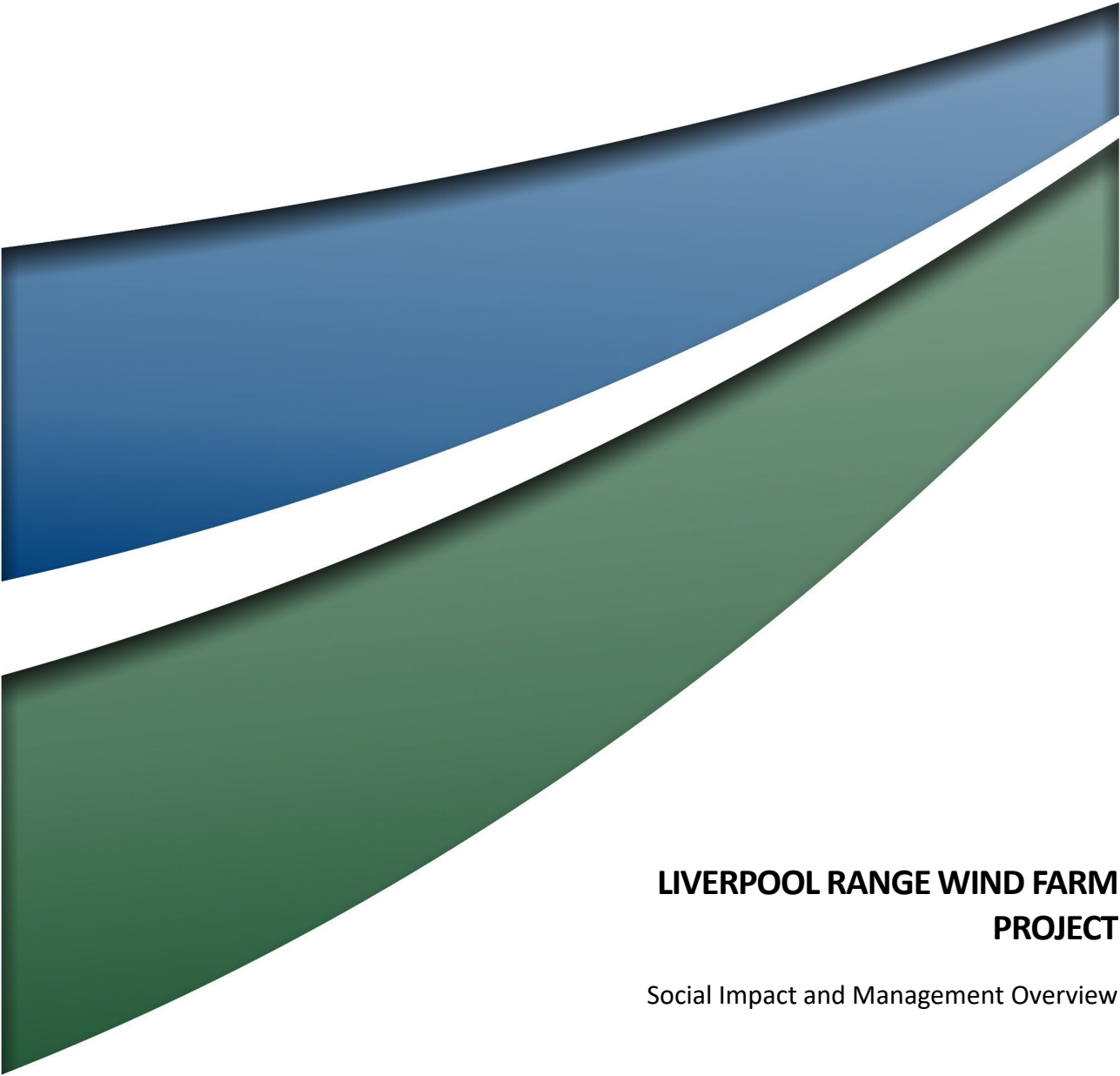




**SOCIAL IMPACTS AND MANAGEMENT OVERVIEW**

**Submissions Report – Appendix 9**

**Amendment Report – Appendix 14**



# **LIVERPOOL RANGE WIND FARM PROJECT**

Social Impact and Management Overview

**FINAL**

July 2023

# LIVERPOOL RANGE WIND FARM

Social Impact and Management Overview

## FINAL

Prepared by

**Umwelt (Australia) Pty Limited**

on behalf of

**Tilt Renewables Australia Pty Ltd as trustee for  
Liverpool Range Wind Farm Project (Tilt  
Renewables)**

Project Director: Dr Sheridan Coakes

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Report No. 23201\_02

Date: July 2023



QMS Certification Services

This report was prepared using  
Umwelt's ISO 9001 certified  
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### **Acknowledgement of Country**

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

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### Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	Dr Sheridan Coakes	10/5/2023	Dr Sheridan Coakes	10/5/2023
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# Executive Summary

This Social Impact and Management Overview (SIMO) document examines the demographic and socio-economic profile of the study area relevant to the Liverpool Range Wind Farm project (the Project). To inform the SIMO, a desktop review of engagement records, technical assessments and secondary data has been used to assess the likelihood and magnitude of these social impacts on various stakeholders. It also presents mitigation and management strategies designed to address salient social impacts (those rated as medium or high).

It is important to note that the SIMO does not constitute a full Social Impact Assessment (consistent with DPE SIA guidance, 2023) but has been prepared to be commensurate with the extent of the impacts identified in the Modification Assessment Report, and associated impact assessments, as well as the impacts identified in the Response to Submissions (RTS) Report prepared by Umwelt in support of the RTS Project.

The social baseline that was developed to inform the SIMO has identified a number of strengths and vulnerabilities in the study area that comprises the Local Government Areas of Upper Hunter, Warrumbungle, Mid-Western and Dubbo. The social locality is characterised by an older population, with all study LGAs, with the exception of Dubbo Regional LGA, having a median age higher than NSW (39 years) (ABS, 2021). The area also has a higher proportion of First Nation's population at 16.6% and 10.7% respectively for the Dubbo and Warrumbungle LGAs. The Upper Hunter and Mid-Western Regional LGAs have lower proportions at 7% and 6.8% respectively; with all LGAs substantially higher than the NSW average of 3.5%.

Lower Socio-Economic Indices for Areas (SEIFA) are also evident for all indicators of socio-economic disadvantage, providing substantial opportunity to enact strategies to increase training, workforce participation and service delivery across the study area. Further social baseline analysis can be found in **Section 2.5**.

The SIMO has identified the following positive impacts in relation to the Project:

- Increased energy security and reliability, and reduced reliance on carbon emitting energy sources.
- Generation of employment opportunities through the construction and operational phases of the Project (refer to the separate Accommodation and Employment Framework (AEF) Report that has been prepared for the RTS Project which presents the way in which Tilt Renewables is working to maximise local procurement and employment).
- Support for community development activities and resources through the Benefit Sharing Plan and Voluntary Planning Agreement.
- Increased economic activity for local businesses including local shops, services, accommodation providers and suppliers.
- Improved accessibility, due to public road upgrades, to be delivered by Tilt Renewables and delivery of access tracks through the wind farm for use for firefighting and other emergency services.

The SIMO has also identified the following negative impacts:

- Reduced availability of short-term accommodation due to the influx of the temporary construction workforce, leading to 'crowding out' of tourists and other visitors.
- Reduced availability and affordability of rental accommodation.
- Reduced access to health service access, due to competition with the project's construction workforce.
- Potential for bird and bat strike and associated loss / deterioration of environmental values held by the community.
- Visual impacts of turbines, resulting in a changed sense of place Consultation fatigue, due to multiple project activities in the region.

For a more detailed description and a full list of identified negative and positive impacts please refer to **Section 5.0**.

The SIMO makes several recommendations to mitigate negative impacts and enhance positive impacts associated with the Project. These include environmental management plans, noise and visual impact mitigation strategies and social management plans, including a Community and Stakeholder Engagement Plan, an Industry and Aboriginal Participation Plan, an Accommodation and Employment Framework, a Construction Communication Plan, a Benefit Sharing Plan and a Complaints Management Plan, including a complaints register (refer to **Section 5.0** for a full listing of mitigation strategies).

# Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>1</b>
1.1	Purpose	1
1.2	Project description	1
<b>2.0</b>	<b>Methodology and Social Baseline</b>	<b>4</b>
2.1	Assessment of Social Impacts and Management Options	5
2.2	Study Limitations	7
2.3	Social Locality	7
2.4	Development Context	9
	2.4.1 Central-West Orana Renewable Energy Zone (CWO REZ)	9
	2.4.2 Host and Proximal Communities	10
2.5	Sustainable Livelihoods Approach – Community Capitals	11
	2.5.1 Natural Capital	11
	2.5.2 Human Capital	12
	2.5.3 Social and Cultural Capital	12
	2.5.4 Economic Capital	13
	2.5.5 Physical Capital	14
	2.5.6 Political Capital	15
2.6	Community Capital Summary	15
<b>3.0</b>	<b>Cumulative Impacts</b>	<b>17</b>
<b>4.0</b>	<b>Stakeholder Engagement</b>	<b>22</b>
4.1	Engagement Activities	22
4.2	Engagement Outcomes	27
<b>5.0</b>	<b>Potential Social Impacts and Management Measures</b>	<b>30</b>
5.1	Impact Overview	30
5.2	Impacts, Mitigations and Management Options	32
5.3	Community Benefit Sharing	32
	5.3.1 Planning Agreement	32
	5.3.2 CWO REZ Access Fees	33
<b>6.0</b>	<b>Conclusion</b>	<b>40</b>
6.1	Social context	40
6.2	Social impacts, and mitigation/management measures	40
<b>7.0</b>	<b>Bibliography</b>	<b>42</b>

## Figures

Figure 1.1	Location of Liverpool Range Wind Farm	3
Figure 2.1	Social impact evaluation process	6
Figure 2.2	Social Impact Significance Matrix	6
Figure 2.3	Regional Geographical Scales for the Social Locality	8
Figure 2.4	Map of the Central West Orana Renewable Energy Zone	9
Figure 4.1	Modification Application Consultation topics summary	27
Figure 4.2	Community Submissions Classification	28
Figure 4.3	Categorisation of Objecting Submissions and submissions received from the RTS	29
Figure 4.4	Economic, Environmental and Social Issues by Theme	29
Figure 5.1	Social Impacts - Community submission analysis	31

## Tables

Table 2.1	Social Impact Assessment Methodology	4
Table 2.2	Key Settlements	8
Table 2.3	Candidate Foundational Generators and Projects in the CWO REZ	10
Table 3.1	Cumulative Impact Table	18
Table 4.1	Key engagement activities	22
Table 5.1	Potential Social Impacts	34

# 1.0 Introduction

## 1.1 Purpose

Tilt Renewables Australia Pty Ltd, as trustee for the Liverpool Range Wind Farm Project (Tilt Renewables), is seeking to develop the Liverpool Range Wind Farm (the Project), located in the Central-West Orana Renewable Energy Zone (CWO REZ), New South Wales (NSW) (as shown in **Figure 1.1**). Further detail regarding the Project is provided in **Section 1.2**.

This report provides a desktop review of social impacts associated with the Project, outlines existing mitigations identified by Tilt Renewables, and presents recommendations for additional enhancement and mitigation activities designed to address the project's social impacts (refer to **Section 2.5** for assumptions and limitations of the review).

The Social Impact and Management Overview (SIMO) document has been developed to meet the following objectives:

- To identify social impacts and opportunities associated with the Project.
- To document engagement and investigations undertaken by Tilt Renewables to-date.
- To consider cumulative social impacts of multiple projects occurring concurrently in the CWO REZ.
- To identify potential mitigation and management strategies to address predicted social impacts to respond to submissions and questions raised by stakeholders during the Project's public exhibition phase, including submissions by the Warrumbungle and Upper Hunter Shire Councils.

