultation with Warrumbungle Shire Council. For the purpose of this assessment, feedback was sought from the community on the potential works camp, with outcomes of engagement summarised below.

(S14) Mitigated social risk assessed as low (C1) for local business and suppliers.

Temporary workforce accommodation

As part of both the random survey and targeted interviews for the SIA, feedback was specifically sought relating to the proposed temporary workforce accommodation. This section provides an overview of the quantitative feedback received from the random survey and the qualitative feedback from the targeted interviews.

62% of respondents to the random survey supported the notion of a worker's camp, with support slightly higher in Dunedoo than Coolah. The primary area of concern relating to the camp was that the camp should find a way to support the local economy. This is also reflective of the feedback received during the targeted interviews.

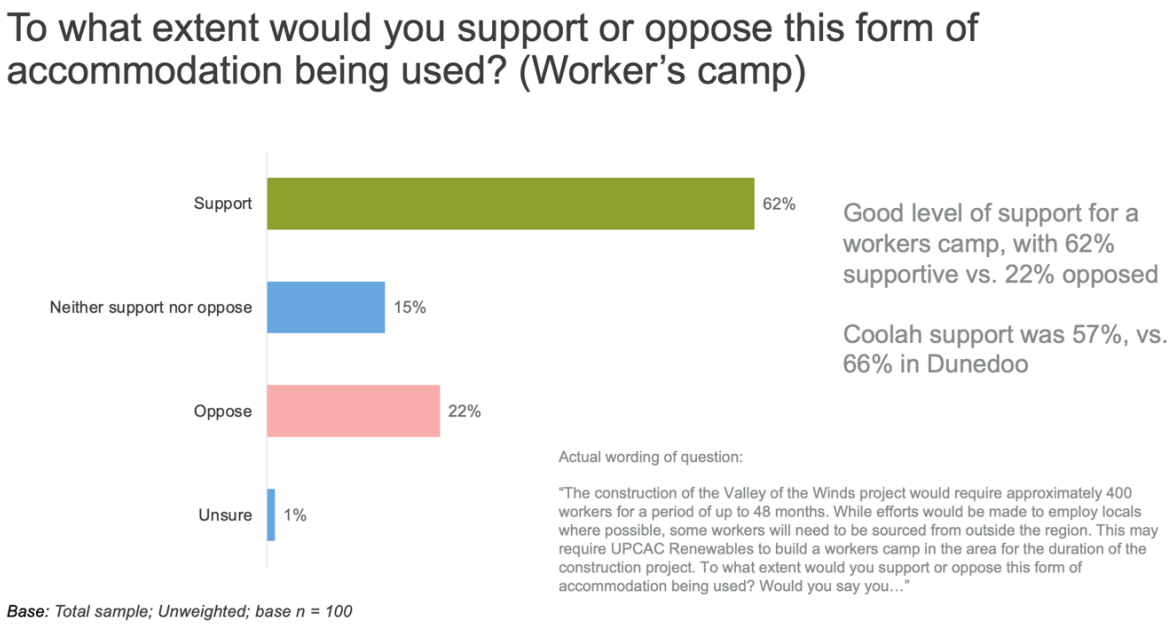

Figure 8.1 Support of worker's camp (n=100), sources: Taverner Research (2022)

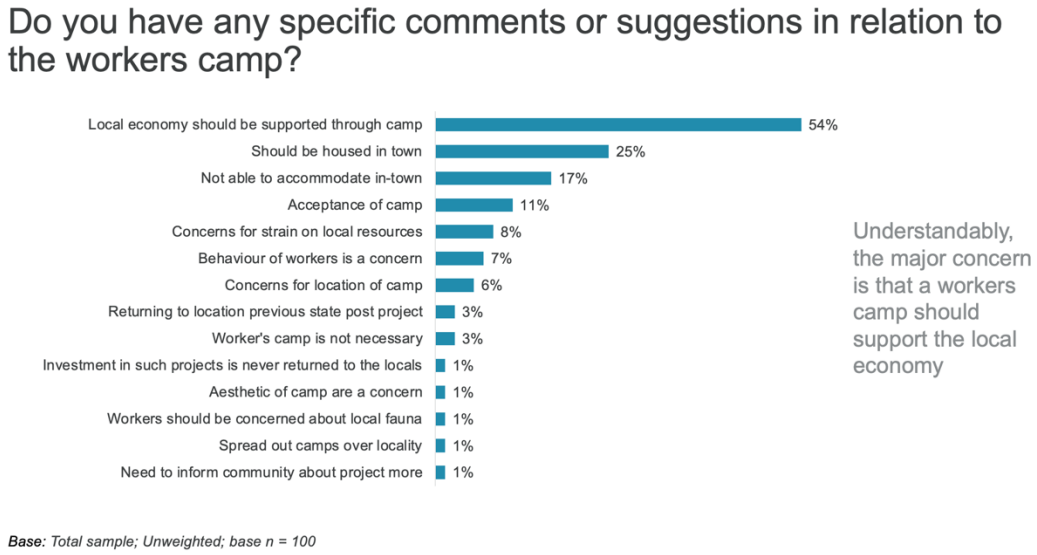

Figure 8.2 Comments and concerns relating to worker's camp (n=100) sources: Taverner Research (2022)

Approximately 70% stakeholders interviewed provided a comment relating to the proposed worker's camp. Of that 70%, the majority were either supportive or neutral of the camp, with concerns primarily related to the potential decrease of economic benefits to the surrounding villages due to the drive-in drive-out nature of the camp and potential outsourcing of suppliers to the camp from outside of the region, impacting on the potential benefits of businesses and services in Coolah and Dunedoo.

While it is noted that temporary workforce accommodation is subject to further investigations and consultation this SIA recommends that UPC\AC commit to a Local Participation Plan that explores targets for UPC\AC and the construction contractor to enhance economic benefits to the local community. Strategies around the temporary workforce accommodation should also look to encourage the integration of incoming populations with local communities, and to ensure that the economic benefits associated with the presence of a workforce are received by local businesses and service providers.

Other community services

There was a fear that that the existing health and community services would also be unable to support the construction workforce and respondents also raised the cumulative impacts of having several projects in one area—specifically, the implications on access to services such as health, welfare, water and sewerage.

This fear primarily rose from challenges the town was already facing in terms of accessing services and a fear that the construction workforce would put additional strain on that. A representative from a community group spoke about the centralisation of services by the government and how that specifically hindered the community's recovery from the natural disasters that have shaped the community over recent years. For example, Medicare and Centrelink can't be accessed locally and accessing these services online can be a challenge, specifically for the elderly and those less familiar with technology. Decentralisation policies to encourage domestic migration from the cities to the regions is also a popular strategic direction discussed amongst more regional stakeholders. The NSW

Legislative Council's Standing Committee on State Development 2017 discussion paper, *Regional Development and a Global Sydney,* reported that many inquiry participants advocated for greater decentralisation, arguing that it significantly contributes to employment growth, diversity and the growth of the local skills base. (Briefing Paper No 01/2020, Parliament of NSW).

It is also worth noting the substantial differences in digital inclusion between Australians living in rural and urban areas which is evident through connectivity to internet. In Warrumbungle Shire, only 67 percent of households have access to the internet, compared to 82.5 per cent of households across NSW – which further hinders accessibility to services. Transport and mobility also affect access health and community services. The Australian Institute of Health and Welfare notes that people living in remote and very remote areas generally have poorer access to health services than people in regional areas and Major cities and that generally they need to travel long distances or relocate to attend health services or receive specialised treatment (AIHW 2013). One respondent noted the lack of public transport options within the surrounds and that the elderly and people with need for assistance often relied on volunteer driving services, family or friends to access appointments in the larger rural centres of Tamworth and Dubbo.

In terms of the existing social infrastructure, a review of the existing social services and infrastructure on the service shows that Coolah and surround have access to sporting grounds, the Coolah Memorial Swimming pool, town halls and a golf club, a local hospital and GPs, however feedback from the suggested that many services are strained or in need of maintenance and/or investment. Several stakeholders also identified potential infrastructure upgrades as one of the key possible benefits that could come about because of the project; respondents specifically identified improvements to roads, the need for improved health services and opportunities that would keep the younger generation in Coolah.

As discussed earlier, in section 8.2.3, the Project will trigger population change as a result of an influx of the construction workforce which may potentially increase the pressure on the existing services that are perceived by the community as being under a degree of pressure. While the influx of the construction workforce is only likely to contribute less than 5% population change to the Warrumbungle Shire LGA (4.3%), the proponent would look to lessen these pressures through a number of mitigation and enhancement measures including:

- Community benefit sharing or investment. Exploring initiatives that are linked to outcomes that meet community priorities identified in this SIA and through engagement, such as community transport and connectivity, improvements or maintenance of social infrastructure and initiatives that retain the younger generation with Coolah and surrounds.
- Workplace strategies that encourage the integration of incoming populations with local communities and promote positive workforce behaviours
- Prioritising local participation where possible through:
    - The procurement of identified goods and services from local businesses and service providers
    - Employment of local people to fill direct employment and contracting roles
    - Early investment in partnerships that provide job-readiness, training and education outcomes to benefit the region, and not just the proposed Valley of the Winds project

- Early investment in partnerships that build local business development and capacity

- Prioritising opportunities for Indigenous economic participation in the project
- Advocating with industry bodies such as EnergyCo for a strategic approach to understanding and managing the cumulative impacts on the REZ on regional communities in regard to access to and use of infrastructure and service.

This assessment considers that with the implementation of identified mitigation and enhancement measures, it is possible that the Project could positively contribute to the enhancement of access to and use of infrastructure and services in Coolah and surrounds for the wider community and has been assessed as a medium social impact (positive). These mitigation measures would also include measures to address cumulative impacts, should multiple concurrent projects be in the area at the one time, as such the cumulative impacts have been assessed as a low social risk.