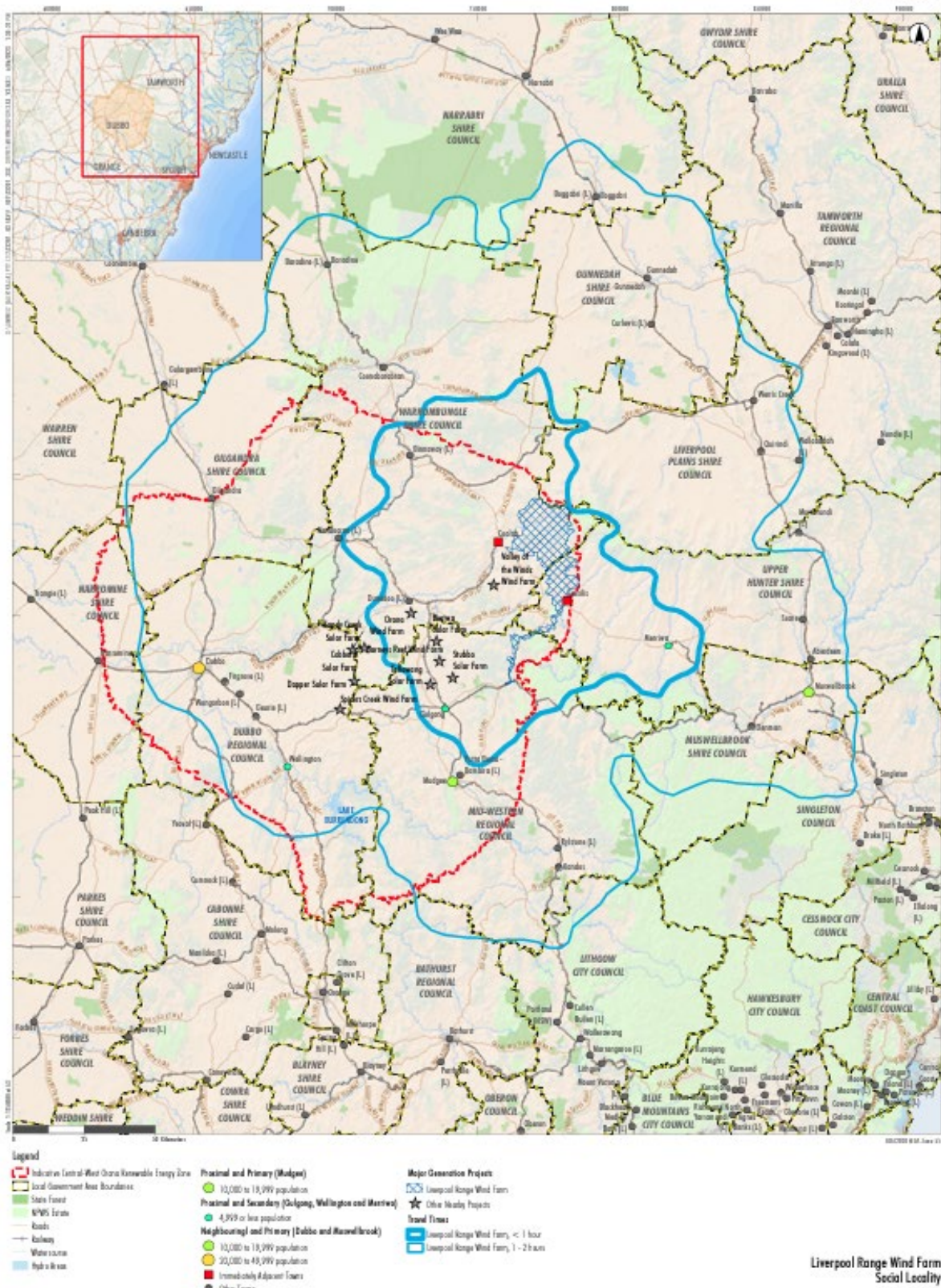
## 1.2 Project description

The Liverpool Range Wind Farm (the Project) is a proposed wind farm with a nameplate capacity of approximately 1,320 megawatts (MW) (the Modified Project). The Project is located on the eastern edge of the CWO REZ between the Coolah and Cassilis townships, and extends across three local government areas (LGAs), these being the Warrumbungle Shire Council (WSC), Upper Hunter Shire Council (UHSC) and Mid-Western Regional Council (MWRC), as illustrated in **Figure 1.1**.

State Significant Development Consent SSD 6696 (the Development Consent) was granted in 2018 for up to 267 turbines with a maximum blade tip height of 165 metres (m) above ground level (AGL) and includes a 45 km transmission line connection between the wind farm and the connection point at Ulan (the Approved Project).

The Project is currently subject to an application to modify the Development Consent which is being assessed by the Department of Planning and Environment (DPE) under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). Following a statutory public exhibition process that was held between 20 September and 17 October 2022, the Project is now in the Response to Submissions (RTS) phase of the assessment process.

Following a review of all submissions received and consultation with a number of key stakeholders, material changes have been made to the Project, including seeking approval for an increase to the maximum blade height to 215 m AGL (previously up to 250 m was proposed) and a reduction in the number of turbines from 220 (previously proposed) to 185 (the RTS Project).



**Figure 1.1** Location of Liverpool Range Wind Farm

## 2.0 Methodology and Social Baseline

The approach adopted in identifying potential social impacts in relation to the Project is summarised in Table 2.1. The methodology has been developed with reference to the Department of Planning and Environment’s Social Impact Assessment Guidelines however, as previously noted, is not a full SIA, given that a full SIA was not requested by the DPE.

**Table 2.1 Social Impact Assessment Methodology**

Approach	Purpose	Details / Sources
<b>Social Baseline Analysis</b>	<ul style="list-style-type: none"> <li>To identify and define the ‘area of social influence’ or study area for the Project (see <b>Figure 3.1</b> for a description).</li> <li>To identify key demographic and economic trends and characteristics.</li> <li>To identify areas or populations with greater levels of disadvantage.</li> <li>To identify opportunities to enhance regional social and/or economic strengths.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of quantitative data derived from the Australian Bureau of Statistics (ABS) and Public Health Information Development Unit (PHIDU).</li> <li>Analysis of relevant policy documents, including Federal, State, and local plans, local health, community and well-being strategies and local environmental policies.</li> </ul>
<b>Stakeholder Identification</b>	<ul style="list-style-type: none"> <li>To identify key stakeholders with potential interest in the Project.</li> <li>To identify key areas of potential conflict, concern and/or opportunity.</li> </ul>	<ul style="list-style-type: none"> <li>Review of Tilt Renewables consultation records and public submissions on the Project.</li> <li>Outcomes of the social baseline analysis.</li> <li>Review of relevant stakeholder databases and other data sources e.g., community directories.</li> </ul>
<b>Community Perception Analysis</b>	<ul style="list-style-type: none"> <li>To identify community values within the social locality.</li> <li>To understand existing attitudes towards renewable energy in the CWO REZ.</li> </ul>	<ul style="list-style-type: none"> <li>Review of Tilt Renewables consultation records and submissions on the Project.</li> <li>Analysis of media on the Project and renewable energy in the CWO REZ more broadly.</li> <li>Review of other Environmental Impact Statement (EIS) studies and documentation relating to proximal renewable energy and other development projects.</li> </ul>
<b>High level assessment of Social Impacts and Management Options</b>	<ul style="list-style-type: none"> <li>To apply regional and community insights to the Project context.</li> <li>To inform project design, impact management and enhancement based on assessment of key social impacts and opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>Review of environmental technical studies undertaken for the Project.</li> <li>Interpretation of data sources analysed during the development of the social baseline and community perception review.</li> </ul>

Approach	Purpose	Details / Sources
	<ul style="list-style-type: none"> <li>To apply insights from other technical assessments in the consideration of social impacts and opportunities.</li> <li>To develop and identify social impact mitigation, management, and enhancement opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>Application of DPE guidelines for the evaluation of social impacts - likelihood and magnitude (NSW Government, Department of Planning and Environment, 2021)</li> </ul>

## 2.1 Assessment of Social Impacts and Management Options

Quantitative and qualitative information collected through engagement activities (undertaken by Tilt Renewables) and baseline data analysis has been compiled and analysed to inform the identification of potential social impacts associated with the Project.

Each project activity has been assessed according to its potential impacts on people, including consideration of the potential for cumulative impacts; with potential measures to reduce or mitigate negative impacts and enhance positive impacts considered.

Social impacts have been assessed in line with industry and international best practice guidance (NSW Government, Department of Planning and Environment, 2021; IAIA, 2015), with an overview of the impact evaluation process presented in **Figure 2.1**.



**Figure 2.1 Social impact evaluation process**

Source: Umwelt, 2023, Adapted from

Figure 2.2 provides an overview of the social impact significance matrix, illustrating how impact magnitude and likelihood are considered to create overarching significance ratings. Mitigation and enhancement strategies are then considered for social impacts identified as medium, high or very high.

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

**Figure 2.2 Social Impact Significance Matrix**

Source: (NSW Government, 2023)

## 2.2 Study Limitations

This assessment constitutes a desktop review of social conditions in the Project's social locality and includes a high-level assessment of potential social impacts and management options, based on of the existing and available information and technical expertise. It does not constitute a full Social Impact Assessment for the Project as discussed with the DPE, given the stage of the project and previous impact work undertaken.

Desktop data and engagement records gathered by Tilt Renewables have been used to obtain insight into the potential social impacts of the Project. This information has been supplemented with additional secondary data review, as appropriate.

## 2.3 Social Locality

The 'study area' or 'social locality' relevant to the Project, is defined as including the:

- Landholdings, property owners and residents situated on, or nearby, the Project Area as well as the footprint of any ancillary infrastructure.
- The proximal townships of Cassilis, Gulgong, Merriwa, Coolah and Dunedoo (within 60 minutes' drive of the Project).
- The neighbouring primary-order settlements of Dubbo and Muswellbrook (between 60 to 120-minutes' drive of the Project).
- The host Local Government Areas (LGA) of Warrumbungle Shire, Upper Hunter Shire and Mid-Western Regional Council.
- The adjacent service LGA of Dubbo Regional Council.
- **Figure 2.3** provides an overview of the Local Government Areas and settlements considered in this study, including the ABS geographical boundaries used in the demographic analysis.

# Central West Orana Region



**Figure 2.3 Regional Geographical Scales for the Social Locality<sup>1</sup>**

Source: Umwelt, 2021

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

\* SUA – Significant Urban Areas (SUAs) represent Urban Centres, or groups of Urban Centres, that contain population of 10,000 persons or more. They are based on Urban Centres and Localities (UCLs) and built from Statistical Areas Level 2 (SA2).

Table 2.2 provides a justification for inclusion of the settlements in the assessment.

**Table 2.2 Key Settlements**

Settlement Type	Township	Reason for inclusion
Geographically adjacent (within 30min drive)	Cassilis (278) Coolah (1,262)	These settlements are included due to their physical proximity which indicates that they may be most likely to be impacted by the Project, and more likely to provide services or accommodation to support the Project.
Proximal (within 60-minute drive) and primary order (population over 10,000 people) (SAL)	n/a	
Proximal (within 60-minute drive) and secondary order (population between 1,000 and 10,000 people)	Gulgong (2,680) Merriwa (1,825) Coolah (1,262) Dunedoo (1,097)	
Neighbouring (between 60 to 120-minute drive) and primary order (population over 10,000 people)	Dubbo (40,578) Muswellbrook (12,272)	These settlements are included due to the size of their populations which means these localities are likely to serve as higher-order townships with a greater density of businesses, services, infrastructure, and potential residential locations for project workforces.

Source: (Umwelt, 2023; ABS, 2021)

<sup>1</sup> Please note, this document considers the township of Muswellbrook due to its proximity and population size but does not include demographic analysis of the Muswellbrook Shire LGA.

## 2.4 Development Context

### 2.4.1 Central-West Orana Renewable Energy Zone (CWO REZ)

The Project is located within the Central-West Orana Renewable Energy Zone (CWO REZ). Renewable Energy Zones are designed to group new wind and solar power generation into locations where it can be efficiently stored and transmitted across NSW. Five zones have been identified in NSW and are being developed to deliver large amounts of new energy to power regions and cities across NSW, as coal-fired power stations are retired.

As **Figure 2.4** illustrates, the CWO REZ covers approximately 20,000 square kilometres and encompasses the townships of Dubbo, Mudgee, Wellington, Gulgong, and Coolah. It crosses the borders of the Upper Hunter Warrumbungle, Dubbo Regional and Mid-Western Regional LGAs and is situated on the land of the Wiradjuri, Wailawan and Kamilaroi people.



**Figure 2.4** Map of the Central West Orana Renewable Energy Zone

Source: EnergyCo, 2022

The CWO REZ was the first REZ to be declared in Australia and has enormous potential for the development of solar and wind projects to contribute energy to the National Electricity Market (NEM). The Energy Corporation of NSW (EnergyCo) is currently leading the development of the REZ Network Infrastructure (RNI) which is the transmission backbone for connecting wind and solar farms and which will facilitate energy distribution across NSW. EnergyCo is engaging with large generators to coordinate the approach for developing the first stage of the CWO REZ and has nominated 11 Candidate Foundational Generators

(CFGs) of which Tilt Renewables and the Liverpool Range Wind Farm project is one. The Liverpool Range Wind Farm is one of the most advanced staged projects currently in the REZ.

**Table 2.3** identifies the CFGs projects within the CWO REZ.

**Table 2.3 Candidate Foundational Generators and Projects in the CWO REZ**

Major Generators	Major Generation Projects	Distance from project
Tilt Renewables	Liverpool Range Wind Farm	
RES Australia	Barneys Reef Wind Farm	65km South-West
	Tallawang Solar Farm	65km South-West
ACEN (previously UPC/AC Renewables)	Birriwa Solar Farm	82km South-West
	Stubbo Solar Farm	
	Valley Of The Winds Wind Farm (located west of Coolah township)	
Marble Energy – Co	Cobbora Solar Farm	47km South-West
Origin Energy	Dapper Solar Farm	80km South-West
Acciona Energy Australia	Orana Wind Farm	84km South-West
Lightsource bp	Sandy Creek Solar Farm	85km South-West
Squadron Energy	Spicers Creek Wind Farm	58km South-West

Source: EnergyCo, 2022

## 2.4.2 Host and Proximal Communities

The townships of Coolah and Cassilis are the two most proximal communities to the Project and are likely to experience the largest share of impacts. Further detail on these localities is provided below.

### 2.4.2.1 Coolah

Coolah is a small rural town in the north-eastern corner of the Warrumbungle LGA. It has a population of 1,262 people, with 7.8% of the population identifying as Aboriginal and/or Torres Strait Islander.

The community is largely based around farming with the two largest industries of employment being Beef Cattle Farming (Specialised) (10.8%) and Sheep-Beef Cattle Farming (6.7%) (ABS, 2021). Historically the area had a large timber industry with logging camps and mills dotted across the landscape. Coolah is often referred to as “The Home of the Black Stump” in reference to the colloquial saying “beyond the Black Stump” where supposedly in 1826 Governor Darling proclaimed the border of colonial settlement.

Coolah is also known as being the gateway to the Coolah Tops National Park. The National Park is popular with those who are interested in bushwalking, mountain biking and camping. In terms of community infrastructure in the town, there is a swimming pool, visitors centre, a library, a central public school, and a catholic school (Coolah, 2023).

The Coolah population has a median age of 47 years, with the median age increasing from 42 in 2011. This is significantly higher than the state median of 39 years, but below the median of the Warrumbungle Shire broadly (50 years). Coolah had an median weekly household income of \$1,162 which is lower than the state median of \$1,829 (ABS, 2021).

### 2.4.2.2 Cassilis

Cassilis is located in the Upper Hunter Shire Council on the western fringes of the LGA. The village has a population of 278. The entire village is heritage listed, providing some constraint in developing new dwellings (Upper Hunter Country, 2023).

Farming is the main employer in the town, with the two largest industries of employment also being Beef Cattle Farming (Specialised) (24%) and Sheep-Beef Cattle Farming (8.3%). Cassilis has a median age of 42 years, which is in line with the median age of the Upper Hunter LGA (42). The median age of the village's population is gradually rising from 39 years in 2006 to 41 in 2011 and 42 in 2021. The median weekly household income in Cassilis is \$1,375, which is lower than both the state median \$1,829 and the Upper Hunter Shire median of \$1,429 (ABS, 2021)

In terms of community infrastructure, Cassilis has a library (open once a week for five hours (Upper Hunter Libraries, 2022)), and the closest school and hospital is located in Merriwa which is around a 30-minute drive away.

## 2.5 Sustainable Livelihoods Approach – Community Capitals

To understand the communities of interest to the Project and to evaluate their resilience and adaptive capacity to change, the social baseline has utilised the Sustainable Livelihoods Approach (U.K. Department for International Development [DFID] 1999). This methodology has been further developed by Coakes and Sadler (2011) to reflect a seven capitals approach, with consideration of human, social, cultural, natural, physical, political, and economic/financial capital. Elements of each capital area are further outlined below for the relevant LGAs within the social locality.

### 2.5.1 Natural Capital

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

Within the region, there is a strong history of agriculture, with viticulture and winemaking dating back to the 1850s. The primary agricultural industries in the Mid- Western Regional LGA include wool (worth \$28.4 million), cereal crops (worth \$27.4 million), and cattle and calves (worth \$16.3 million); with similar agricultural pursuits also evident in the Warrumbungle Shire LGA, with cattle and calves the largest industry (\$46.2 million) followed by cereal crops (\$23.5 million) and wool (\$16.9 million) (NSW Government, 2016). The Agriculture, Forestry & Fishing industry sector also makes the greatest contribution to the Upper Hunter LGA's economic output, which at \$472.4 million accounts for 23.97% of total output (Remmplan, 2023).

The region is rich in minerals, with mining (predominantly coal mining) contributing \$270 million to the local economy. Further, the State of the Environment Report (2017-18) suggests that in the period between 2014-2018, there has been an increase in the land area covered by mining and exploration titles.

The Goulburn River National Park located east of Mudgee, and the Warrumbungle National Park west of Coonabarabran are popular tourist destinations. The Warrumbungle National Park is home to the internationally significant Siding Spring Observatory which is a critical piece of national infrastructure that provides jobs and attracts tourists. The Upper Hunter LGA also has five National Parks within its

boundaries. Tourism in the Warrumbungle LGA is centred mainly around two national parks in the boundaries of the LGA; Warrumbungle National Park, Australia’s first Dark Sky Park, and the Coolah Tops National Park.

Water supply deficiencies (of more than 50% by 2036) are forecast for the Mid-Western Region. New water security projects and water management initiatives, such as stormwater harvesting and innovative water management approaches, are currently being employed to improve water security (NSW Government, 2016). Extended drought conditions and large-scale bushfires have negatively affected agricultural communities in recent years (BOM, 2021). The Upper Hunter Shire Council also encompasses Glenbawn Dam, which supplies water and electricity for the Hunter Valley (Water NSW, 2023).

## 2.5.2 Human Capital

The level of human capital within a community is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of vulnerable or at-risk groups within the community. In relation to human capital, the social area of influence has the following characteristics.

Characteristic	Description
<b>Lower recent rates of population growth</b>	Across the LGAs of Upper Hunter, Dubbo and Mid-Western between 2011 and 2021, population grew by 3.45%, 16.11%, and 15.21% respectively while Warrumbungle Shire fell by 3.78%. All LGAs grew at rates below the NSW average of 16.68% for the previous decade.
<b>Lower future rates of population growth</b>	Dubbo and Mid-Western LGAs are expected to grow by 7.36% and 7.16% respectively between 2021 and 2031, while both Upper Hunter and Warrumbungle Shire are expected to lose population by 3.33% and 9.38% respectively. This compares to an anticipated 10.7% increase in population across NSW for the same time period.
<b>An older median age</b>	Mid-Western Regional (42), Warrumbungle Shire (50) and Upper Hunter Shire (42) all feature higher median ages than NSW (39). Only Dubbo Regional LGA (36) features a median age lower than the NSW average. Similarly, Mid-Western Regional (20.7%), Warrumbungle Shire (28.5%) and Upper Hunter Shire (21.2%) all feature a higher proportion of residents over the age of 65 than the NSW proportion of 17.7%.
<b>An emphasis on trade qualifications and related skills</b>	All study areas feature significantly lower levels of university education than the state average of 27.8%, with the lowest being Warrumbungle, with only 10.2% of the population holding a bachelor’s degree or above. The locality does have high levels of those with a vocational education, in most cases, with more than double the population having a vocational degree. This is most acute in Mid-Western where 13.3% have a university degree, and 32.3% have a vocational qualification.
<b>Low rates of unemployment</b>	The region is characterized by low levels of unemployment. All study LGAs apart from Warrumbungle Shire demonstrated lower levels of unemployment than the rest of the state (4.9%)

Source: (ABS, 2021) (National Skills Commission, 2022) (DPE, 2022).

## 2.5.3 Social and Cultural Capital

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

This section provides a summary of the key characteristics of the social locality from a social and cultural capital perspective.

Characteristic	Description
<b>Higher volunteering rates</b>	Rates of volunteering within the communities were higher than the NSW average (10.2%) across all LGAs. Warrumbungle and Upper Hunter LGAs recorded the highest rates at 18% and 13.4% respectively, often indicative of higher levels of community cohesion and more typical in older populations.
<b>A stable population</b>	The area has a stable population. Warrumbungle and Upper Hunter had the least transience with 55.4% and 54.1% of the population respectively living at the same address five years ago, above the state average of 50.7%.
<b>A greater First Nations population</b>	The region has a greater First Nations population, at 16.6% and 10.7% respectively for Dubbo and Warrumbungle LGAs. The Upper Hunter and Mid-Western have lower proportions at 7% and 6.8%. However, all LGAs are substantially higher than the NSW average of 3.4%.
<b>Low percentage of languages other than English spoken at home</b>	Across NSW, 29.5% of people speak more than just English at home. Across the study areas, the highest rate is 9.2% in Dubbo Regional, with the lowest being in Warrumbungle Shire at 4.1%.
<b>High proportion of individuals born in Australia</b>	Over 79% of the population in the social locality were born in Australia, significantly higher than the state average of 65.4%.

Source: (ABS, 2021), (.id Community, 2022) (Coast Community News, 2021)

## 2.5.4 Economic Capital

Examining a community's economic capital involves consideration of several indicators, including industry and employment distribution, workforce participation and unemployment, income levels and cost of living pressures, such as weekly rent or mortgage repayments. The following provides a summary of the key characteristics of the communities within the social locality from an economic capital perspective.

Characteristic	Description
<b>Relevant industries of employment</b>	The largest industry in the region, by employment, is coal mining, with this industry being the largest employer in both Mid-Western and Upper Hunter at 17.5% and 10.6% respectively (Remmplan, 2023) The construction industry also features in three of the four LGA's within the top five industries by regional value. Such industry experience is directly relevant to the renewable energy sector and consequently skills are likely to be transferable.
<b>Significant rates of economic output from Agriculture, Forestry &amp; fishing, mining, and construction</b>	Over a third (34.2%) of the economic output from Warrumbungle LGA comes from the Agriculture, Forestry & Fishing industry; with this sector also providing close to a quarter of economic output (24%) in the Upper Hunter LGA. In Mid-Western Regional LGA the economy is dominated by mining, with 55.9% of economic output from this sector. Dubbo Regional LGA's economic make up is significantly different from the rest of the localities, being dominated by Manufacturing (17.4%) and Construction (12.8%) (Remmplan, 2023).
<b>Tourism centred on the region's natural capital</b>	Tourism in the Warrumbungle LGA is centred mainly around two national parks located within the boundaries of the LGA; Warrumbungle National Park, Australia's first Dark Sky Park, and the Coolah Tops National Park.

Characteristic	Description
<b>Low household income and rapidly rising rent</b>	All LGAs demonstrated lower than average household incomes. This is offset by a lower cost of living in the social locality in relation to median house price and average rent. Rent prices in the study area have risen more quickly than the state average, between September 2018 and September 2022 increasing by 14% across the state. In the Mid-Western Regional LGA rents rose by 37% across the same time period, partially driven by city-to-region migration patterns associated with COVID-19.
<b>High rates of homeownership</b>	All LGAs apart from Dubbo Regional feature higher rates of homeownership (either with or without a mortgage) than the NSW average. Warrumbungle Shire features 72% homeownership, in line with many localities that have an older and more rural population.

Source: (ABS, 2021) (.id Community, 2022) (National Skills Commission, 2022) (Remmplan, 2023)

## 2.5.5 Physical Capital

Physical or built capital includes provision of infrastructure and services to the community. Within this capital area it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, services, and utilities) as well as housing. In relation to physical capital, the social locality is characterised by:

Characteristic	Description
<b>Low rental vacancy</b>	The rental vacancy rates across the key townships are low, with only Dubbo (1.03%) and Mudgee (1.65%) having vacancy rates above 1%. Coonabarabran has the lowest vacancy rate (0.05%) closely followed by Dunedoo (0.14%). The key townships have a weighted average rental vacancy rate of 1.08%, similar to the NSW average (0.91%).
<b>Transmission Line Infrastructure</b>	The Project is proposed to be developed within the Central West Orana Renewable Energy Zone. A key component of the delivery of the REZ is the construction of new transmission lines, substations, and associated infrastructure to enable the estimated 3 gigawatts of new network capacity that the REZ is expected to supply.
<b>Dubbo Regional Airport</b>	Dubbo Regional Airport services the Central West Orana Region. The airport provides regular services to Sydney, Brisbane, and Melbourne, whilst also offering flights to other regional centres such as Broken Hill, Walgett and Lightning Ridge
<b>Health Infrastructure</b>	The entire CWO REZ is encompassed in the Western NSW Local Health District, except for a portion of the Upper Hunter LGA which is a part of the New England Public Health Network (PHN). The largest hospital is Dubbo Hospital, which has a 160-bed acute inpatient service and provides 200,000 specialist outpatient appointments per year. Dubbo also serves as a base for The Royal Flying Doctor Service.
<b>Limited health facilities outside of Dubbo Regional LGA</b>	There is limited access to health professionals and facilities outside of the Dubbo Regional LGA, within the social locality, and across the CWO REZ more broadly. Dubbo Regional also has significantly more GPs per 100,000 people (127.7) with the remaining three LGAs all having less than 100 GPs per 100,000 people. Warrumbungle Shire has the smallest number of GPs at only 65.2 per 100,000 people.  When looking at the number of health specialists per 100,000, provision is even more limited, with Upper Hunter and Warrumbungle both reporting 0.0 and Mid-Western not having any data available. Dubbo Regional LGA reports 149.9 specialists per 100,000. (PHIDU, 2020). These health gaps are amplified by the relative geographic isolation of the project, with Warrumbungle Shire Council located in the north-eastern corner of the REZ.
<b>Long distances to larger towns</b>	The project is located on the north-eastern border of the CWO REZ. The closest town is Coolah with a population of 1,262. The project is isolated from many of the key regional centres within the REZ such as Dubbo or Mudgee, making it more difficult to access services, resources and labour etc.

Source: (ABS, 2021) (DANTIA, 2020) (Destination NSW, 2019) (Realestat Investar, 2023)

## 2.5.6 Political Capital

Political capital refers to the individuals, institutions, and systems that contribute to a community’s ability to maintain and uphold a governance structure. Political capital can determine the extent to which people are able to participate in decisions that affect their lives, the level of democratisation within a community, and the resources provided for this purpose. A summary of the political capital relating to the social locality is provided below.