It is noted that in order to achieve this positive social outcome, some of the identified initiatives and processes would need to be implemented early and prior to the influx of workers to ensure the benefits can be realised.

8.2.6 Economic contributions and sustainability

(S15) Mitigated social impact assessed as high (B4) (positive) for the wider community including youth and Aboriginal people. (S18) Mitigated social risk assessed as medium (C3) for the wider community.

Economic contributions and sustainability

To avoid overstating the local economic benefits of the project's construction phase, a sensitivity analysis has been included in the economics assessment carried out by Gillespie Economics (2022). The sensitivity analysis considers an estimate of 30% local hires and 70% of hires sourced from outside the region. As a result, the economic assessment concluded that the average annual construction impacts of the project on the regional economy are estimated at between:

- $274M and $284M in annual direct and indirect output
- $109M and $115M in annual direct and indirect value-added
- $41M and $43M in annual direct and indirect household income
- 518 and 569 direct and indirect jobs.

While the potential positive in economic benefits are well stated, it is the distribution of these benefits in terms of both equity and administration that is causing higher levels of concern amongst the community. Given the outcomes of this assessment, there is an opportunity for the Project to ensure that it enhances the potential of economic contribution and community investment by implementing measures and strategies that ensure the benefits are received locally, in a way that drives sustainability, community resilience to change and distributive equity.

By way of mitigation and community benefit sharing, UPC as committed to a range of mitigation and management measures which are also aligned to UPC\AC broader social performance. During the

development phase UPC\AC have been assisting with carious initiatives and programs within the local community including in education, arts, sporting and culture sectors. Community benefit sharing will continue and will include:

- Development of both a Local Participation Plan and Aboriginal Participation Plan that commits to procurement, employment and investment in job readiness targets for UPC\AC and its contracting partners.
- Enhancing the community benefit sharing scheme by exploring initiatives that are linked to outcomes that meet community priorities identified in the SIA. For example, education and training outcomes for youth, community transport and connectivity, small business and enterprise capacity building, various community grants and scholarships in arts, sporting and culture.
- Neighbouring Property Benefit Scheme has been set up so the eligible properties neighbouring the wind farm site see a direct benefit from the project.

Implementing an adaptive management and monitoring framework that defines how UPC\AC will track, measure, respond and report on social performance commitments and making parts of this accessible to the public to further increase levels of trust and awareness.

The community also raised concerns about the Voluntary Planning Agreement (VPA) and how this is distributed to ensure the investment is provided in the areas most impacted by the Project.

VPAs are legal documents created under the Environmental Planning and Assessment Act 1979 (EP&A Act) between developers and government agencies (including councils) for the provision of funds or works by the developer for infrastructure, services or other public amenities typically negotiated at the time of rezoning (Section 93F EP&A Act). It is the intent of UPC\AC to commit over half a million dollars per year to the local community under a VPA and at the time of writing, the VPA was being discussed with Warrumbungle Shire Council.

UPC\AC has heard the communities' views in response to the VPA and the distribution of funds, particularly their concerns emanating from experiences on other projects. UPC\AC has also heard a level of concern and disappointment from some community members that they are yet to be consulted or involved in how the funds could be distributed that would best meet the needs of Coolah and surrounds.

In direct response to these concerns, UPC\AC is discussing the opportunity with Council to split the fund into three portions including a portion administered by Council, a portion administered through a Section 355 Committee and a portion administered through a community representative committee. The purpose of this is to help promote distributive equity and the channelling of the funds back into the immediately affected community. It would also provide the community with a greater voice in the distribution of the funds.

Given UPC\AC are still consulting with Council on the proposed structure of the VPA, the proposal is yet to go out to the community for comment and feedback. It is recognised that further engagement and consultation will be an important aspect of the VPA.

This assessment considers that it is likely that the project will have a major improvement to something to enhancing economic contributions and sustainability in the region and has been

assessed as a high social impact (positive). In terms of distributive equity, considering the administration of the VPA was not finalised at the time of writing, there is still not a firm commitment in terms of how the VPA will be distributed, despite the intentions of UPC\AC and this is subsequently assessed as a medium social risk. It is crucial that the project carefully manages this opportunity to ensure the equity distribution of the investment to further enhance this positive social outcome.

(S17) Mitigated social risk assessed as low (C1) for nearby neighbours.

Property values

The impact of wind farming on property values is commonly raised across renewable projects. Interestingly, for this Project, community opinion different on whether the project would devalue or improve value of properties surrounding the wind farm.

While there are a number of studies that have been done around the world on the topic of wind farm developments and declining property values, the most recent study is over 5 years old. In 2016 Urbis Pty Ltd. undertook a literature review of Australian and international studies on the impact of wind farms on property values which "revealed that the majority of published reports conclude that there is no impact or a limited deniable impact of wind farms on property values".

A key difference between wind farm practices in NSW and some of those comparative projects overseas is that the properties located around wind farms (particularly in NSW) are predominantly rural or rural residential in nature and for rural properties that are used for primary production, it can be mitigated so as there is no direct loss of productivity resulting from the wind farm, minimising any negative impact the value of such properties. Overseas countries with relatively high population densities have situated wind farms close to small urban centres or villages more often.

In the absence of up-to-date and specific information relating to property values proximal to the Project, that considers the significant changes and events that have occurred over the past five to six years since, it is difficult from a social impact perspective, to ascertain the technical risks of the Project on property values.

The perceived uncertainty relating to property sales, currently or in the future, for local landholders located nearby to the Project also presents a difficult issue to manage. Both the landholder agreements and the Neighbouring Property Benefit Scheme afforded a range of compensation options to mitigate the impacts of the Project based on individual circumstances which goes to mitigating the extent of the fear around impacts on people's livelihoods and futures, caused by a potential decline in property values.

Given the changing environment of regional NSW and the implications of the various renewable energy zones, it is possible that more current research on this issue will help to alleviate some of the concern around property values which will help to mitigate the perceived impact. UPC will advocate to industry groups such as EnergyCo and Re-Alliance to commission research to validate or provide evidence base in response to this concern and publicise result.

Notwithstanding the above, this assessment considers that the fear can be mitigated to an extent through education and up to date research, resulting in low social risk.

(S19) Mitigated social risk assessed as low (C1) for nearby neighbours

During engagement, concerns were raised that the construction and operation of the project and other concurrent and nearby major projects would lead to reduced levels of social cohesion and the creation of skills shortages or a shortfall in supplies. This concern was two-fold in terms of skill shortages in the renewables sector and the concern that the existing local workforce would be more attracted to the renewable industry and potentially leave their current employment, potentially leading to a skills shortage in other sectors.

Social commentary suggests that there is a risk to the renewable sector having a skills shortage and a potential to struggle to meet the demand for specialised and generalised skills to drive the post-Covid renewable energy transformation, especially those skills needed to develop the states' regional Renewable Energy Zone. This is supported by the announcement of renewable energy training facilities in Australia, including the Asia Pacific Renewable Energy Tech-Transition Centre (APRETC), located at the Federation University Mt Helen Campus in Victoria[1].

Some stakeholders also expressed concerns that they were already experiencing skill shortages in regional NSW because of Covid-19 and changing patterns of economic activity influencing the availability of workers. For example, seasonal workers used for fruit picking or sheep shearing. There was a fear that introducing a wind farm to the mix would further increase that burden. Research undertaken by the National Skills Commission noted changing patterns of economic activity since the outbreak of COVID-19, resulting in regional areas in NSW, for the first time, having far higher and more persistent levels of skills shortages than cities, with trades and technical skills in particularly short supply. Analysis of 800 jobs by the National Skills Commission reveals that one in five occupations in Australia is suffering from skill shortages (National Skills Commission, 2021)

There was also a lack of trust in the decision-making systems and concerns about a national strategic direction around renewable energy. Some community stakeholders commented that they, or someone they knew, were experiencing fatigue and feeling overwhelmed by the number of projects proposed in the area. A community representative expressed a desire for UPC\AC and other proponents of renewable energy projects in the region to exercise "thought leadership" and advocate for strategic thinking to facilitate the local community's ability to participate in the energy transition.

While some of the issues raised require a whole-of-industry response, led by Governments, UPC\AC's approach to social procurement and community benefit sharing activities will seek to identify partnerships with providers in education, skills, training and business enterprise to identify initiatives early. UPC\AC will also continue to be involved in industry group forums and discussions around this issue to ensure they continue to be abreast of emerging issues and responses from the industry to this concern.

[1] https://fedflix.federation.edu.au/media/APRETC+Launch+–+Training+the+renewable+energy+workforce+of+the+future/1_brvu0n71

Given the uncertainties around skills shortages and the recovery following the COVID-19 outbreak and advances in the training sector, and the above considerations, it is assessed that the project could have a low social risk from a cumulative perspective.

8.2.7 Intergenerational equity

Intergenerational equity refers to addressing the needs of the present generation without compromising the ability of future generations to meet their own needs (IAIA, 2003). For the purpose of this assessment, issues that have emerged relating to intergenerational equity include impacts relating to future land use, climate change, renewable energy as a reliable energy source and the potential future opportunities associated with the investment in infrastructure and technologies.

(S20) Mitigated social risk assessed as low (C1) for the wider community.

Wind farms as an alternate energy source

The perceived cost of and community attitudes and perceptions towards renewable energy is a complex and multi-dimensional issue. While it isn't the role of this SIA to unpack global sentiment and attitudes of renewable energy, the SIA is required to respond to those specific concerns identified as part of this assessment process primarily around the carbon cost of construction and wind farms in general as alternate energy source.

In terms of carbon costs, wind projects release the majority of their emissions during construction and decommissioning, whereas in comparison, coal fired power plants release the majority of their emissions during operation (World Nuclear Association, 2011). Once operational, wind farms generate minimal greenhouse gas emissions in comparison to other conventional electricity generation methods.