### 2.5.6.1 Government

The project overlaps the LGAs of Warrumbungle Shire, Upper Hunter Shire and the Mid-Western Regional Council Area. The three LGAs all have nine councillors respectively, including both the mayor and deputy mayor roles.

At the state level, the project overlaps with the electorates of Upper Hunter and Barwon. Upper Hunter is represented by the Nationals MP Dave Layzell and Barwon is represented by the Independent MP Roy Butler, who has been an independent since 2022, having been formerly elected as a member of the Shooters, Fishers and Farmers Party. Directly adjacent to both these two electorates is the seat of Dubbo, currently held by the Nationals MP, Leader of the Nationals and Deputy Leader of the Opposition, Dugald Saunders. He is also the Shadow Minister for Regional NSW and Shadow Minister for Agriculture and Natural Resources.

At the Federal level, the project overlaps the two electorates of New England and Parkes. New England is represented by the Nationals MP Barnaby Joyce and Parkes by the Nationals MP Mark Coulton.

### 2.5.6.2 Traditional Custodians

In the Upper Hunter Shire LGA the traditional custodians are the Wonnarua/Wanaruah peoples. The northern part of the Warrumbungle Shire is home to the Gamilaraay (also known as Kamilaroi) people, while the southern part of the shire is home to the Wiradjuri people. The nations of the Weilwan and Kawambarai (Werriri) intersect the Warrumbungle Shire on the western border. The Mid-Western Regional LGA and Dubbo Regional LGA reside entirely in the Wiradjuri nation.

There are two main Land Councils; the Central and Northern Land Councils. Within the Central Region there is also the Dubbo, Wellington, Mudgee and Gilgandra Local Aboriginal Land Councils. The Northern Region includes the Wanaruah, Walhallow and Coonabarabran Local Aboriginal Land Councils (NSW Aboriginal Land Council, 2023).

## 2.6 Community Capital Summary

The following table summarises the findings of the capitals analysis, highlighting regional attributes with relevance to the Project and its likely impacts.

Capital	Summary
Natural Capital	<ul style="list-style-type: none"> <li>The Social locality of the project is rich in natural resources with the presence of multiple national parks, one of which is Australia’s only Dark Sky Park, the Warrumbungle National Park.</li> </ul>

Capital	Summary
	<ul style="list-style-type: none"> <li>The region is rich in minerals and associated activities, with coal being the predominant resource.</li> </ul>
<b>Human Capital</b>	<ul style="list-style-type: none"> <li>The localities are predicted to have low positive or negative population growth in the next 20 years.</li> <li>All localities except for Dubbo Regional LGA (36) have a substantially higher median age than the state median (39 years)</li> <li>The region is characterized by low levels of unemployment, with all study LGAs, except for the Warrumbungle Shire, having lower levels of unemployment than the rest of the state (4.9%)</li> </ul>
<b>Social Capital</b>	<ul style="list-style-type: none"> <li>The social locality has higher levels of volunteering and a more stable population, both features of regional communities with older populations and a strong connection to place.</li> </ul>
<b>Cultural Capital</b>	<ul style="list-style-type: none"> <li>All localities have at least double the proportion of their population that comprise First Nations people compared to the state average (3.4%)</li> <li>The traditional custodians of the two key LGAs are the Wonnarua/Wanaruah peoples in the Upper Hunter Shire and the Gamilaraay Weilwan and Kawambarai (Werriri) peoples in the Warrumbungle Shire.</li> </ul>
<b>Economic Capital</b>	<ul style="list-style-type: none"> <li>All LGAs except for Dubbo feature higher rates of homeownership (either with or without a mortgage) than the NSW average. Warrumbungle Shire demonstrates 72% homeownership, again characteristic of localities with an older and more rural population.</li> <li>Rent prices in the study area have risen more quickly than the state average. Between September 2018 and September 2022 rents rose by 14% across the state, while in the Mid-Western Regional LGA rents rose by 37% across the same time frame.</li> </ul>
<b>Physical Capital</b>	<ul style="list-style-type: none"> <li>The rental vacancy rates across the key townships are low. Only Dubbo (1.03%) and Mudgee (1.65%) have vacancy rates above 1%. Coonabarabran has the lowest vacancy rate (0.05%), closely followed by Dunedoo (0.14%).</li> <li>The project area is on the north-east corner of the CWO REZ, isolated from key regional centres. This isolation is further emphasized by the lack of health services within the area when compared to other parts of the REZ.</li> </ul>
<b>Political Capital</b>	<ul style="list-style-type: none"> <li>The project overlaps three LGAs (Mid-Western, Warrumbungle &amp; Upper Hunter), two state electorates (Butler &amp; Barwon) and two federal electorates (New England &amp; Parkes)</li> <li>The project will cover two land councils, the Central and Northern Land Councils.</li> </ul>

## 3.0 Cumulative Impacts

The CWO REZ is experiencing rapid project development, with projects either approved or in planning and assessment phases. The CWO REZ will eventually host numerous large-scale, wind, solar and battery storage facilities.

The development of multiple large-scale wind projects within proximity to communities can cause a range of cumulative impacts to people and to the environment (Victorian Select Committee on Wind Turbines 2014, NSW Wind Energy Guideline 2016). For instance, cumulative project workforces may place overlapping strain on housing and accommodation, on local services and may impact community cohesion and sense of place.

In contrast, multiple projects may support growing supply chains, regional skill development and provide opportunities for the use of shared infrastructure. There is also the potential for cumulative benefits to arise from combining benefit sharing funds (including VPAs) across multiple projects to maximise community benefits for communities that are most affected by renewable energy project development.

**Table 3.1** summarises the location of various projects within the region and is not restricted to only renewable energy projects. Projects are listed according to their development status (in planning, response to submissions, approved, under construction, operational) to assist in identifying where cumulative impacts may be experienced with projects that are likely to overlap/correspond with timing of the proposed Liverpool Range Wind Farm Project construction period.

**Table 3.1 Cumulative Impact Table**

Development Name	Overview	Status	Development Timelines and Workforce Details	Driving Distance from Project	Identified Positive and Negative Social Impacts
<b>In Planning</b>					
<b>Orana Wind Farm/ Acciona</b>	The proposed Project will generate up to 700MW, with ancillary infrastructure, including on-site substations, and the potential for energy storage.	In Planning	250 Jobs during construction 10 ongoing full-time positions on completion. Construction anticipated to begin in 2025/2026. Expected to be operational in 2027/2028.	42min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>likely</b> given overlapping construction timeframes and proximity of projects</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes and shared workforce/ procurement requirements</li> </ul>
<b>Barney's Reef Wind Farm/ RES</b>	Wind Farm with 60 turbines and associated infrastructure. Approx. 440MW.	In Planning – prepare EIS	A peak of 250 workers on site. Construction expected to commence July 2024 and last until approximately March 2027	1hr 10min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>limited</b> given overlapping construction timeframes but larger distances between projects</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes and shared workforce/ procurement requirements</li> </ul>
<b>Tallawang Solar Farm/ RES</b>	RES is proposing a 500MW solar farm with associated infrastructure.	In Planning – prepare EIS	A peak of 526 workers on site. Construction expected to commence July 2024 and last until approximately March 2027	1hr 10min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>limited</b> given overlapping construction timeframes and larger distances between projects</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes</li> </ul>

Development Name	Overview	Status	Development Timelines and Workforce Details	Driving Distance from Project	Identified Positive and Negative Social Impacts
<b>Spicers Creek Wind Farm/ Squadron Energy</b>	117 Wind Turbines creating 700MW of electricity.	In Planning – Prepare EIS	Construction workforce of 320.	1hr 20min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>limited</b> given overlapping construction timeframes and larger distances between projects.</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes</li> </ul>
<b>Central West Orana REZ Transmission Project/ EnergyCo</b>	Development of new twin double circuit 500 kV transmission lines between Wollar and the proposed substations at Merotherie and Elong Elong, and connections from these lines to renewable energy generation and storage projects in the CWO REZ.	Planning phase	Peak workforce of 650 people, with a construction timeline of 36 months. Construction to commence in either late 2023 or early to mid-2024	-	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>likely</b> given overlapping construction timeframes and proximity between projects.</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes.</li> </ul>
<b>Burrendong Wind Farm – Epuron</b>	400MW Wind Farm, with 69 turbines.	In Planning	Peak workforce of 250, approx. construction timeframe of 24 months.	2hr, 5min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing is <b>unlikely</b> given non-overlapping timeframes and distance between projects</li> </ul>

Development Name	Overview	Status	Development Timelines and Workforce Details	Driving Distance from Project	Identified Positive and Negative Social Impacts
<b>Response to Submission</b>					
<b>Valley of the Winds Wind Farm/ ACEN</b>	Wind farm that will generate 800MW of power, through 148 wind turbines.	In development Current status: response to submissions	550 direct and indirect jobs during construction and 50 ongoing jobs over the life of the projects. Construction expected to commence in 2024.	26 minutes Southwest	<ul style="list-style-type: none"> <li>Cumulative impact on housing and access to services is <b>very likely</b> given overlapping construction timeframes and proximity between projects.</li> <li>Potential for economic benefit and shared employment opportunities are <b>likely</b> due to overlapping timeframes and share workforce/ procurement requirements.</li> </ul>
<b>Liverpool Range Wind Farm/ Tilt Renewables</b>	Approximately 1,330 MW wind farm with up to 185 wind turbines with approximately 800 roles during construction and 47 roles during operations.	Preparing Response to Submissions	500+ peak workforce, approximately 200 weeks for construction.		<ul style="list-style-type: none"> <li>Liverpool Range Wind Farm is the Project under consideration</li> </ul>
<b>Approved (Construction Not Commenced)</b>					
<b>Dunedoo Solar Farm/ ib vogt</b>	Development of a 55 MW solar farm with energy storage and associated infrastructure.	Approved	100 direct jobs during construction and 3 full time staff during operation.	40min Southwest	<ul style="list-style-type: none"> <li>Cumulative impact is <b>unlikely</b> given timeframes and project size</li> </ul>
<b>Stubbo Solar Farm/ ACEN</b>	Solar farm 400 MW capacity, with battery storage of up to 200 MWh. Located between Blue Springs Road and Barneys Reef Road.	Approved – yet to commence construction	400 jobs over the construction period with 10 ongoing during operation. Construction expected to commence mid 2023	1hr South	<ul style="list-style-type: none"> <li>Cumulative impact is <b>unlikely</b> given timeframes</li> </ul>

Development Name	Overview	Status	Development Timelines and Workforce Details	Driving Distance from Project	Identified Positive and Negative Social Impacts
<b>Bowdens Silver/ Bowdens Silver Pty Limited</b>	New open cut silver mine with maximum annual ore extraction of approximately 2.07 Mt, located near town of Lue.	Recommendation	Construction workforce up to 246 on-site workers and 74 off-site, and between 192 – 228 workers over 15 years of operations.	1hr 47min Southeast	<ul style="list-style-type: none"> <li>Cumulative impact is <b>unlikely</b> given timeframes</li> </ul>
<b>In Construction</b>					
<b>Ulan mine/ Glencore</b>	Open cut and underground mine	Operational with approval until 2033	Production of up to 20MT if run-of-mine coal per annum, with a peak workforce of 931.	50min South	<ul style="list-style-type: none"> <li>Cumulative impact is <b>unlikely</b> given timeframes</li> </ul>
<b>Wollar Solar Farm/ BJEI Australia</b>	290 Wind Farm	Construction began in February 2023	Peak workforce of approx.. 300 people, with a two-year construction timeline.	1hr 12min South	<ul style="list-style-type: none"> <li>Cumulative impact is <b>unlikely</b> given timeframes</li> </ul>
<b>Operational</b>					
<b>Beryl Solar Farm/ Tranex Solar</b>	109MW solar farm, 15 year PPA with Sydney Metro and is used to meet operational electricity needs of the Sydney Metro Northwest rail link.	Operational since June 2019	Commenced operations in June 2019, 30-year operational project life Development footprint of 225 ha Peak workforce of approximately 150 jobs.	1hr South	<ul style="list-style-type: none"> <li>Limited cumulative impact</li> </ul>

Source: Umwelt, 2023

## 4.0 Stakeholder Engagement

This section provides an overview of engagement conducted by Tilt Renewables in relation to the Project.

### 4.1 Engagement Activities

Tilt Renewables has undertaken a total of 86 individual and group consultations that took place between 2019-2022, prior to the lodgement of the Modification Application, and a further 50 consultations that were undertaken after the October 2022 public exhibition period up to July 2023. A range of different mechanisms have been used to engage with key stakeholders and local communities.

Key stakeholders consulted have included:

- Host landowners
- Proximal landholders/communities (to proposed wind farm infrastructure)
- The broader community, including updates to residents along the OSOM route
- Traditional Custodians (RAPs) and First Nations Stakeholders
- State Government departments and agencies
- Mid-Western Regional Council
- Councils along the proposed OSOM Haulage Route where identified pinch point locations are located, including Newcastle City Council, Singleton Shire Council, and Muswellbrook Shire Council, Warrumbungle Shire Council
- Upper Hunter Shire Council
- Local businesses and service providers
- Community and development groups
- Environmental groups
- Media

Project information provision and stakeholder engagement mechanisms/activities undertaken as part of the Modification Application are outlined in **Table 4.1**.

**Table 4.1 Key engagement activities**

Groups/Individuals	Dates	Issues discussed
<b>Community Groups</b>		
<b>Community facilities – hosting project information material</b>	Throughout October and November 2022	Project fact sheets were made available at the Coolah Library, Coolah, Dunedoo and Cassilis Post Offices, and at the Warrumbungle Shire Council office in Coolah.

Groups/Individuals	Dates	Issues discussed
		The dedicated Project Shopfront space that was leased for the public exhibition period at 50 Binnia Street, Coolah was home to all Mod-1 Project information.
<b>Coolah District Development Group (CDDG) meeting</b>	25 October 2022	Consultation and feedback on engagement methods and structure of community benefit sharing approach.
<b>Coolah Veterans Touch Football Carnival (sponsorship)</b>	5-6 November 2022	Tilt Renewables had a marquee at the carnival to provide opportunity for broader community input.
<b>Tunes on the Turf (sponsorship)</b>	12 November 2022	Tilt Renewables had a marquee at the event to provide opportunity for community input.
<b>Coolah Men's Shed opening (annual sponsorship)</b>	18 November 2022	Attendance to uncover new signage of the Men's Shed, including Tilt logo on Men's Shed ute. Opportunity to discuss the Project with attendees.
<b>Group meeting: Coolah and Cassilis District Development Groups, LRWF CCC community representatives, Warrumbungle Shire Councillor, Dunedoo Coolah Landcare, EnergyCo CRG community representative</b>	30 November 2022 – Coolah Youth Hall, 2.5 hr workshop	Community workshops – inception meeting with targeted community groups to discuss a plan for a co-design of a benefit sharing program – discussion of outcomes and commitments.
<b>Merriwa Country Education Foundation (scholarship contribution)</b>	November 2022	Contribution towards students' tertiary education costs and discussion with Coolah District Development Group to assist them in setting up a Coolah CEF branch.
<b>Rural Guide 2023</b>	21 November 2022 (published)	Relevant for year 2023 – inclusion of LRWF advertisement to promote Goods & Services, project employment.
<b>Group meeting: Coolah and Cassilis District Development Groups, LRWF CCC community representatives, Warrumbungle Shire Councillor, Dunedoo Coolah Landcare, EnergyCo CRG community representative</b>	30 November 2022 – Coolah Youth Hall, 2.5 hr workshop	Community workshops – kick off meeting with targeted combination of community groups to discuss plan for a co-design workshop series to influence benefit sharing outcomes and commitments.
<b>Coolah Diary Fortnightly Advertisements – ongoing</b>	Multiple dates (generally 2 ads per month as well as 2 sponsored 'what's on' ads per month), covering October 2022 – July 2023 period and ongoing.	Advertisements cover general project information / updates, links to newsletter subscription, Goods & Services Register, planning processes, events, benefit sharing, and other important / timely information.
<b>LRWF project newsletter</b>	December 2022 edition	Provided summary of the outcomes of the public exhibition phase - summary, planning process, look ahead to 2023, benefit sharing, active in the community.
<b>Mudgee Guardian</b>	December 2022	Half page advertisement promoting the newsletter
<b>Dubbo Daily Liberal</b>	December 2022	Half page advertisement promoting the newsletter
<b>RDA Orana newsletter</b>	December 2022	E-newsletter ad promoting the LRWF newsletter

<b>Groups/Individuals</b>	<b>Dates</b>	<b>Issues discussed</b>
<b>Coolah District Development Group</b>	December 2022	Discussions with Coolah DDG members about engagement with Gilgandra LALC
<b>Coolah Swimming Club (sponsorship)</b>	December 2022	Contribution of funds towards swimming carnival.
<b>Ash Group Holdings – First Nations business</b>	17 & 30 January and 13 April 2023	Workforce accommodation options and benefit sharing discussions.
<b>Coolah District Development Group</b>	January – February 2023	Contact with Taralga Wind Farm and Upper Lachlan Shire Council to connect the CDDG with a community representative on the Taralga Wind Farm Community Enhancement Fund Committee to learn about how it works and community representation.
<b>Coolah Senior Citizens dinner (sponsorship)</b>	8 February 2023	Sponsorship of annual event – over 100 attendees. Tilt also provided merchandise for attendees.
<b>Dunedoo Show</b>	10 – 11 February 2023	Sponsorship of the event with Tilt Renewables having a marquee with Project information materials and project team members present to speak with community members about the project.
<b>Project shopfront – official opening</b>	15 February 2023 Ongoing opening hours: Tues – Thurs, 8.30am – 4.30pm	Opening event – daytime catered BBQ promoted to full stakeholder list, attended by ~40 community members. Opportunity to speak with Project team.
<b>Re-Alliance – CWO REZ Industry Roundtable</b>	17 February 2023 20 June 2023	Discussion on the future of community benefits in the CWO REZ and opportunity for proponents to come together and share Project status, assess coordination.
<b>Western magazine</b>	21 February 2023	Advertisement promoting employment on the Project and Goods & Services Register
<b>Inland Growth Summit (sponsorship) and Orana Outlook Dinner</b>	20-22 February 2023	Tilt was one of the event sponsors. Goods & Services Register ad included in all showbags. Industry networking event – seeking opportunities for benefit sharing, procurement, partnerships
<b>RDA Orana newsletter</b>	25 February 2023	E-newsletter ad promoting the Goods & Services Register
<b>NSW ICC – First Nations businesses – procurement</b>	27 February 2023	Membership discussion
<b>EPBC Referral – open for public comment</b>	2-17 March 2023	Promotion of the Referral (where to find information and provide comment) was undertaken via direct email to stakeholder database (2 x emails including 1 x reminder), website updates, public noticeboards, information in the Coolah shopfront window, ads in the Coolah Diary, information display at Cassilis Post Office.
<b>Active Farmers Dunedoo</b>	3 March 2023	Discussion to support (sponsorship opportunity) Dunedoo Active Farmers event – mental and physical health initiative for farmers.
<b>Native Secrets – First Nations business</b>	24 March 2023	Meeting to discuss partnership to manage biodiversity offset sites.

Groups/Individuals	Dates	Issues discussed
Community Consultative Committee (LRWF CCC) meeting	2 May 2023	Presented RTS Project – key information to the CCC and provided a broad update on activity over the past 6 months
Coolah Men’s Shed	21 May 2023	Sponsored BBQ to raise money for the newly established Coolah Country Education Foundation. Participated in games and took the opportunity to discuss the Project.
RDA Orana Resources, Energy & Industry Innovation Forum	6 – 8 June 2023	Presented on the Project and how it fits into the REZ. Opportunity to discuss the Project with local industry.
Renewables in Agriculture conference	21 June 2023	Sponsor of the event with a stall. Opportunity to speak with farmers and industry about the Project.
LRWF project newsletter	June 2023 edition	Included updates on the RTS Project – key changes, where to find all the updated project information, benefit sharing and next steps
Coolah Chamber of Commerce	July 2023	Became a member as the chamber has reestablished itself
LRWF landholders – townhall	5 July 2023	Project update to all involved landholders
WAAP employment event	27 July 2023	Project information stand with a focus on discussing employment, goods and services.
<b>Individuals</b>		
Landholders (Dwellings #H6-2, #H6-3, #G6-3, #G6-4, #C5-9, #C6-4, #H7-1, #G6-2)	Telephone calls + written correspondence. Various dates since June 2022	Potential visual impacts. Seeking access for black-line visual impact assessment.
Landholder (Dwelling #6-3)	Various attempts to make contact: <ul style="list-style-type: none"> <li>• 12 December 2022: Phone call</li> <li>• 16 December 2022: Phone call</li> <li>• 21 December 2022: Sent letter to residence</li> <li>• 18 January 2023: Attended residence</li> <li>• 31 January 2023: Attended workplace and left message</li> <li>• 1 February 2023: Dropped letter into workplace and registered mailbox</li> <li>• Invited to shopfront opening</li> </ul>	Potential visual impacts (specific to dwelling location).

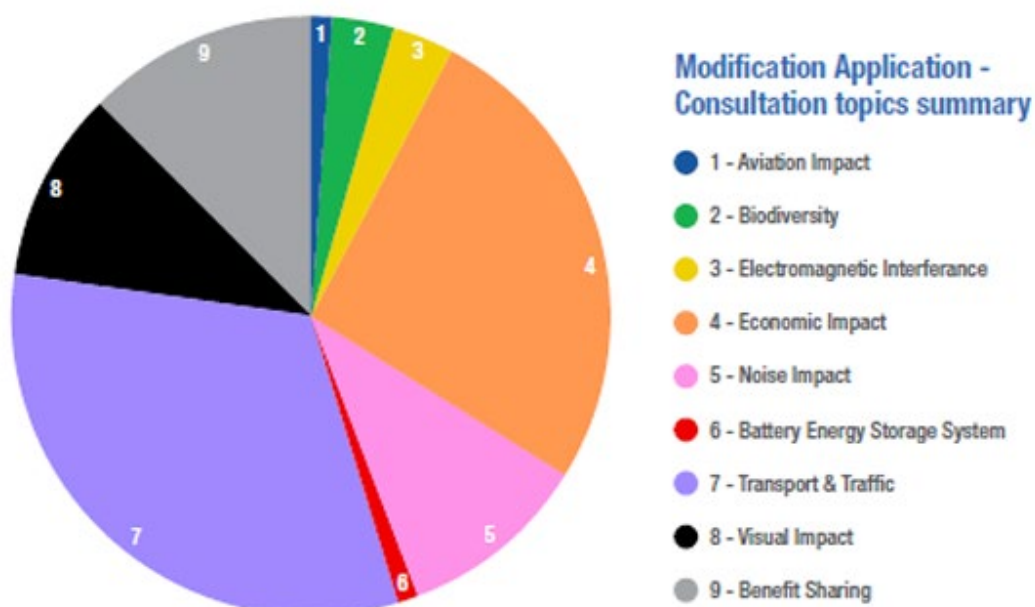
Groups/Individuals	Dates	Issues discussed
Landholder (Dwelling #3)	Telephone calls + in person meeting (17/11/22) and various correspondence	Potential impacts to farming operations, potential impacts to local road network in proximity to other land owned and potential impacts to local workforce.
Landholder (Dwelling #C4-6)	Multiple telephone calls, in person meetings and written correspondence	Potential visual and noise impact (specific to dwelling location) and potential impact to farming operations.
Landholder (Dwelling #C2-3 & C2-4)	Multiple telephone calls and written correspondence	Potential planning requirement impact to proximity to property boundary.
Landholder (Dwelling #8 & 9)	Multiple telephone calls and written correspondence	Potential planning requirement impact to proximity to property boundary – Currently negotiating neighbour agreement.
Landholder (Dwelling #D7-4)	Multiple telephone calls, in person meetings and written correspondence	Discussions around visual impact (specific to dwelling location), potential to sell/purchase property, workforce accommodation.
Coolah township resident	Telephone calls + written correspondence supported by face-to-face meetings and preparation of photomontage. Discussions continued through October 2022.	Potential visual impact (specific to dwelling location).
Justin Brooker – CWO Aboriginal Working Group engagement (consultant)	Various dates (Nov 2022 – July 2023)	Discussions about First Nations engagement best practice in CWO REZ. Contracted to assist in the coordination of engagement with the CWO Aboriginal Working Group
Maxine Greenfield – Transport for NSW – First Nations procurement	6 July 2023	Discussion on best practice approach to workforce planning for the region, local content and First Nations procurement.
Member of Parliament briefing – the Hon Mark Coulton MP  More MP briefings planned for	19 July 2023	LRWF project briefing to ensure the Member for Parkes is informed on the Project.
Tim Stevenson – NSW Aboriginal Land Council  CWO Aboriginal Working Group meetings planned for	1 August 2023	Email correspondence to arrange a project briefing and meeting with the CWO Aboriginal Working Group
Leanne Bovington – Aboriginal Cultural Liaison Officer	1 August 2023	Ongoing discussions about funding support for Deadly Thinking - well-being and suicide prevention program specifically designed by and for Aboriginal and Torres Strait Islander communities.
1800 Number	Ongoing – multiple calls (estimated ~50)	Frequently raised topics include work on the project – assist callers with completing Goods & Services

Groups/Individuals	Dates	Issues discussed
	calls between October 2022 – July 2023)	Register, general project information, cumulative impacts, sponsorship requests / benefit sharing.