The 'Energy Payback Time' refers to the period of time for which a wind turbine needs to be in operation before it has generated as much electricity as it consumes in its lifecycle. The Energy Payback Time for wind turbines is quite small (Pacific Hydro, 2015) and based on recent studies as detailed in Chapter 17.1.3 of the Environmental Impact Statement, the Energy Payback Time for the wind turbines would be at most two to three years for turbines ranging between two and five megawatts but could be as short as thirteen months given the megawatt rating of the proposed turbines. Thus, for the 27 subsequent years, the project would power approximately 697,000 households without consuming electricity generated using conventional energy sources.

The electricity generated by the project would displace electricity produced using fossil fuel sources (such as coal and gas), thereby reducing greenhouse gas emissions from the stationary electricity sector and consequently, having a positive impact on greenhouse gas emissions.

(S21) Mitigated social risk assessed as low (D1) for host landholders, nearby neighbours and the wider community.

Future land use and rehabilitation

Rehabilitation and concerns regarding future land use post wind farm centred on the return to prime farming land and the recycling of wind farm components. While this was partly addressed in section

8.2.4 it is relevant to the assessment to note that near the end of the wind farm's operational life, a decommissioning and rehabilitation plan will be prepared that outlines the rehabilitation objectives and strategies to return the wind farm site to its pre-existing condition for agricultural land use. The decommissioning and rehabilitation plan will be prepared in consultation with Warrumbungle Shire Council and landholders. UPC\AC or its contractors will attempt to recycle all dismantled and decommissioned infrastructure and equipment, where possible. Structures and equipment that cannot be recycled would be disposed of at an approved waste management facility.

(S22) Mitigated social impact assessed as high (B3)(positive) for host landholders and medium (C3) (positive) for nearby neighbours.

Improved resilience through income diversification

The Project will generate an alternate revenue stream for host landholders through the landholder agreements. UPC\AC have entered into access licence agreements with associated property owners allowing the option to lease the land for the construction, operation and decommissioning of the wind farm. Upon cessation of any lease arrangement, easement, or other agreement, infrastructure would be decommissioned, and land would be returned to its pre-existing condition in consultation with the landholders and use would be returned to the landholder.

For host landholders, the project will help them to diversify their income streams, help to sustain their livelihoods now and into the future. To a lesser extent, neighbouring properties will also experience these benefits through the Neighbouring Property Benefit Scheme which will see broader benefits provided to the local area. This is also an important aspect of the NSW Electricity Infrastructure Roadmap that sees renewable energy as a way to help drought-proof traditional farming communities, providing new income streams for landholders that host electricity infrastructure (DPIE, 2020).

The community benefit initiatives referred to in section 8.2.6 will also contribute to both addressing the needs of the present generation and planning towards the sustainability of future generations, given the community investment initiatives last for the duration of the project (30 years).

It is assessed that the project could have a medium positive social impact for nearby neighbours and a high positive social impact for host landholders.

(S23) Mitigated social impact assessed as low (D2) for wider community.

As discussed in section 8.2.6, UPC\AC will continue to be involved in industry group forums and discussions around this issue to ensure they continue to be abreast of emerging issues and responses from the industry to this concern.

8.2.8 Health and wellbeing

(S24) Mitigated social impact assessed as low (D2) for host landholders and nearby neighbours regarding physical health and medium (C2) for mental ill-health.

Specialist consultants were engaged to assess the potential health effects of electromagnetic fields (EMF) generated from the project electrical infrastructure. An EMF is a physical field produced by a

moving electric charge that consists of both an electric field component and a magnetic field component. Exposure refers to the circumstance of being in the immediate presence of an electric or magnetic field or having such fields cause electric currents to flow through the body. Short term exposure to very high levels of EMF can be detrimental to human health; however, there is currently no evidence to conclusively link EMF to any long-term adverse health effects (National Health and Medical Research Council, 2015). Further, research suggests that if there is a risk of adverse health effects, the risk is more likely to be associated with the magnetic field than the electric field.

EMF would only occur during the operational phase of the project when the wind farm is in use and capable of generating electricity. The two closest dwellings are approximately 55 metres and 70 metres away from the underground cabling network. As magnetic field strengths decrease with increasing distance from the source, the EMF produced by the proposed cabling within the wind farm site would be well below the applicable exposure limits at these dwellings and is expected to be indistinguishable from background levels. All other dwellings are located more than 1,000 metres from the underground cabling at which the EMF from the project would be negligible.

The electrical equipment, including the substation, step-up facility and high voltage transmission lines, would be designed and installed following the relevant guidelines for EMF exposure (including fencing and setbacks). Therefore the EMF levels produced by the project would be expected to be within the recommended exposure limits at all publicly accessible locations in and around the wind farm site, and there is no need to carry out further avoidance (DNV Energy Systems, 2022).

In terms of fatigue and mental ill-health, the National Health Survey 2017–18 estimated that: 1 in 5 (20%, or 4.8 million) Australians reported that they had a mental or behavioural condition during the collection period (July 2017 to June 2018). Mental health affects and is affected by multiple socioeconomic factors, including a person's access to services, living conditions, and employment status, affecting the individual and their families and carers (Slade et al. 2009; WHO 2013). Given the research, discussion around the project may be contributing to anxiety and stress for those who are susceptible. Maintaining transparent, open and timely communications with the community, including nearby neighbours and host landholders, is an integral part of helping to ensure people have a level of understanding about the project, which can help reduce fear and anxieties associated with the 'unknown'. The monitoring of social performance, including how people respond to the change will also be crucial to ensure adaptive management and mitigation measures are implement where required. The community benefits framework will also identify opportunities to create environmental and community benefits and provide positive social outcomes respond to community priorities and needs of the surrounding community.

Given the above, it is assessed that the project could have a low social risk for nearby neighbours and host landholders in terms of physical health and medium social risk in terms of mental health.

8.3 Summary of mitigation and enhancement measures in response to social impacts

There are a range of mitigation and management measures of other predicted environmental impacts that interrelate with social impacts (such as noise and traffic). Mitigation and management measures

identified in other technical papers and chapters of the Environmental Impact Statement of relevance to the mitigation of social impacts include

- Noise Assessment (Chapter 7)
- Aboriginal Cultural Heritage Assessment (Chapter 11)
- Biodiversity Development Assessment Report (Chapter 8)
- Economic Assessment (Chapter 16)
- Landscape and Visual Character Assessment (Chapter 6)
- EMI and EMF Health Impact Assessment (Chapter 10)
- Traffic and Transport Assessment (Chapter 9)

For ease of reference, the mitigation measures identified as a response to the identified social impacts in this assessment are summarised in **Table 8.3**. Each mitigation measure in the table has been assigned to the social impact theme as identified in the preceding section.

Table 8.3 Summary of recommended mitigation and enhancement measures

Recommended mitigation measures	Impact to people by theme
Voluntary Planning Agreement • It is acknowledged that as part of the NSW planning process, DPIE utilises the Voluntary Planning Agreement (VPA) mechanism to ensure that benefits of industry activity are shared, and impacts of development are identified and appropriately managed at local and more regional levels. Through targeted social investment, administered through such agreements, impact management and further community enhancement can be undertaken to facilitate development across a community's key capital areas, whether that is at a localised level or at the broader LGA level. UPC\AC intend to commit over half a million dollars per year to the local community under a VPA currently being discussed with Council. • VPAs are legal documents created under the Environmental Planning and Assessment Act 1979 (EP&A Act) between developers and government agencies (including councils) for the provision of funds or works by the developer for infrastructure, services or other public amenities typically negotiated at the time of rezoning (Section 93F EP&A Act). • In direct response to community feedback, UPC\AC is discussing the opportunity with Council to split the fund into three portions including a portion administered by Council, a portion administered through a Section 355 Committee and a portion administered through a community representative committee. The purpose of this is to help promote distributive equity and the channelling of the funds back into the immediately affected community. It would also provide the community with a greater voice in the distribution of the funds. • Given UPC\AC are still consulting with Council on the proposed structure of the VPA, the proposal is yet to go out to the community for comment and feedback. It is recognised that further engagement and consultation will be an important aspect of the VPA, and this will be the next step.	Livelihoods Community Decision making systems
Community Benefit Scheme Framework	Livelihoods

Recommended mitigation measures	Impact to people by theme
• This Framework would bring together the community benefit initiatives, providing a framework for distribution of benefit and mechanism to track and monitor the effectiveness of community benefits. • It would also guide the development of community benefit initiatives by the Principal Construction Contractor during construction to make a positive contribution to the potentially affected community by identifying opportunities to create environmental and community benefits and provide positive social outcomes responding to the priorities and needs of the surrounding community. • The framework will also include targets to enhance the community benefit sharing scheme by linking to outcomes that meet community priorities identified in the SIA. For example, education and training outcomes for youth, community transport and connectivity, small business and enterprise capacity building, various community grants and scholarships in arts, sporting and culture.	Community
Neighbouring Property Benefit Scheme (NPBS) • A Neighbouring Property Benefit Scheme has been setup so the eligible properties neighbouring the wind farm site see a direct benefit from the project. This scheme, amongst others, will have an indirect benefit of the local economy and community more broadly for the life of the project. • The NPBS framework was setup as a direct response to the issues raised regarding equality and fair distribution of benefits.	Livelihoods
Community grants • During the development phase of the project UPC\AC has been assisting with various initiatives and programs within the local community including education, arts, sporting and culture sectors. This support will continue throughout construction, operation and decommissioning.	Community
Addressing social risks in the Construction Environment Management Plan and Construction Traffic Management Plan • The Construction Environmental Management Plan and Construction Traffic Management Plan would include development of relevant measures in response to social impacts including: ○ Amenity related impacts such as noise and dust ○ Traffic impacts, including potential impacts to public transport providers including the coach service that operates as part of Transport for NSW TrainLink and the school bus service operated by Grace Coaches ○ An adaptive monitoring and management strategy that responds to any unforeseen matters that may arise ○ Cumulative impacts due to other major projects in the locality.	Way of life Health and wellbeing
Workplace strategies that encourage the integration of incoming populations with local communities including, but not limited to: • Workplace behaviours policies • Employee inductions and toolboxes and opportunities for workforce participation in community events and initiatives.	Community Culture
Full time, local based resource prior to and during construction	