Source: Tilt Renewables, 2023

## 4.2 Engagement Outcomes

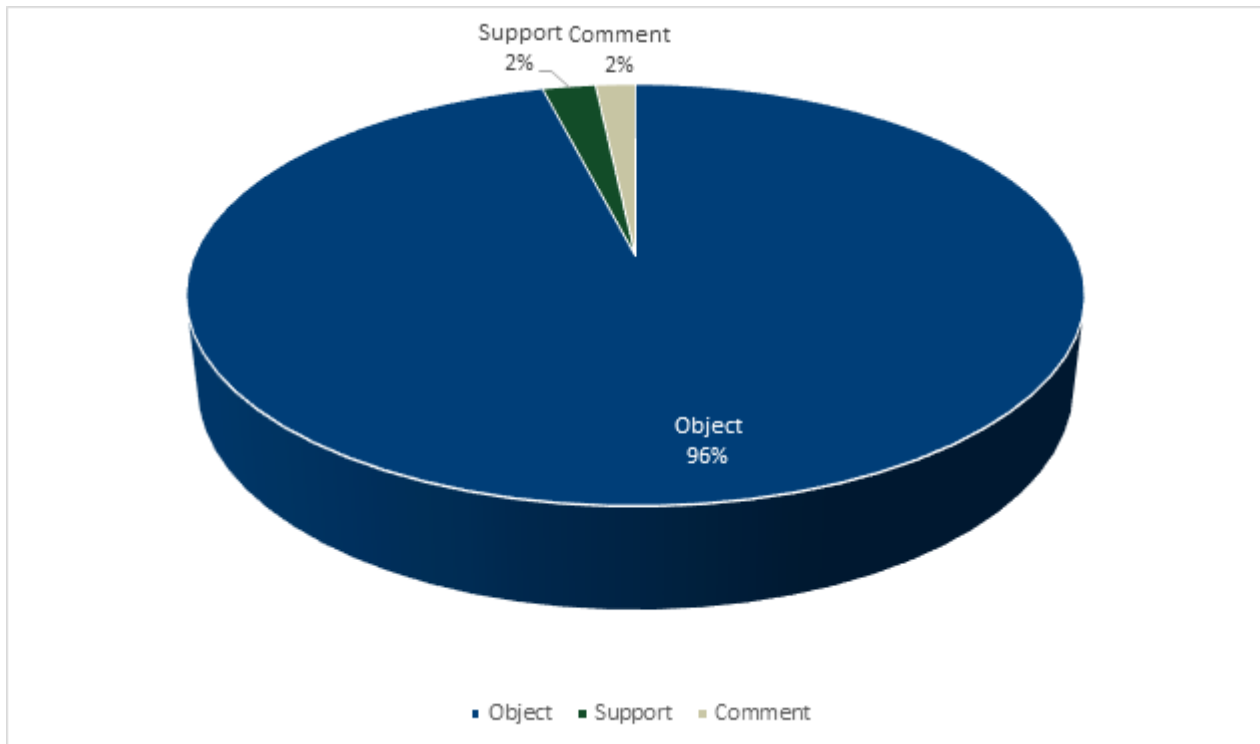
Coding of engagement responses during the Modification Application identified 56 different topics identified by Tilt as summarised in **Figure 4.1** below. Key topics included traffic impacts, visual impacts from turbines, opportunities for benefit sharing and operational and construction phase noise impacts.



**Figure 4.1** Modification Application Consultation topics summary

Source: Tilt Renewables, 2022

Further to engagement conducted during the development of the Mod-1 Project Application, the Mod-1 Project Modification Assessment Report was also placed on public exhibition from 20 September 2022 to 17 October 2022. The Report received 195 submissions, including 175 community submissions, 16 submissions from State/ Commonwealth agencies or public authorities, and 4 submissions from councils. Of the 175 community submissions, 168 (96%) were objections, three (2%) provided comment, and four (2%) were in support of the Mod-1 Project (excluding duplicate submissions) (refer to **Figure 4.2**).



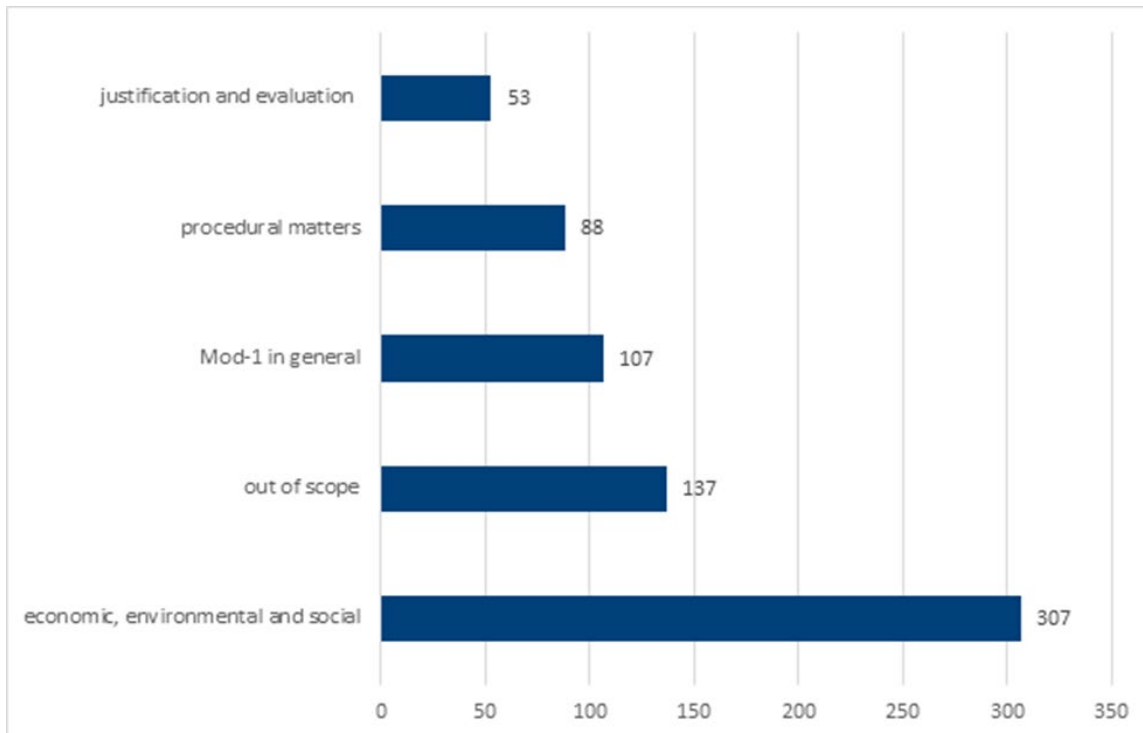
**Figure 4.2 Community Submissions Classification**

The most frequently raised themes from those opposing the Mod-1 Project related to economic, environmental and social issues with 84 of the objecting submissions being in this categorisation.

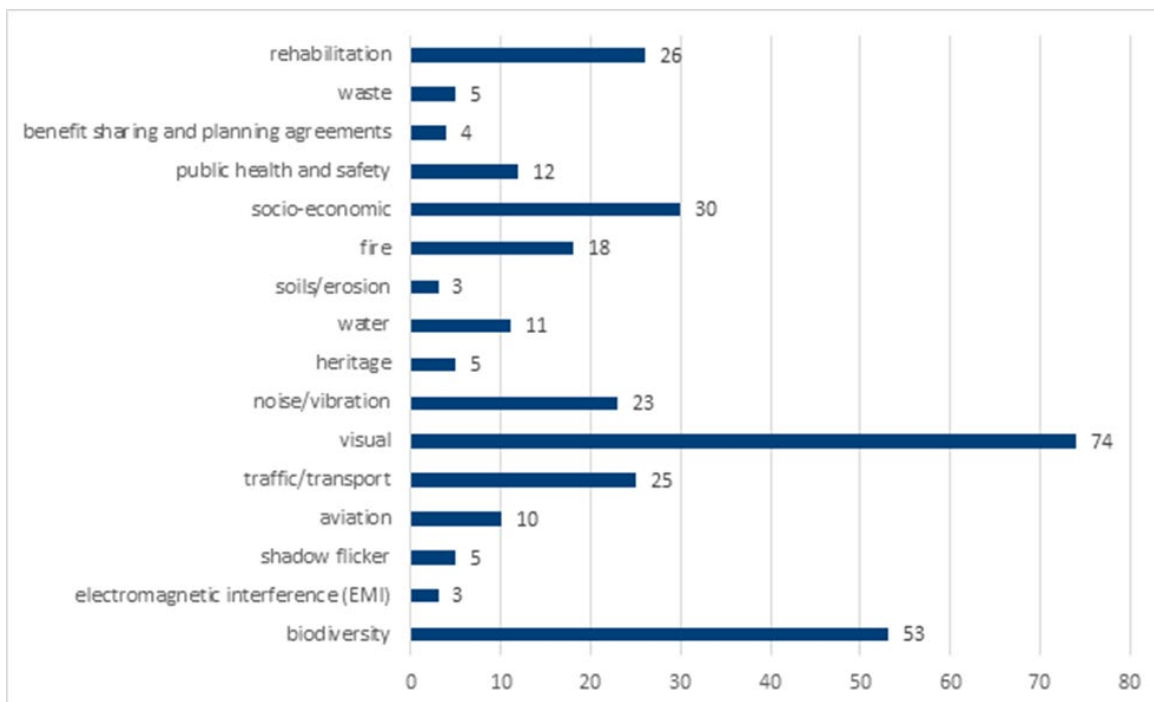
Issues beyond the scope of the Mod-1 Project were the second most frequently raised category of issues, followed by issues with Mod-1 in general, procedural matters and justification/evaluation (refer to **Figure 4.3**). These were issues deemed to be in relation to the Approved Project, the CWO REZ transmission line project, the Valley of the Winds wind farm or wind farms in general. While these issues have not been explicitly coded in the Submissions Report, many of these interrelated concerns have been assessed as part of the SIMO to reflect the cumulative nature of social impacts on communities.

**Figure 4.4** provides a breakdown of the issues noted in submissions, with key issues being raised relating to visual amenity, biodiversity and socio-economic issues. Impacts on surroundings, particularly loss of visual amenity from turbine and loss of biodiversity from land clearing and bird and bat strike, were the most frequent topics of concern. Impacts on accessibility were also raised, with submissions focusing on likely traffic impacts and road deterioration. Socio-economic submissions emphasised impacts to tourism, loss of peaceful rural lifestyles, scepticism about local job opportunities, property devaluation, loss of agricultural land productivity and questions about the Voluntary Planning Agreement.

For a more detailed breakdown and analysis of the submissions made for the Mod-1 Project, please refer to the Response to Submissions Report.



**Figure 4.3** Categorisation of Objecting Submissions and submissions received from the RTS



**Figure 4.4** Economic, Environmental and Social Issues by Theme

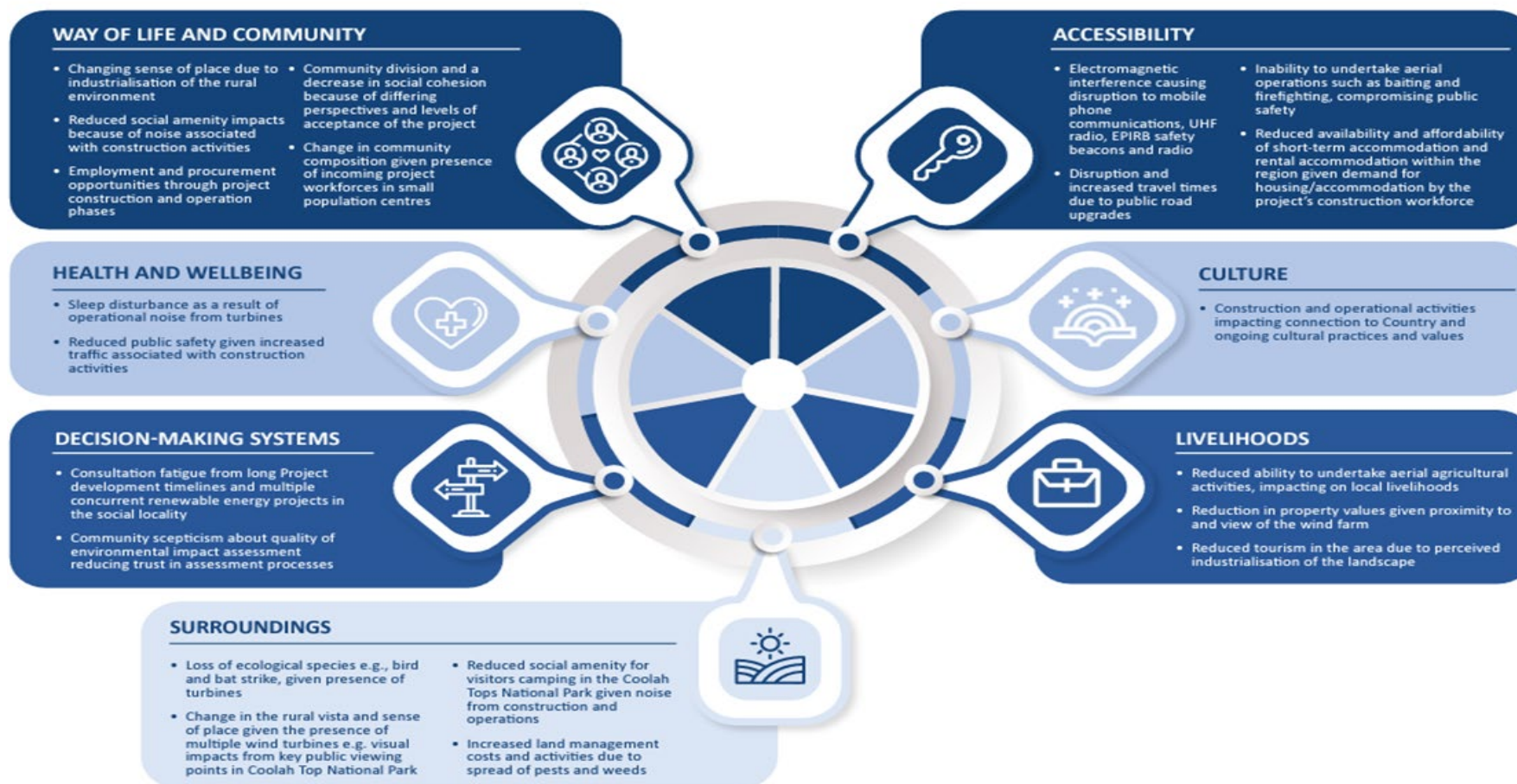
## 5.0 Potential Social Impacts and Management Measures

### 5.1 Impact Overview

Potential social impacts likely to be associated with the Project have been identified across the Project life-cycle, with consideration of Project design, construction, operation, and decommissioning.