Recommended mitigation measures	Impact to people by theme
UPC\AC will appoint a full time, locally based resource prior to and during construction with experience in community relations and workforce engagement. This resource will be responsible for: • Community and workforce engagement and communications (including media) • Responding to community enquiries and complaints • Event planning and participation • Community benefit sharing implementation • Local participation plan implementation	

Social Performance and Communications Plan
• A robust and supportive Social Performance and Communications Plan would be prepared to:
  ○ Facilitate communication between UPC\AC, the Construction Contractor and the community
  ○ To outline an adaptive management and monitoring framework that defines how UPC\AC will track, measure and respond and report on social performance.
• The objectives of this plan would be in line with the DPIE's Community Participation Plan (DPIE, 2019) and seek to ensure that UPC\AC's engagement is open and inclusive, easy to access, relevant, timely and meaningful.
• This plan would:
  ○ Consider all phases of the project, from detailed design to operation
  ○ Outline a process that ensures communication materials are accessible to all community members, including the CALD community and those people with disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities
  ○ Have measurable targets, performance indicators and means by which performance can be measured
  ○ Have clearly defined roles and responsibilities for the delivery of activities
  ○ Include a timetable of actions and events
  ○ Identified the resourced needed to implement the plan.
• Key components of the plan, including outcomes of social performance monitoring, would be made accessible to the public to further increase levels of trust and awareness.
	All

Complaints Management Procedure • A grievance process for the community to raise comments, questions and complaints will be established prior to construction commencing. • The grievance process will be made publicly available and include a feedback process through which the complainant is provided with information relating to how their concern has been assessed, considered, and where feasible, addressed.	All
Temporary workforce accommodation • During early engagement, the increased pressure on housing and accommodation due to the construction workforce was raised by community members as an area of concern. There was a common sentiment that accommodation needs of the construction workforce including the potential drive in - drive out nature of the workforce would place pressure on the availability of short-term accommodation and drive up rental prices – impacting on both tourists to the area and vulnerable community groups such as low-income earners, who could potentially be displaced from housing as a result.	Accessibility Community

Recommended mitigation measures	Impact to people by theme
• In direct response to this issue, UPC\AC has identified a potential area for temporary workforce accommodation (workers camp) to be established to accommodate the peak workforce.	
Plan of Management – Temporary Workers Accommodation The primary purpose of this plan is to: • Outline how the proposed temporary workers accommodation will maintain a high level of amenity for neighbouring properties and for the workforce • Strategies to encourage the integration of the workers camp with local communities to ensure that the economic benefits associated with the presence of a workforce are received by local businesses and service providers • Policies and guidelines around expectations for workforce behaviours • Consider appropriate safety and security measures • The plan would be developed in consultation with relevant stakeholders including community representatives, council and emergency services.	Community Health and wellbeing
Local Participation Plan and Aboriginal Participation Plan • Development of a Local Participation Plan and Aboriginal Participation Plan that prioritises participation and commits to procurement, employment and job readiness investment targets for UPC/AC and its contracting partners. • The plans would be supported through procurement and employment systems that: ○ Are embedded into EPC contracts, management and assurance ○ Tenders are reviewed prior to release to extract smaller packages of work where there is known local and Indigenous business capability ○ Tender evaluation criteria and weightings are built into procurement processes ○ Identification of priority roles to be filled by local and Indigenous candidates ○ Candidate assessment criteria and weightings ○ Initiatives to enhance the retention of local and Indigenous employees ○ Initiatives to promote the transition from training to long term employment • The plan will be strategic in terms of labour hire and relevant contractual conditions to ensure that issues around career path progression for youth and the equitable distribution of job opportunities are considered.	Livelihoods Culture
Industry advocation • Advocating with industry bodies such as EnergyCo for a strategic approach to understanding and managing the cumulative impacts on the REZ on regional communities in regards to access, accommodation and housing and the use of infrastructure and service. • UPC will advocate to industry groups such as EnergyCo and Re-Alliance to commission research in response to ongoing community concerns about the potential of wind farms to devalue properties. This research should be made publicly available for all communities impacts by the REZs.	Accessibility Decision making systems Livelihoods

8.4 Summary of mitigated impacts

The following table provides a summary of the predicted socioeconomic impacts in relation to the Project. It considers the outcomes of the assessment including enhancement, mitigation, and residual impacts at a holistic level.

Table 8.4 Summary of mitigated impacts

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
Visual Landscape	S01	Changes to the visual landscape affecting and how people experience their rural surroundings	Construction and operations	Host landholders	Medium	• Reduced number of turbines and refinement of turbine locations • Landscape Management Plan • Individual property agreements (host landholder and neighbouring properties	Low (C1 possible/minimal)
				Nearby neighbours	High		Medium (C2 possible/minor)
				Wider community	Medium		Low (D1 unlikely/minimal)
	S02	Multiple renewable energy projects and changes to the regional visual landscape affecting and how people experience their rural surroundings	Construction and operations	Wider community	Low	• Reduced number of turbines and refinement of turbine locations • Landscape Management Plan	Low (D1 unlikely/minimal)
Social amenity and traffic	S03	Decline in social amenity or way of life due to construction impacts such as dust and noise	Construction	Host landholders	Medium	• Noise and vibration management plan • Compliance monitoring • Social Performance and Communications Plan • Complaints management procedure • Addressing social risks in the Construction Environment Management Plan and Construction Traffic Management Plan to ensure project integration	Medium (C2 possible/minor)
				Nearby neighbours	Low		Medium (C2 possible/minor)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
	S04	Operational noise generated by wind turbines, causing a decline in social amenity and how people experience their rural surroundings	Operations	Host landholders / nearby neighbours	Medium	• Refinement of turbine locations • Targeted and tailored consultation on a case by case basis. • Noise and vibration management plan, including details of testing procedures, reporting time frames and compliance monitoring. • Provision of monitoring results to the community	Low (D2 unlikely/minor)
				Wider community	Low		no residual impact
	S05	Increased traffic causing increased road safety risks for road user and further decline in quality of roads	Construction	Host landholders	Medium	• Construction Traffic Management Plan developed in consultation with Transport for NSW, Council, bus services and directly affected stakeholders (including the village of Uarbry) • Dilapidation survey of roads • Adaptive monitoring and management strategy that responds to any unforeseen matters that may arise. • Timely and clear community information that is accessible to all community members, including those people with disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities and youth including those young Learner and Provisional drivers on the road network	Low (D2 unlikely/minor)
				Nearby neighbours	Medium		Low (D2 unlikely/minor)
				Wider community / road users	Medium		Low (D2 unlikely/minor)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
	S06	Multiple concurrent projects leading to impacts on the road network and a decrease in road safety	Construction and operations	Wider community	Low	• As above • Temporary workforce accommodation	Low (C1 possible/minimal)
Sense of community and culture	S07	Changes to local population causing a decline in the composition and character of the community	Construction and operations	Wider community	low	• Workplace strategies that encourage the integration of incoming populations with local communities including work place behaviours policies, employee inductions and toolboxes and opportunities for workforce participation in community events and initiatives. • Local Participation Plan and Aboriginal Participation Plan that maximises local hire where possible • Full time, local based resources prior to and during construction • Community benefit scheme and community grants	Low (C1 possible/minimal)
	S08	Changes to community composition potentially leading to increase in community resilience and changes to the way the community functions.	Construction and operations	Wider community	Low (positive)		Medium (positive) C3 (possible/moderate)
	S09	Changes to land use resulting in a sense of loss of Aboriginal cultural heritage values	Construction and operations	Aboriginal people	low	• Project refinement to avoid impacts • Aboriginal Cultural Heritage Management Plan • Aboriginal Participation Plan	Low (C1 possible/minimal)
Land use change and conflict	S10	Changes to the existing land use resulting in potential loss of native flora and fauna,	Operations	Wider community	low	• Project refinements to avoid, minimise and mitigate impacts to biodiversity values • Biodiversity Management Plan • Bird and Bat Adaptive Management Plan	Low (C1 possible/minimal)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
		changing how people experience their environment				• Biodiversity offsets	
	S11	Changes to land use affecting the availability of land for agricultural purposes	Operations	Wider community	low	• Project refinement to minimise land required for wind farm development • Individual property agreements (host landholder and neighbouring properties	Low (C1 possible/minimal)
	S12	Cumulative impact of multiple nearby projects affecting the availability of land for agricultural, negatively impacting regional agricultural resources and production and affecting rural landscapes	Operations	Region	Low	• As above • Co-existence of wind farming with grazing activities • Rehabilitation of land upon project decommissioning	Low (D1 unlikely/minimal)
Access to and use of infrastructure and services	S13	Decline in access to affordable housing and accommodation, and community services due to temporary increase in population	Construction	Wider community	High	• Temporary workforce accommodation • Community benefit sharing or investment – specifically, exploring initiatives that are linked to outcomes that meet community priorities identified in this SIA and through engagement, such as community transport and connectivity, improvements or maintenance of social infrastructure and initiatives that retain the younger generation with Coolah and surrounds.	Medium (positive) C3 (possible/moderate)
	S14	Increased pressure on community services during construction should multiple concurrent projects occur	Construction	Wider community	Low		Low (D2 unlikely/minor)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
						• Workplace strategies that encourage the integration of incoming populations with local communities and promote positive workforce behaviours • Early investment in partnerships that build local business development and capacity • Prioritising opportunities for Indigenous economic participation in the project • Advocating with industry bodies such as EnergyCo. for a strategic approach to understanding and managing the cumulative impacts on the REZ on regional communities in regard to access to and use of infrastructure and service.	
Temporary workforce accommodation	S25	A decrease in economic benefit to local business and services due to drive-in drive-out nature of workers camps and decline in community character due to potential for antisocial behaviour	Construction	Local business and suppliers including aboriginal service providers	Medium	• Ongoing and targeted consultation. • Encourage the integration of incoming populations with local communities including work place behaviours policies, employee inductions and toolboxes and opportunities for workforce participation in community events and initiatives. • Local Participation Plan and Aboriginal Participation Plan that maximises local hire where possible	Low (C1 possible/minimal)
	S15	Enhanced wellbeing from job opportunities and training,	Construction and operations	Community	High (positive)	• Early investment in partnerships that provide job-readiness, training and	High (positive) (B4, likely/major)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
Economic contributions and sustainability		including increased opportunities for vulnerable groups		Youth	High (positive)	education outcomes to benefit the region, and not just the proposed Valley of the Winds project • Local Participation Plan and Aboriginal Participation Plan that commits to procurement, employment and investment in job readiness targets for UPC\AC and its contracting partners.	High (positive) (B4, likely/major)
				Aboriginal people	High (positive)		High (positive) (B4, likely/major)
	S16	Community investment initiatives leading to improved sustainability and enhancing resilience	Construction and operations	Community	High (positive)	• Community benefits framework • Exploring initiatives that are linked to outcomes that meet community priorities identified in the SIA. For example, education and training outcomes for youth, community transport and connectivity, small business and enterprise capacity building, various community grants and scholarships in arts, sporting and culture. • Community grants • Implementing an adaptive management and monitoring framework that defines how UPC\AC will track, measure, respond and report on social performance commitments and making parts of this accessible to the public to further increase levels of trust and awareness.	High (positive) (B4, likely/major)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
						• Individual property agreements (host landholder and neighbouring properties	
	S17	Fear that the presence of the project will devalue properties	Construction and operations	Nearby neighbours	Medium	• UPC will advocate to industry groups such as EnergyCo and Re-Alliance to commission research in response to ongoing community concerns about the potential of wind farms to devalue properties. This research should be made publicly available for all communities impacts by the REZs. • Individual property agreements (host landholder and neighbouring properties	Low (C1 possible/minimal)
	S18	Distributive equity and decision-making systems	Construction and operations	Community	High	• UPC\AC is discussing the opportunity with Council to split the VPA into three portions to help promote distributive equity and the channelling of the funds back into the immediately affected community. It would also provide the community with a greater voice in the distribution of the funds. • Community benefits framework that includes community grants • Individual property agreements (host landholder and neighbouring properties	Medium (negative) C3 (possible/moderate)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
						• Adaptive management and monitoring framework to assess social performance.	
	S19	Multiple concurrent and nearby major projects leading to reduced levels of social cohesion, creation of skills shortages or a shortfall in supplies	Construction	Wider community	Low	• As per S15-S18	Low (C1 possible/minimal)
Intergenerational equity	S20	Wind farms as an alternative energy source, including associated carbon costs	Operations and policy	Community	Low	• Rehabilitation and decommissioning plan • Recycling all decommissions infrastructure and equipment, where possible • Improved communications and information around carbon costs associated with wind farms and the recycling of components to build trust and transparency with the community.	Low (C1 possible/minimal)
	S21	Future land use and rehabilitation	Decommissioning	Host landholders	Medium		Low (D1 unlikely/minimal)
				Nearby neighbours	Low		Low (D1 unlikely/minimal)
				Wider community	Low		Low (D1 unlikely/minimal)
	S22	Changes to existing land use generating an alternate revenue stream for host	Operations	Host landholders	High (positive)	• Individual property agreements (host landholder and neighbouring properties	High (positive) (B3, likely/moderate)

Social impact theme	ID	Impact on people (unmitigated)	Project aspect	Extent of impact	Perceived impact (unmitigated)	Project refinements and mitigation measures	Residual impact significance
		landholders leading to improved resilience through income diversification		Nearby neighbours	Low (positive)		Medium (positive) C3 (possible/moderate)
	S23	Level of trust in decision making systems and lack of national strategic direction around renewable energy	Policy	Wider community	Low	• Industry advocacy	Low (D2 unlikely/minor)
Health and wellbeing	S24	Potential negative health impacts because of the transmission lines and other infrastructure, anxiety around the permanent change to surroundings	Planning, construction and operations	Host landholders Nearby neighbours	Low	• Maintaining transparent, open and timely communications with the community, including nearby neighbours and host landholders, • Social Performance and communications Plan • Community benefits framework	Physical health: Low D2 (unlikely/minor) Mental ill-health: Medium C2 (possible/minor)

9 Monitoring of social impacts

A key aspect of any SIA is the development of a framework to monitor a project's impact over time - often referred to as a social impact management plan. UPC\AC will include their Social Performance and Communications Plan to outline an adaptive management and monitoring framework that defines how UPC\AC will track, measure and respond and report on social performance.

9.1 Monitoring effectiveness of mitigation and enhancements

This section provides a high-level overview of a framework for monitoring social change in relation to the project, and how this relates to project-related activities. In doing so, the framework will gather data that can be used to assess the effectiveness of mitigation measures and initiatives.

It is considered best practice in social outcomes measurement to draw upon a range of methods, data sources, indicator and data types (e.g. objective vs. subjective, qualitative vs. quantitative, leading versus lagging indicators). Therefore, the proposed monitoring framework will draw upon multiple methods including:

- Monitoring social trends that will provide context to interpret data from other elements of the framework and provide an appreciation of community change
- Monitoring organisational inputs and outputs which will provide an understanding of what UPC\AC is contributing to the community e.g. in relation to employment, expenditure, local procurement
- Monitoring outcomes of community projects and investments to understand what impact these are having at the community level
- Monitoring objective indicators of impact which will seek to confirm that UPC\AC is monitoring key risks and trends in relation to key impact areas identified through the SIA process e.g. monitoring of key amenity impacts such as noise and air quality
- Monitoring community perceptions of impact (e.g. feelings of trust towards UPC\AC, landholder and near neighbour experience of social impacts, level of concern with experienced impacts and satisfaction with impact management) through regular and structured engagement with the community to confirm existing and identify emerging issues and impacts in a proactive manner – such as a community consultative committee.

Table 9.1 provides a framework for monitoring the predicted impacts against the actual impacts of the Project. This framework relates specifically to those ranked as having a high or medium residual impact. This is indicative only and will be refined and finalised should the project be approved.

The practical arrangements for monitoring and managing of some of the social impacts can be integrated into the overarching environmental management systems.

In addition, the framework should consider a program for the ongoing analysis of social risks and opportunities arising from the project, including timing and frequency of reviews. This could include a

regular analysis of complaints to see if there are any emerging issues relating to the project, formal and informal feedback from the community and any technical monitoring outcomes .

Table 9.1 Consideration of a monitoring framework for the project

Desired outcome	Category	Descriptive	Target	Performance measure	Reporting frequency	Monitoring responsibility
Enhanced wellbeing from job opportunities and training, including increased opportunities for vulnerable groups	Local and Aboriginal employment and job readiness	Minimum % of the project's workforce is sourced from local and Indigenous people Minimum project addressable spend is applied to the cost of education, training or capability building activities for local community, including school leavers and aboriginal people	To be determined	% spend of project value on education, training or capability building for local community including school leavers and aboriginal people	Monthly	To be determined
	Local and Indigenous procurement	Minimum project addressable spend is spend with local business, including aboriginal businesses	To be determined	% spend of project value with local and aboriginal businesses Number of local and Indigenous businesses contracted to deliver goods and services	Monthly	
Improved sustainability and enhancing resilience and enhanced access to community services	Community investment	Community benefit sharing initiatives are reflective of community needs and priorities.	To be determined	Spend reports Number of non-profit groups who received financial or in-kind support Investment evaluation reports Community Reference Group reporting	Monthly	
High levels of trust and respect between UPC\AC and the community	Sentiment	Effective capture and management of community and stakeholder interactions	0 complaints Minimum 50% positive sentiment	Complaints reporting Reporting of interactions: # of interactions By issue or concern By sentiment Online community survey results	Monthly Annual (for survey)	

10 Conclusion

Social impact assessment is the process of understanding and managing the social impact of projects on people. This social impact assessment adopts the framework set out in the NSW Department of Planning, Industry and Environment's Social Impact Assessment Guideline published in July 2021 to identify, predict, and evaluate likely social impacts to people, as well as proposing responses to them.

Community engagement for the project has been important in its development and feedback was integral to scoping the likely social impacts of this proposal. This assessment acknowledges that throughout the project refinement process, UPC\AC has made considerable effort to avoid potential social and amenity impacts, where possible. In those instances where potential impacts cannot be avoided, UPC\AC's design principles have sought to minimise impacts or implement mitigation measures to manage the extent and severity of any residual impacts. During detailed design and prior to the commencement of construction, the project would be further refined to ensure avoidance and minimisation objectives are met.

The project is located in an area that has experienced many natural disasters over the last decade including floods, droughts and the Sir Ivan Bushfire of 2017. This project provides a real opportunity for Coolah and surrounds to achieve increased community resilience and improved access to services, employment and economic stimulus. For this benefit to be realised, it is important that the economic stimulus is distributed in an equitable way, and directly to the towns and villages that will experience the greatest change as a result of this project, including Coolah, Leadville, Uarbry and Dunedoo.

In terms of negative impact, it is inevitable that the placement of wind turbines in a rural landscape will alter the existing landscape character of the area. this assessment recognises that how these impacts are received are largely dependent on the individual viewer's sensitivity to, and acceptance of, change. While a number of mitigation measures are identified in both this assessment and the EIS, it is still likely that a number of residences would still experience some residual visual impacts during the life of the Project due to the topography and locations of the existing dwellings which for some community members, will impact on the lifestyle choices they have made in choosing to living in the area. It is important that UPC\AC continues to engage with the community in a transparent and timely way, and continues to build relationships, look at case by case mitigation measures and look to increase levels of trust.