The social impacts identified have been categorised according to social impact categories, including way of life, community, accessibility, culture, health and wellbeing, surroundings, livelihoods, and decision-making systems (refer to **Figure 5.1**) and have been informed through review of stakeholder engagement outcomes (based on Tilt Renewables community engagement activities as noted in **Section 4.2**, and further analysis by Umwelt of submissions received during public exhibition of the Modification Application). This has been further complemented through secondary data review and analysis in the development of the social baseline, and consideration of other technical assessments undertaken for the Project as outlined in **Section 2.0**.

**Figure 5.1** provides an overview of the key potential social impacts associated with the RTS Project.



**Figure 5.1 Social Impacts - Community submission analysis**

Source: Umwelt. 2023

## 5.2 Impacts, Mitigations and Management Options

**Table 5.1** provides further evaluation of the social impacts identified in Figure 7.1. In line with the NSW SIA guideline recommendations (NSW Government, Department of Planning and Environment, 2023), impacts have been assessed based on a number of impact characteristics including the magnitude and the likelihood of the impact occurring. Where cumulative impacts may be experienced, these are also noted. As previously outlined, evaluation is based on analysis of engagement outcomes (undertaken by Tilt Renewables), social baseline research, a review of technical project studies and expert opinion. The impact evaluation table also includes a stakeholder perceived ranking, that reflects the level of significance placed on this impact by stakeholders (as determined through review of impact frequency/priority in Tilt’s engagement data) and also rates the level of residual impact remaining post implementation of management approaches. Residual social impact, however, may vary depending upon the success of relevant strategy implementation. **Table 5.1** also identifies existing or potential mitigation strategies for the Project.

## 5.3 Community Benefit Sharing

Tilt Renewables has several existing arrangements in place designed to directly fund infrastructure and community initiatives in the region. This includes a Voluntary Planning Agreement with a dedicated Community Enhancement Fund (CEF), as well as mandatory contributions via CWO REZ Access Fees – both these aspects form part of the company’s overall Benefit Sharing Plan for the Project.

### 5.3.1 Planning Agreement

The VPA currently involves contributions from Tilt Renewables of \$3,000 (increased by CPI) per installed turbine per year (or a minimum of \$100,000) to each impacted Council (77% of which is directed towards a Community Enhancement Fund and 23% in a Road Maintenance Fund), with contributions to begin once construction commences.

Through Tilt Renewables’ engagement with the local communities in Coolah and Cassilis, those communities have expressed a desire to have a greater say in the use of funds accumulated through CWO REZ access fees and VPAs. Tilt Renewables is working closely with EnergyCo, Warrumbungle Shire Council and Upper Hunter Shire Council to ensure that benefit sharing funds are invested locally in the communities of Cassilis and Coolah that are hosts to the Liverpool Range Wind Farm project.

Communities hosting renewable energy projects are seeking a say in how local impacts are managed and the mechanisms for distributing benefit sharing funds. Proponent-led community benefit sharing initiatives can result in legacy projects that address key social and economic issues without resulting in councils being left with assets or programs to manage that may not have been previously budgeted.

Tilt Renewables has consulted with community groups in the region and understands that there has been significant effort made to develop community strategic plans and community benefit projects that cover key focus area such as public art, sport, health and wellbeing, tourism, environment, and social inclusion. Both the Coolah and Cassilis District Development Groups have identified a list of proposed projects to enhance their communities and Tilt Renewables is supportive of CEF funds being used to pursue these projects.

### **5.3.2 CWO REZ Access Fees**

Generation and storage projects that wish to connect to the network are required to apply for access rights through a competitive tender process that will be managed by EnergyCo and the Consumer Trustee, and which are based on several merit criteria. Successful access rights holders will be charged fees that help to form the basis for community enhancement and employment program funding within the vicinity of the Project and the broader CWO REZ. There is currently limited information on how these REZ access fees will be administered and allocated within the REZ.

**Table 5.1 Potential Social Impacts**

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
Surroundings	Changes in areas that people value highly and their sense of place due to land clearing, infrastructure development and disruption to ecological values (e.g., disruption to key habitats)	Negative	C, O	Broader community Environmental groups Community groups Host landholders	H	B	3	H	<ul style="list-style-type: none"> <li>Incorporate specific cut and fill practices for local conditions to minimise ground disturbances on vegetation.</li> <li>Understand current vegetation ecosystem where disturbance will occur and demonstrate how a minimise ground disturbance regime will apply.</li> <li>Consider, if appropriate, the development of in situ vegetation corridors to improve the resilience of local vegetation.</li> <li>Communicate strategies developed to reduce land clearing in Project engagement opportunities</li> <li>Offset biodiversity impacts through a Biodiversity Offset Strategy that includes: establishing new offset sites, sourcing biodiversity credits, and working in partnership with local stakeholders.</li> <li>The Biodiversity Development Assessment Report (BDAR) will guide best practice for avoiding and minimising biodiversity impacts within the Project site.</li> </ul>	M	Yes
Surroundings	Potential for turbine blades to cause bird or bat strike, affecting community values and protection efforts of local fauna.	Negative	C, O	Broader community Environmental groups Community groups	H	B	3	H	<ul style="list-style-type: none"> <li>Develop an adaptive bird and bat management plan, to minimise effects on avian fauna within the Project site.</li> <li>The Biodiversity Development Assessment Report (BDAR) will guide best practice for avoiding and minimising biodiversity impacts within the Project site.</li> <li>Partnering with, and/or funding local biodiversity initiatives being undertaken by Landcare groups and Aboriginal Land Councils through the Benefit Sharing Plan (BSP) for the Project.</li> </ul>	M	Yes
Surroundings	Increased land management costs and activities due to the spread of pests and weeds by Project vehicles accessing neighbouring and host landholder properties during Project construction and operations.	Negative	C, O	Neighbouring and host landholders	L	C	2	M	<ul style="list-style-type: none"> <li>Prepare a Biodiversity Management Plan in accordance with the Development Consent. The BMP will set out detailed biosecurity measures and weed management protocols that will be implemented during construction and operations.</li> <li>Develop a Property Management Plan (PMP) for each property that sets out all required biosecurity protocols and access measures and controls.</li> </ul>	L	No

<sup>2</sup> P = Planning, C = Construction, O = Operation, D = Decommissioning

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

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
Surroundings	Increased attraction of illegal hunters in the region in response to road upgrades and increased accessibility to the Project site.	Negative	O	Broader community Neighbouring and host landholders Environmental groups	L	D	2	L	<ul style="list-style-type: none"> <li>All access points into the wind farm site from public roads will have lockable gates to prevent unlawful entry to the site.</li> </ul>	L	No
Accessibility	Improved accessibility and road safety for road users due to road upgrades.	Positive	C, O, D	Road users Neighbouring and host landholders	L	B	3	H	<ul style="list-style-type: none"> <li>Road upgrade program (to be administered as part of the PA for the Project).</li> </ul>	H	Yes
Accessibility/ Health	Improved access to remote properties and sites for fire and other emergency services due to development and maintenance of access tracks across the Project site.	Positive	C, O, D	Emergency services Neighbour and Host Landholders Surrounding communities	L	B	2	M	<ul style="list-style-type: none"> <li>Engage with local emergency services to build familiarity of the site and access routes and plans.</li> </ul>	M	No
Surroundings	Impacts to visual amenity associated with the construction and operation of wind turbines and associated transmission line infrastructure, causing changes to the way people perceive their surrounds and the rural character of the landscape.	Negative	C, O	Neighbouring landholders Host landholders	H	A	3	H	<ul style="list-style-type: none"> <li>Project design change - Reduction in the maximum blade tip height from 250m to a maximum of 215m to reduce potential visual impacts of wind turbines</li> <li>Visual screenings are available for non-associated residents within 4,250 meters of a turbine.</li> <li>Neighbour Agreements with relevant non-associated landholders whose property boundary is within 100 m of a proposed turbine (measured from the blade tip)</li> </ul>	M	Yes
Surroundings	Reduced visual amenity from the Coolah Tops National Park associated with the construction and operation of wind turbines and associated transmission line infrastructure.  The VIA has found that the RTS Project will result in the visibility of a total of 15 turbines in excess of 6 kilometres to the southwest of the Pinnacle Lookout. Although visible, the turbines would form a minor element in the overall view.	Negative	C, O	Visitors to Coolah Tops National Park	M	C	2	M	<ul style="list-style-type: none"> <li>Develop educational signage and an information booth at key viewpoints to supply information to visitors about RE and the Project</li> <li>Provision of funding for local tourism initiatives, as part of the Benefit Sharing Plan e.g. wind farm trail development.</li> </ul>	L	Yes
Surroundings/ Livelihoods	Potential for additional tourism in the area due to visitors seeking 'wind farm tourism' opportunities	Positive	O	Visitors to Coolah Tops National Park Short term visitors	L	C	1	L	<ul style="list-style-type: none"> <li>Develop educational signage and an information booth at key viewpoints to supply information to visitors about RE and the Project</li> <li>Provision of funding for local tourism initiatives, as part of the Benefit Sharing Plan e.g. wind farm trail development.</li> </ul>	L	Yes
Surroundings/ Livelihoods	Potential for reduced property values due to impacts on visual amenity resulting from development of project infrastructure.	Negative	P, C, O	Neighbour landholders Host landholders	M	C	2	M	<ul style="list-style-type: none"> <li>Neighbour Agreements with relevant non-associated landholders whose property boundary is within 100 m of a proposed turbine (measured from the blade tip)</li> <li>Extension of Neighbour Agreements negotiated beyond this sub-group where moderate-level and high social impacts have been identified</li> </ul>	L	Yes

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
<b>Way of life / Accessibility</b>	Reduced amenity and increased travel times for road users due to Project-related road closures and road deterioration.	Negative	C	Local road users Local businesses Visitors and tourists Broader community	M	B	3	H	<ul style="list-style-type: none"> <li>Develop a Traffic Management Plan</li> <li>Undertake required maintenance of relevant segments of public roads used for construction</li> <li>Undertake pre-construction consultation with nearby residents to provide detailed information on scope and timing of upcoming road upgrade/repair works and contact details to register questions, concerns or complaints. Manage complaints in accordance with a Complaints Management Plan</li> </ul>	L	Yes
<b>Health and Wellbeing</b>	Increased construction traffic leading to reduced road safety.	Negative	C	Local road users Local businesses Visitors and tourists Broader community	M	C	3	M	<ul style="list-style-type: none"> <li>Develop a Construction Management Communications Plan</li> <li>Undertake a dilapidation study and ensure all relevant segments of public roads are designed, constructed, maintained, and handed back to the relevant road authorities to the agreed standards</li> <li>Conduct a formal road safety review, with interim treatment measures implemented (e.g., passing bays, shoulder widening, signage) and/or management measures (e.g. traffic controllers, reduced construction vehicle speed limit, construction vehicle drivers to give-way to general traffic).</li> </ul>	L	Yes
<b>Surroundings/ way of life</b>	Construction activities leading to reduced social amenity due to noise, vibration, dust and lighting impacts.	Negative	C	Neighbouring and host landholders	L	C	2	M	<ul style="list-style-type: none"> <li>Develop a Traffic Management Plan</li> <li>Neighbour Agreements to be developed with directly impacted landholders along the construction transport route</li> <li>Proactive engagement with impacted landholders prior to construction commencement and throughout the construction phase</li> </ul>	L	Yes
<b>Surroundings/ way of life/ Health</b>	Operational noises leading to reduced social amenity, aural disruption, earaches, headaches, and sleep disturbances.	Negative	O	Neighbouring and host Landholders	M	D	2	L	<ul style="list-style-type: none"> <li>Project design change – consideration of design and siting of turbines to reduce noise impacts at nearby residences</li> <li>Develop a Monitoring and Evaluation framework and engage with host and neighbouring landholders on noise monitoring outputs.</li> <li>Develop a Complaints Management Plan and establish a complaints register and response protocol for the Project</li> <li>Develop an Operational Noise Management Plan</li> </ul>	L	No

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
<b>Livelihoods</b>	Reduced local tourism due to perceived industrialisation of the landscape reducing visitor experience and attraction to the rural character of the area.	Negative	C, O	Broader community Local businesses and service providers Local Government Visitors/tourists to the area	M	D	2	L	<ul style="list-style-type: none"> <li>Support local tourism initiatives or opportunities through the Benefit Sharing Plan (BSP)</li> <li>Identify opportunities to leave legacy infrastructure benefits that support additional accommodation options in the area.</li> </ul>	L	Yes
<b>Livelihoods Way of life</b>	Local employment generation leading to job opportunities for individuals.	Positive	C	Local businesses and service providers	M	B	2	M	<ul style="list-style-type: none"> <li>Develop and implement an Industry and Aboriginal Participation Plan (IAPP)</li> <li>Develop an Accommodation and Employment Framework and Strategy</li> </ul>	H	Yes
			O	Local job seekers Broader community	M	B	1	L		M	Yes
<b>Livelihoods Way of Life</b>	Local procurement opportunities leading to direct investment in local businesses and flow-on benefits from economic stimulus enabling the capacity and capabilities of local businesses to develop/expand.	Positive	C, O	Local businesses and service providers	M	B	3	H	<ul style="list-style-type: none"> <li>Embed local procurement merit criteria considerations in issuing of tenders</li> <li>Work collaboratively with other proponents in the CWO REZ to identify opportunities to coordinate and collaborate on training and employment outcomes.</li> </ul>	H	Yes
<b>Accessibility/ Health</b>	Potential for turbines to reduce firefighter's ability to combat bushfires using helicopters and aircraft which could result in increased damage and safety risks from fires.	Negative	C, O	Emergency service workers Neighbour landholders Broader community	L	C	3	M	<ul style="list-style-type: none"> <li>Develop a Fire Management Plan in collaboration with local fire agencies e.g. RFS</li> </ul>	L	Yes
<b>Accessibility/ Health</b>	Potential for turbines to cause fires, resulting in increased fire and public safety risk.	Negative	O	Emergency service workers Neighbour landholders Broader community	L	D	3	M	<ul style="list-style-type: none"> <li>Develop a Fire Management Plan in collaboration with local fire authorities</li> <li>Provide information about fire risks and management strategies to local landholders in communication outputs</li> </ul>	L	No
<b>Accessibility Livelihoods</b>	Reduced availability of short-term accommodation due to population influx during the construction phase, leading to 'crowding-out' of tourists and other accommodation users	Negative	C	Broader community Local businesses and service providers Tourism providers Visitors/ tourists Employees and contractors in other key sectors	H	A	4	VH	<ul style="list-style-type: none"> <li>Develop an Accommodation and Employment Framework and Strategy</li> <li>Commission the construction of a temporary workforce accommodation facility to reduce impacts on existing short-term accommodation in the social locality</li> </ul>	L	Yes
<b>Accessibility Way of life</b>	Reduced availability and affordability of rental accommodation due to population influx during the construction phase, leading to housing stress and/or displacement of lower income households	Negative	C	Broader community Lower income households	L	B	3	H	<ul style="list-style-type: none"> <li>Develop an Accommodation and Employment Framework and Strategy</li> <li>Commission the construction of a temporary workforce accommodation facility to reduce impacts on existing short-term accommodation in the social locality</li> <li>Tilt Renewables staff to be housed within the temporary workforce accommodation facility to avoid inflationary pressures on constrained housing markets</li> </ul>	L	Yes

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
Health and Well-Being	Stress and anxiety experienced by community members associated with uncertainty about Project timelines, modification changes and/or outcomes.	Negative	C,O,D	Broader community	M	B	3	H	<ul style="list-style-type: none"> <li>Ensure the Community Engagement Plan and activities provides timely, transparent and accessible information to community members and provides a mechanism for discussing issues/impacts and providing feedback</li> </ul>	M	Yes
Accessibility	Increased pressure on existing infrastructure such as water and sewerage systems due to an influx of temporary workforce	Negative	C	Host community	M	B	3	H	<ul style="list-style-type: none"> <li>Engage with impacted local councils to advocate for the use of PA funds on local infrastructure and community initiatives, with a focus on Coolah and Cassilis.</li> </ul>	L	Yes
Health and Well-Being Accessibility	Reduced access to health services due to competition for facilities with incoming construction workforce	Negative	C	Broader Community Health services Population with health vulnerabilities Local Government	L	B	4	H	<ul style="list-style-type: none"> <li>Provide on-site medical staff during peak construction periods to meet the needs of the Project</li> <li>Engage with impacted local councils to advocate for the use of VPA funds on local health initiatives, especially in Coolah and Cassilis</li> <li>Consider use of Benefit Sharing Plan funds to support local health initiatives</li> </ul>	L	Yes
Culture	Potential for Project construction and operation to affect people's connection to Country and ongoing cultural practices and values.	Negative	C, O	Traditional Custodians First Nations communities	L	C	3	M	<ul style="list-style-type: none"> <li>Undertake and implement mitigation strategies as outlined in the Aboriginal Cultural Heritage Assessment (ACHA) and Heritage Management Plan (HMP)</li> <li>Consider use of Benefit Sharing Plan funds to support cultural awareness and land management initiatives.</li> <li>Explore opportunities to engage First Nations groups to participate in the ownership and management of offset sites required for the Project.</li> </ul>	L	Yes
Accessibility	Increased energy security and reliability for the future	Positive	O	Broader community across NSW	H	B	4	H	N/A	H	Yes
Surroundings Decision making	Reduced reliance on carbon emitting industries	Positive	O	Broader community	H	B	4	H	N/A	H	Yes
Community	Reduction in levels of social cohesion resulting from differing levels of support for the Project	Negative	P, C, O	Broader community Neighbouring and host landholders	M	C	3	M	<ul style="list-style-type: none"> <li>Community Engagement Plan and activities to provide transparent information about the Project</li> <li>Work with the Upper Hunter Shire and Warrumbungle Shire Councils to advocate for VPA funds to be spent in the areas most impacted by the Project</li> <li>Prioritise local initiatives in the allocation of Benefit Sharing Plan funds</li> </ul>	L	Yes

SIA Category	Impact	Positive / Negative	Phase <sup>2</sup>	Stakeholder Group	Stakeholder Ranking	Preliminary ranking <sup>3</sup>			Identified mitigation or management measures	Post mitigation ranking	Cumulative impact
						L	M	S			
Community	Changes to sense of place, community composition, relations and levels of community cohesion due to influx of workforces to small rural settlements during construction.	Negative	C	Proximal communities	M	A	4	VH	<ul style="list-style-type: none"> <li>Demonstrate proactive, thorough and transparent community engagement, throughout the lifespan of the Project</li> <li>Consider temporary workforce accommodation facility siting, design and management to effectively address and mitigate population impacts</li> </ul>	M	Yes
Community	Potential for Benefit Sharing Plan to support community-building activities and resources in the region.	Positive	C, O	Broader Community	M	B	3	H	<ul style="list-style-type: none"> <li>Prioritise local initiatives in the allocation of benefit sharing funds</li> </ul>	H	Yes
Decision Making	Consultation fatigue due to multiple concurrent projects in the region leading to reduced Project understanding, participation and acceptance	Negative	P, C, O, D	Broader community	H	B	3	H	<ul style="list-style-type: none"> <li>Deliver community engagement activities with a focus on accessibility and timeliness, based on a Community and Stakeholder Engagement Plan</li> <li>Investigate potential for collaboration with other CWO REZ projects, to possibly streamline consultation process.</li> </ul>	M	Yes
Decision making	Community skepticism and distrust due to perception or belief that information provided by Tilt is incorrect or misleading.	Negative	P	Broader community Community and special interest groups Environmental groups	H	B	3	H	<ul style="list-style-type: none"> <li>Demonstrate proactive, thorough, and transparent community engagement, throughout the lifespan of the project.</li> <li>Continue to operate the Tilt Renewables shopfront in Coolah to help answer questions from the public and provide information in relation to the Project and its development phases.</li> </ul>	M	No
Decision making	Community skepticism and distrust of the Project assessment process, its robustness, and people's ability to fairly participate in project decision-making processes, due to the belief that the modification should be assessed as a new Development Application rather than a modification.	Negative	P	Broader community Community and special interest groups Environmental groups	H	B	3	H	<ul style="list-style-type: none"> <li>Continue to implement community engagement mechanisms e.g. community information sessions, Shopfront in Coolah, advertisements in the local papers to maintain a visible presence in the community.</li> <li>Ensure all relevant staff are training in risk community and outrage management. Develop a complaints management plan and complaints register and response protocol, to ensure that community issues are dealt with in a prompt manner.</li> </ul>	M	No

## 6.0 Conclusion

This Social Impact and Management Overview (SIMO) document has examined the social locality in which the Liverpool Range Wind Farm project (the Project) is located. The SIMO has gathered data on social impacts and perceptions and assessed the likelihood and magnitude of these social impacts on various stakeholders. It has also presented mitigation and management strategies designed to address salient social impacts.

It is important to note that this SIMO is not a Social Impact Assessment, but has been prepared to be commensurate with the extent of the impacts identified in the Modification Assessment Report and associated impact assessments, and the impacts identified in the Response to Submissions (RTS) Report that has been prepared in support of the RTS Project.

### 6.1 Social context

The social baseline has identified a number of strengths and vulnerabilities in the social locality. The region is characterised by an older population, with all LGAs, with the exception of Dubbo Regional LGA, having a median age higher than NSW (39) at the time of the 2021 census. The region also has a higher First Nation's population at 16.6% and 10.7% respectively for Dubbo and Warrumbungle LGAs. The Upper Hunter and Mid-Western Regional LGAs have lower proportions at 7% and 6.8%. However, all LGAs are substantially higher than the NSW average of 3.5%. All townships display lower than state average SEIFA metrics for all indicators of socio-economic disadvantage, with indicators most dramatic in Wellington, Coonabarabran and Merriwa. As a result, opportunity exists for the development of targeted strategies to increase education and training, workforce participation and social service delivery in these townships. The region generally has low unemployment with all localities except for Warrumbungle LGA having lower unemployment rates than the rest of NSW (4.9%) and consequently the ability to source a project workforce from the local population is likely to be limited.

### 6.2 Social impacts, and mitigation/management measures

This SIMO has identified the following social impacts associated with the Project (as outlined in **Table 5.1**).

The SIMO has identified the following positive impacts in relation to the Project:

- Increased energy security and reliability, and reduced reliance on carbon emitting energy sources.
- Generation of employment opportunities through the construction and operational phases of the Project (refer to the separate Accommodation and Employment Framework (AEF) Report that has been prepared for the RTS Project which presents the way in which Tilt Renewables is working to maximise local procurement and employment).
- Support for community development activities and resources through the Benefit Sharing Plan and Voluntary Planning Agreement.
- Increased economic activity for local businesses including local shops, services, accommodation providers and suppliers.

- Improved accessibility, due to public road upgrades, to be delivered by Tilt Renewables and delivery of access tracks through the wind farm for use for firefighting and other emergency services.

The benefits from the Project are wide ranging, with the ability to contribute to the provision of an increased and reliable supply of renewable energy for NSW, to the local benefits that may ensue at the local community level, through a Benefit Sharing Plan, investment in local infrastructure as well as local procurement, employment and training opportunities for individuals and businesses within the region.

The SIMO has also identified the following potential negative impacts:

- Reduced availability of short-term accommodation due to the influx of the temporary construction workforce, leading to 'crowding out' of tourists and other visitors.
- Reduced availability and affordability of rental accommodation.
- Reduced access to health service access, due to competition with the project's construction workforce.
- Potential for bird and bat strike and associated loss / deterioration of environmental values held by the community.
- Visual impacts of turbines, resulting in a changed sense of place Consultation fatigue, due to multiple project activities in the region.

The management of cumulative impacts will be a key issue, given the scale and rate of change that is occurring both within the CWO REZ and more broadly across NSW. Research has indicated that the presence of multiple project developments in an area can only serve to exacerbate project impacts, resulting in the failure of assessment processes to protect local interests (Larsen et al, 2017).

In this regard, it will be important for Tilt Renewables to collaborate where possible with other developers/generators and EnergyCo to manage the potential impacts of concurring developments on local communities, particularly with regard to housing and accommodation of project workforces and subsequent impacts on service provision, an area where rural communities are particularly disadvantaged.

Outputs of the social baseline have indicated that the LGAs within the social locality experience existing levels of disadvantage across key socio-economic metrics and are consequently considered to be more vulnerable to change without appropriate strategies in place to increase resilience and adaptive capacity and ensure that project impacts are equitably distributed and impacts shared. Additionally, more intangible impacts relating to sense of place and community, cohesion, and safety are key wellbeing factors that will require effective management to reduce impacts of project development.

The mitigation strategies proposed (as outlined in **Section 5.0**), include environmental management plans, noise and visual impact mitigation and traffic management strategies; as well as a number of social impact management strategies, including development of a Community and Stakeholder Engagement Plan, an Industry and Aboriginal Participation Plan, an Accommodation and Employment Framework, a Community Benefit Sharing Plan and a Complaints Management Plan and register. The implementation of such strategies will assist in reducing social and environmental impacts that may occur because of the Project and where possible need to be developed in consultation with key stakeholders.

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