In terms of other assessed project social risks and positive social impacts, a number of mitigation measures have been outlined in section 8.3 that should be implemented and monitored for effectiveness should the project proceed.

This assessment recognises that the project forms an important part of Australia's transition to renewable energy generation and would positively contribute to meeting Commonwealth and State targets. The project would enhance the reliability and security of electricity supply by contributing to the anticipated capacity gaps in the electricity market following the closure of major coal-fired power generators within NSW.

11 References

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Appendix 1 Certification page

I, Angela Peace, certify that this SIA contains all information relevant to the SIA for the project, and that the information is not false or misleading. My qualifications and experiences are listed below.

Qualifications and Professional Memberships:

- Bachelor of Arts (Communications)
- Social Impact Assessment Certificate, University of Strathclyde and Community Insights Group (2020)
- Member, International Association of Impact Assessment (membership no. 10499330)
- Member, International Association of Public Participation
- Member, Social Impact Measurement Network Australia
- Member, Environmental Institute of Australian and New Zealand Inc.

Experience:

The author is experienced in social science methodologies and has demonstrated SIA skins in government, private and education settings. She is a Social Impact and Community Engagement Specialist and has managed SIAs for extractive industries, waste recovery, transport infrastructure, recreational facilities and energy projects in NSW and the ACT, including State Significant Projects.

Date: 22 February 2022

Appendix 2 DPIE SIA review questions

The following table has been extracted from Appendix C of Social Impact Assessment Guideline, published in July 2021 by the NSW Department of Planning, Industry and Environment.

These review questions are used to confirm that the requirements of the 2021 Guideline have been fulfilled when considering the scale of social impacts of the project. and the chapter of the SIA that addresses these questions.

Review Questions		SIA chapter reference
General		
1	Does the lead author meet the qualification and experience requirements?	Appendix 1
2	Has the lead author provided a signed declaration?	Appendix 1
3	Would a reasonable person judge the SIA report to be impartial, transparent and suitably rigorous given the nature of the project?	Not applicable
Project's social locality and social baseline		
4	Does the SIA report identify and describe all the different social groups that may be affected by the project?	Chapter 3 – 6, Appendix 3
5	Does the SIA report identify and describe all the built or natural features that have value or importance for people, and explain why people value those features?	Chapter 6
6	Does the SIA report identify and describe historical, current, and expected social trends or social changes for people in the locality, including their experiences with this project and other major development projects?	Chapter 6 - 8
7	Does the social baseline study include appropriate justification for each element, and provide evidence that the elements reflect both relevant literature and the diversity of views and likely experiences?	Chapter 6 - 8
8	Does the social baseline study demonstrate social-science research methods and explain any significant methodological or data limitations?	Chapter 6
Identification and description of social impacts		
9	Does the SIA report adequately describe likely social impacts from the perspectives of how people may experience them, and explain the research used to identify them? When undertaken as a part of SIA scoping and initial assessment, has the plan for the SIA report been detailed?	Chapter 6 - 8
10	Does the SIA report apply the precautionary principle to identifying social impacts, and consider how they may be experienced differently by different people and groups?	Chapter 6 - 8
11	Does the SIA report describe how the preliminary analysis influenced project design and EIS engagement strategy?	Chapter 6 - 8

Review Questions		SIA chapter reference
Community engagement		
12	Were the extent and nature of engagement activities appropriate and sufficient to canvass all relevant views, including those of vulnerable or marginalised groups?	Chapter 5
13	How have the views, concerns and insights of affected and interested people influenced both the project design and each element of the SIA report?	Chapter 5 Chapter 8
Predicting and analysing social impacts		
14	Does the SIA report impartially focus on the most important social impacts to people at all stages of the project, without any omissions or misrepresentations?	This report
15	Does the SIA report analyse the distribution of both positive and negative social impacts, and identify who will benefit and who will lose from the project?	Chapter 8
16	Does the SIA report identify its assumptions, and include sensitivity analysis and alternative scenarios? (including 'worst-case' and 'no project' scenarios where relevant)	Chapter 8
Evaluating significance		
17	Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects?	Chapter 8
18	Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	Chapter 8
Responses, monitoring and management		
19	Does the SIA report propose responses that are tangible, deliverable, likely to be durably effective, directly related to the respective impact(s) and adequately delegated and resourced?	Chapter 8 and 9
20	Does the SIA report demonstrate how people can be confident that social impacts will be monitored and reported in ways that are reliable, effective and trustworthy?	Chapter 8 and 9
21	Does the SIA report demonstrate how the proponent will adaptively manage social impacts and respond to unanticipated events, breaches, grievances and non-compliance?	Chapter 8 and 9

Appendix 3 Project Stakeholders and analysis

The following table lists key stakeholders and their expected interests in the project. This table was adopted from the Valley of the Winds wind farm project Social Impact Scoping Report (Elton Consulting April 2021). It has been updated to reflect the comprehensive social impact assessment within the Environmental Impact Statement (EIS) phase.

Stakeholder	Area of interest or concern
Warrumbungle Shire Council	The wind farm site is located within the Warrumbungle LGA. Council is therefore an important stakeholder. Key areas of interest and concern include: • Governance and legislation • Environmental Impacts • Community Impacts and benefits • Economic Impacts including voluntary planning agreements and rates • Road access / haulage routes / delivery
Host landholders	Landowners affected by the wind farm site are key stakeholders, due to their location and investment in the land. Key areas of interest and concern include: • Construction impacts on amenity and way of life (noise, visual, dust, traffic) • Operational impacts (financial agreements, access agreements, access road) • Health and wellbeing • Impact on livelihood (farming operations)
Near neighbours	Near neighbours are those adjacent to the project but are not host landholders. Key areas of interest and concern include: • Construction Amenity impacts (dust, noise, traffic and visual) • Operational Amenity impacts (noise and visual) • Impacts to biodiversity • Community Cohesion and sense of place • Benefit-sharing (e.g., community benefits fund or voluntary planning agreements and neighbour agreements)
Broader community	The Warrumbungle Shire community including, but not limited to, the townships of Coolah, Dunedoo, Uarbry and Leadville. Key areas of interest and concern include: • Construction Amenity impacts (traffic) • Operational Amenity impacts (visual) • Biodiversity loss • Water supply • Community Cohesion and sense of place • Benefit-sharing and improvements to public infrastructure • Economic benefits and job opportunities • Implications of the project in the context of the Central-West Orana Renewable Energy Zone
Community interest groups	Community groups are primarily run by volunteers with strong connections. Key areas of interest and concern include: • Preserving the town's services and character • Encouraging growth and development of the district • Community connection and cohesion. Examples of groups in the social locality include:

Stakeholder	Area of interest or concern
	• Coolah District Development Group • Dunedoo Distric Development Group • Dunedoo Farmers Association • Men's Shed • Chamber of Commerce • Coolah Junior Sport Club • Black Stump Rodeo Committee • Coolah Pony Club • Coolah Lions Club • Coonabanrabran Visitors Information Centre • Leadville Community Association • Uarbry Hall Association • Dunedoo and Coolah Landcare
Education	Access to education is an important consideration and education groups. Key areas of interest and concern include: • Community connection and cohesion. • Access to services and amenity impacts Educational facilities in the area include: • Coolah Central School • Dunedoo Central School • Sacred Heart School • St Michaels Primary School • TAFE Dunedoo
Aboriginal groups	• Gilgandra Local Aboriginal Land Council (LALC) • Gomeroi People NC2011/006 (Native Title claimants) • Dubbo LALC • Murong Gialinga Aboriginal & Torres Strait Islander Corporation • AT Gomilaroi Cultural Consultancy • Talcon Pty Ltd • Cacatua General Services • AGA Services • Bawurra
Utility and service providers	Key concerns: • Impacts on their infrastructure including increase in utilisation and electromagnetic interference • Access to future infrastructure Key stakeholders: • Essential Energy • NBN Co Limited • Telstra Corporation Limited • Transgrid (Central-West Orana Renewable Energy Zone)
Emergency Services	Key areas of interest and concern include: • Road access in the event of emergency • Bushfire risks • Construction impacts on health and safety • Community access to services Key stakeholders include

Stakeholder	Area of interest or concern
	• Coolah Rescue Squad WRA • NSW State Emergency Services – Dunedoo • Orana Mid-Western Police District Coolah Police Station
Government – state	Key areas of interest and concern include: • Governance and legislation • Environmental Impacts • Community Impacts • Economic Impacts • Road access / haulage routes / delivery Key stakeholders include: • The Energy Corporation of NSW (EnergyCo) (NSW-Government-controlled statutory authority that will lead the delivery of NSW's REZs). • Department of Planning NSW DPIE including: • Biodiversity, Conservation and Science Directorate • WaterNSW • Heritage NSW • Department of Primary Industries • NSW Environment Protection Authority • Transport for NSW • Crown Lands • Regional NSW – Mining, Exploration and Geoscience (MEG) • Local Lands Services • Civil Aviation Safety Authority
Industry and Business	• Key areas of interest and concern include: • Impact on farming operations • Work opportunities • Impacts on operations • Access to state forest • Delays on road network • Economic growth and opportunities • Key stakeholders include: • NSW Farmers Association • NSW National Parks & Wildlife Service • Local businesses including accommodation, retail, food and beverage and entertainment providers; medical services, fuel/vehicle maintenance services; as well as a range of business geared to servicing large civil construction projects
Government Elected officials	• Governance and legislation • Economic growth

Appendix 4 Social Impact Assessment Scoping Sheet

ELTON CONSULTING

Social impact assessment (SIA) scoping worksheet for: Valley of the Winds wind farm project						Completion Date:		10/03/2020		
			Scoping results from EIS Worksheet			Is there a social impact?		What information will be required to assess the social impact?		
Social and environmental matters			Outline of impact	Is a material effect on the matter expected?	Is there community or other stakeholder concerns regarding the impact or activity?	With regard to the matter expected to be impacted, will there be a social impact? Yes/No	If yes, outline the social impact	Are impacts on the matter expected to require a non-SIA specialist study?	Will the non-SIA specialist study address the social impact?	Level of assessment for the social impact in the SIA
What does the proposal mean for people?	AMENITY	acoustic	Construction activities may cause noise disruptions to nearby residents, host property owners and residents along major transportation routes from heavy vehicles and on-site construction mobilisation e.g. earth works	Yes	Yes	Yes	N/A; [see outline of impact]	Noise study	Yes - in part	Standard SIA
		acoustic	Operational noise (hum) caused from wind turbines may cause ongoing disturbance to proximate residents	Yes	Yes	Yes	As above	Noise study	Yes - in part	Standard SIA
		visual	Wind turbines will be visible - visual disturbance likely to be a grievance expressed by neighbouring property owners, and from local residents or regular visitors to points of public interest, public viewpoints or places of community value	Yes	Yes	Yes	As above	Visual study	Yes - in part	Standard SIA
		odour								
		microclimate								
		other - please specify								
	ACCESS	access to property	Construction activities and ongoing operational maintenance of project infrastructure may cause access disruptions to host property owners	Yes	Yes	Yes	As above	Land access plans	Yes - in part	Standard SIA
		access to property	Transmission line construction may impact on access to properties (including mines) during construction, requiring night time work	Yes	Yes	Yes	As above	Land access plans	Yes - in part	Standard SIA
		access to property	Potential impacts to private property fencing and farm infrastructure (e.g. water tanks or troughs) may be impacted	Yes	Yes	Yes	As above	Land access plans	Yes - in part	Standard SIA
		utilities	Long-term improvements to and investment in utilities infrastructure and associated services leading to improved access and quality of services	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		road and rail network	Local road upgrades for construction access and their maintenance expected	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		road and rail network	Transport of materials and equipment may disrupt travel on public roads which may require management of traffic	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		offsite parking	Parking of transport vehicles and construction vehicles on sites and laydown areas. may be limited by terrain and need for new access tracks with aim to minimise clearing and land acquisition	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		other - please specify								
	BUILT ENVIRONMENT	public domain	Opportunities for community investment may contribute to and will likely target social infrastructure and community facilities in nearby towns	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		public infrastructure	See above and below (road network; services and facilities)	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		public infrastructure	Vocational training schemes may build capacity of local tertiary training institutions through partnering and collaboration	Yes	Yes	Yes	As above	Employment study	Yes - in part	Standard SIA
		other built assets								
		other - please specify								
	HERITAGE	natural	Construction and operational activities may be perceived to cause harm to local wildlife and biodiversity	Yes	Yes	Yes	As above	Biodiversity study	Yes - in part	Standard SIA
		natural	Potential for transmission lines to traverse natural heritage (conservation areas/parks)	Yes	Yes	Yes	As above	Environmental impact study and biodiversity study	Yes - in part	
		cultural								
		Aboriginal cultural	The land may impose upon Aboriginal cultural heritage sites or otherwise culturally significant places, which could cause flow-on effects on community cohesion and Aboriginal support for the project, for persons residing locally and elsewhere	Yes	Yes	Yes	As above	Aboriginal Cultural Heritage study	Yes - in part	Standard SIA

		built								
		other - please specify								
	COMMUNITY	health								
		safety	An increase in heavy vehicle traffic during construction may impact the community's regular use of the local road network and may cause issues of public safety	Yes	Yes	Yes	As above	Traffic and transport study	Yes - in part	Standard SIA
		safety	Construction may involve activities that have ignition risks during bushfire season including along access tracks	Yes	Yes	Yes	As above	Hazard and risk study	Yes - in part	Standard SIA
		services and facilities	Opportunities for community investment leading to improved and sustainable socio-economic outcomes in the local area through community benefit-sharing program	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		services and facilities	An increase in resourcing and supports to local council(s) through community investment program(s) and/or funding may build capacity of administration and improve service provision over time	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		housing	The incoming construction workforce may affect the local housing supply and local infrastructure and services, esp. if relocating with dependents/families; temporary housing may be required for workers	Yes	Yes	Yes	As above	Employment study	Yes - in part	Standard SIA
		cohesion, capital and resilience	The incoming construction workforce may affect community cohesion by altering the local demography in nearby towns	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		cohesion, capital and resilience	Local Aboriginal targeted engagement in project's economic opportunities may advance socio-economic conditions and capabilities at individual, household and community levels	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		cohesion, capital and resilience	Opportunities for community to contribute to standard setting for renewables sector, bringing about community pride and social cohesion	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		other - please specify								
	ECONOMIC	natural resource use	Project establishment may cause land use conflict if positioning of wind turbines, transmission lines and ancillary infrastructure is perceived to be competing with or replacing agricultural land (grazing and cropping)	Yes	Yes	Yes	As above	Land access plans	Yes - in part	Standard SIA
		livelihood	Large number of employment opportunities through the construction and operations targeting local communities to diversify industries and improve technical expertise, bringing about increased economic capital at individual, household and community levels	Yes	Yes	Yes	As above	Employment study	Yes - in part	Standard SIA
		livelihood	Vocational training and skills development through construction and operations targeting local communities can diversify skill sets bringing about increased human capital at individual, household and community levels	Yes	Yes	Yes	As above	Employment study	Yes - in part	Standard SIA
		livelihood	Income generation and livelihood diversification for property owners hosting critical project infrastructure may improve resilience and income diversification	Yes	Yes	Yes	As above	Economic study	Yes - in part	Standard SIA
		business opportunity	Business opportunities through the supply chain, goods and services provision and contractor opportunities through the construction and operations targeting local businesses and service providers will stimulate the local economies, diversify industries, and increase financial flow in the local area, additional income streams, bringing about enhanced economic capital at the individual, household and community levels	Yes	Yes	Yes	As above	Economic study	Yes - in part	Standard SIA
		business opportunity	Local income-generation from engagements with the project may lead to social disparities between community subgroups if excluded	Yes	Yes	Yes	As above	No	No	Comprehensive SIA
		other - please specify								

*Note that blue shaded cells are impacts identified as positive.

Appendix 5 Risk Assessment

The following tables have been adapted from the 2021 Guideline.

Defining magnitude levels for social impacts

Magnitude level	Meaning
Transformational	Substantial change experienced in community wellbeing, livelihood, amenity, infrastructure, services, health, and/or heritage values; permanent displacement or addition of at least 20% of a community
Major	Substantial deterioration/improvement to something that people value highly, either lasting for an indefinite time, or affecting many people in a widespread area
Moderate	Noticeable deterioration/improvement to something that people value highly, either lasting for an extensive time, or affecting a group of people
Minor	Mild deterioration/improvement, for a reasonably short time, for a small number of people who are generally adaptable and not vulnerable
Minimal	No noticeable change experienced by people in the locality

Defining likelihood levels of social impacts

Likelihood level	Meaning
Almost certain	Definite or almost definitely expected
Likely	High probability
Possible	Medium probability
Unlikely	Low probability
Very unlikely	Improbable or remote probability

Dimensions of social impact magnitude

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

	Dimensions	Details needed to enable assessment
	Level of concern/interest	How concerned/interested are people? Sometimes, concerns may be disproportionate to findings from technical assessments of likelihood, duration and/or intensity.

Social impact significance matrix

Likelihood	Magnitude level				
	Minimal	Minor	Moderate	Major	Transformational
Almost certain	Low	Medium	High	Very High	Very High
Likely	Low	Medium	High	High	Very High
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Very unlikely	Low	Low	Low	Medium	Medium

Appendix 6 Community Profiles and Social Infrastructure

Community profiling

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
People - Demographics and Education (Source ABS 2016)					
Total population (2016)	1290	169	1221	9384	7480228
Male	50.6%	55.8%	49.7%	50.0%	49.3%
Female	49.4%	44.2%	50.3%	50.0%	50.7%
Aboriginal and/or Torres Strait Islander people	4.7%	5.4%	7.7%	9.8%	2.9%
Age Structure (Source ABS 2016)					
0-4 years	5.0%	6.8%	5.3%	5.0%	6.2%
5-9 years	7.9%	11.2%	6.8%	6.7%	6.4%
10-14 years	6.7%	5.6%	6.6%	6.3%	5.9%
15-19 years	5.8%	6.2%	4.3%	5.2%	6.0%
20-24 years	3.8%	2.5%	6.0%	4.2%	6.5%
25-29 years	3.7%	2.5%	3.3%	4.1%	7.0%
30-34 years	4.4%	3.1%	3.6%	3.9%	7.2%
35-39 years	5.2%	6.2%	3.5%	4.4%	6.7%
40-44 years	5.8%	5.6%	5.0%	5.2%	6.7%
45-49 years	6.1%	7.5%	5.7%	6.0%	6.6%
50-54 years	7.3%	5.6%	7.9%	7.4%	6.5%
55-59 years	6.2%	9.3%	5.8%	7.7%	6.3%
60-64 years	7.9%	8.1%	5.6%	7.9%	5.6%
Population between 15 and 65	56.2%	56.6%	50.7%	56.0%	65.1%
65-69 years	6.8%	3.7%	6.9%	7.9%	2.1%
70-74 years	6.6%	6.2%	8.8%	6.5%	3.9%
75-79 years	5.1%	4.3%	7.0%	4.9%	2.9%
80-84 years	3.7%	5.6%	3.6%	3.6%	2.1%
85 years and over	2.0%	0.0%	4.3%	3.2%	2.2%
% Population over 65 years.	24.2%	19.8%	30.6%	26.1%	13.2%
Median Age (years)	46	47	49	49	38

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
Social Marital status (Source ABS 2016)					
Registered Married	55.3%	54.1%	50.5%	49.6%	48.3%
De facto marriage	12.2%	15.3%	12.5%	10.6%	9.4%
not married	32.6%	30.6%	37.0%	39.8%	42.3%
Education (Source ABS 2016)					
Pre-school	4.3%	3.9%	4.3%	4.9%	5.7%
Infants/Primary	26.5%	17.1%	22.8%	25.6%	26.2%
Secondary	20.4%	0.0%	17.5%	19.2%	20.1%
Technical or Further Educational Institution	4.3%	5.3%	7.1%	5.4%	6.2%
University or other Tertiary Institution	4.8%	3.9%	3.0%	4.5%	16.2%
Other type of educational institution	1.8%	0.0%	0.7%	1.1%	2.7%
Not stated	37.9%	69.7%	44.6%	39.4%	23.0%
Level of highest education attainment (Source ABS 2016)					
Bachelor's degree level and above	10.7%	8.9%	7.6%	9.3%	23.4%
Advanced Diploma and Diploma level	7.0%	4.8%	5.6%	5.9%	8.9%
Certificate level IV	3.2%	0.0%	2.1%	2.6%	2.8%
Certificate level III	14.6%	12.9%	12.0%	13.8%	12.0%
Year 12	9.0%	7.3%	12.9%	10.6%	15.3%
Year 11	4.0%	3.2%	2.7%	4.1%	3.3%
Year 10	17.2%	16.1%	16.0%	18.4%	11.5%
Certificate level II	0.0%	0.0%	0.3%	0.2%	0.1%
Certificate level I	0.0%	0.0%	0.0%	0.0%	0.0%
Year 9 or below	14.4%	11.3%	16.0%	14.6%	8.4%
No educational attainment	0.0%	0.0%	0.0%	0.2%	0.9%
Not stated	18.3%	37.1%	22.6%	17.6%	10.3%
People - cultural and language diversity (Source ABS 2016)					
Australian ancestry	33.7%	28.2%	35.0%	36.3%	22.9%
English ancestry	34.0%	28.6%	31.6%	30.8%	23.3%
Scottish ancestry	8.8%	5.9%	5.7%	7.7%	5.9%
Irish ancestry	6.6%	10.5%	8.1%	7.6%	7.5%
Country of birth					
Australia	83.0%	68.2%	77.2%	81.7%	65.5%

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
England	1.9%	1.9%	1.2%	1.7%	3.0%
Languages (Source ABS 2016)					
English only spoken at home	87.7%	71.2%	83.9%	87.3%	68.5%
Households where a non-English language is spoken at home	2.2%		3.2%	3.5%	26.5%
Employment Type (Source ABS 2016)					
Worked Full Time	58.6%	44.0%	55.5%	55.7%	59.2%
Worked part-time	32.7%	34.0%	28.9%	30.6%	29.7%
Away from work	3.5%	8.0%	7.0%	5.9%	4.8%
Unemployed	5.3%	14.0%	8.6%	7.9%	6.3%
Labour force participation (15-85 years) (including those are unemployed looking)	53.0%	38.1%	44.7%	47.0%	65.2%
Occupation (Source ABS 2016)					
Professionals	13.8%	19.0%	11.1%	14.1%	23.6%
Technicians and Trades Workers	13.0%	11.9%	7.7%	10.2%	12.7%
Managers	26.2%	40.5%	29.4%	26.7%	13.5%
Clerical and Administrative workers	7.6%	9.5%	8.6%	8.4%	13.8%
Labourers	13.8%	19.0%	16.8%	14.3%	8.8%
Machinery Operators and Drivers	7.6%		7.9%	6.5%	6.1%
Industry of employment (Source ABS 2016)					
Hospitals (except Psychiatric Hospitals)	5.4%		6.0%	3.8%	3.5%
Primary Education			4.3%	3.4%	1.9%
Combined Primary and Secondary Education	5.4%	11.5%	6.2%		1.0%
Beef Cattle Farming (specialised)	16.1%	19.2%	8.1%	10.7%	0.4%
Sheep Farming (specialised)		11.5%	7.6%	3.3%	0.2%
Building and Other industrial Cleaning Services		11.5%			1.2%
Sheep -Beef Cattle Farming	7.0%	11.5%			0.1%
Local Government Administration	7.0%			5.5%	1.3%
Income (Source ABS 2016)					
Median individual income	498	519	520	479	664
Family	1177	949	1125	1103	1780
Households	975	850	871	878	1486
Method of Travel to Work (Source ABS 2016)					
Car, as driver	54.3%	43.5%	59.0%	55.2%	57.8%

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
Walked only	12.6%	8.7%	8.8%	8.7%	3.9%
Worked at home	13.8%	23.9%	17.1%	14.7%	4.8%
by car as driver or passenger	55.7%	60.0%	59.7%	60.0%	64.6%
Unpaid work (Source ABS 2016)					
did unpaid domestic work	64.7%	49.6%	58.8%	63.2%	67.7%
cared for child/children	25.0%	28.7%	21.5%	22.4%	27.2%
provided unpaid assistance to a person with a disability	11.1%	13.5%	10.1%	13.1%	11.6%
did voluntary work through an organisation or group	28.5%	30.9%	29.2%	28.4%	18.1%
Family composition (Source ABS 2016)					
Couple family with no children	50.3%	51.6%	50.0%	49.4%	36.6%
Couple family with children	36.8%	48.4%	33.6%	32.7%	45.7%
One parent family	11.9%	0.0%	15.1%	16.3%	16.0%
other family	0.9%	0.0%	1.4%	1.6%	1.7%
Employment status of couple families (Source ABS 2016)					
Both employed, worked full-time	25.4%	0.0%	18.8%	19.5%	22.6%
Both employed, worked part-time	5.7%	0.0%	4.9%	4.6%	4.0%
One employed full-time, one part-time	26.2%	26.7%	19.2%	19.2%	20.6%
One employed full-time, other not working	11.5%	13.3%	13.9%	9.9%	15.0%
One employed part-time, other not working	5.0%	10.0%	8.6%	6.9%	6.1%
Both not working	22.6%	23.3%	24.9%	28.7%	21.0%
other (includes away from work)	1.1%	16.7%	4.9%	4.6%	5.1%
Labour force status not stated	2.5%	10.0%	4.9%	6.6%	5.7%
Dwellings (Source ABS 2016)					
Dwelling internet connection	69.2%	51.0%	65.5%	67.0%	82.5%
Occupied private dwellings	79.7%	85.2%	78.5%	82.2%	90.1%
Unoccupied private dwellings	20.3%	14.8%	21.5%	17.8%	9.9%
Separate house	94.8%	100.0%	94.9%	93.6%	66.4%
Semi-detached, row or terrace house, townhouse etc.	0.0%	0.0%	0.0%	1.4%	12.2%
Flat, unit or apartment	1.1%	0.0%	2.8%	2.0%	19.9%
Other dwelling	0.9%	0.0%	0.0%	1.4%	0.9%
Average number of bedrooms per dwelling	3.1	3.2	3.2	3.1	3.1
Average number of people per household	2.4	2.4	2.2	2.3	2.6

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
Owned outright	42.3%	46.9%	48.2%	46.4%	32.2%
Owned with a mortgage	24.2%	24.5%	20.8%	23.0%	32.3%
Rented	29.7%	16.3%	28.1%	25.8%	31.8%
tenure type not stated	2.6%	6.1%	1.8%	3.5%	2.8%
Household structure (Source ABS 2016)					
Family	70.7%	68.8%	68.5%	66.5%	72.0%
Single (or lone)	26.9%	25.0%	29.8%	31.4%	23.8%
Group households	2.4%	6.2%	1.6%	2.0%	4.2%
Household income (Source ABS 2016)					
Less than $650 gross weekly income	30.2%	31.4%	33.2%	33.2%	19.7%
More than $3000 gross weekly income	5.8%	0.0%	4.5%	5.1%	18.7%
Median rent	150.0	60.0	175.0	160.0	380.0
Households where rent payments are less than 30% of householder income	94.0%	100.0%	93.1%	93.8%	87.1%
Households with rent payments greater than or equal to 30% of household income	6.0%	0.0%	6.9%	6.2%	12.9%
Households where mortgage payments are less than 30% of householder income	95.7%	100.0%	97.0%	96.8%	92.6%
Households with mortgage payments greater than or equal to 30% of household income	4.3%	0.0%	3.0%	3.2%	7.4%
Low-income households (households in bottom 40% of income distribution under financial stress from mortgage or rent (source PHIDU 2016)				55.3%	29.3%
Car ownership per dwelling (Source ABS 2016)					
None	4.4%	0.0%	5.9%	6.5%	9.2%
One	29.0%	29.3%	30.9%	32.5%	36.3%
Two	36.4%	43.9%	35.8%	34.3%	34.1%
Three of more	26.2%	26.8%	22.2%	21.3%	16.7%
Not stated	4.0%	0.0%	5.2%	5.4%	3.7%
Population mobility (address) (Source ABS 2016)					
Same address as one year ago	77.4%	62.7%	77.3%	77.0%	84.3%
Same address as five years ago	51.1%	43.8%	54.1%	56.1%	58.0%
At risks and vulnerable groups (Source ABS 2016)					
Aboriginal and/or Torres Strait Islander people	4.7%	5.4%	7.7%	9.8%	2.9%
Provided unpaid assistance to a person with a disability (last two weeks before Census night) (%)	11.1%	13.5%	10.1%	13.1%	11.6%
Highest Educational attainment: Year 9 or below (%)	14.4%	11.3%	16.0%	14.6%	8.4%

Indicator	Coolah SSC 2016	Leadville SSC 2016	Dunedoo SSC 2016	Warrumbungle LGA 2016	NSW
Population aged 65+ (%)	24.2%	19.8%	30.6%	26.1%	13.2%
With need for assistance (person's need for help or assistance in one or more of the three core activity areas of self-care, mobility and communication	4.7%	5.3%	5.0%	7.3%	5.4%
% Learning or earning at ages 15 to 24 (source PHIDU 2016)				72.9%	85.0%
Estimated number of people aged 18 years and over who were obese (modelled estimates) (ASR PER 100) (source PHIDU 2016)				43.1%	29.0%