Hexham
Wind Farm

Chapter 21

Socio-economic

WIND PROSPECT

21.1 Overview

This chapter is based on the findings of the ***Social and Economic Impact Assessment*** undertaken by Umwelt Environmental and Social Consultants (Appendix I), which provides an assessment of the social and economic impacts and benefits associated with the construction, operation and decommissioning of the project. It also provides an overview of the social locality and context in which the project is situated, and identifies the social and economic impacts relevant to the project, as determined through stakeholder engagement. These impacts have been evaluated, and potential strategies provided to enhance positive social and economic impacts associated with the project and mitigate potential negative impacts.

During construction, temporary negative impacts to the current way of life, community, culture, health and wellbeing, and environment and amenity are anticipated. These impacts are associated with the generation of dust, noise and vibration, changes to the visual character of the landscape, increased traffic on local roads, and the presence of a construction workforce that affects the community's sense of place. Potential impacts to environment and amenity, culture and way of life are also predicted during the operation of the project, particularly cumulative noise and visual impacts resulting from the nearby existing and approved wind farms.

Through the design process, the project has sought to avoid and minimise potential impacts to people and the local community through the implementation of management controls. Overall, the social and economic residual impact significance during construction, operation and decommissioning were assessed to be low-medium.

21.2 EES objectives and key issues

The EES scoping requirements specify the evaluation objective and key issues, relevant to social and economic effects (see Table 21.1). The key issue relevant to social and economic impacts is the potential for adverse and economic and social effects. Matters relating to the disruption to existing and proposed land uses are addressed in Chapter 20 – ***Land use and planning***. Potential adverse effects of the project on aviation are discussed in Chapter 22 – ***Aviation***. Potential interference with communication systems that use electromagnetic waves is discussed in Chapter 24 – ***Electromagnetic interference.***

Table 21.1 Evaluation objectives and key issues relevant to potential social impacts

Evaluation objective	
Land use and socioeconomic: *To avoid and minimise adverse effects on land use (including agricultural and residential), social fabric of the community (with regard to wellbeing and community cohesion), local infrastructure, electromagnetic interference, aviation safety and to neighbouring landowners during construction, operation and decommissioning of the project.*	
Key issues	• Significant disruption to existing and/or proposed land uses, with associated economic and social effects on households and businesses. • Potential adverse effects of wind turbines and associated infrastructure from an aviation perspective, including but not limited to impacts on aerial safety, air traffic control equipment, obstruction and turbulence • Potential interference with communication systems that use electromagnetic waves as the transmissions medium (e.g. television, radio, mobile reception).

21.3 Legislation, policy and guidelines

21.3.1 Ministerial guidelines for assessment of environmental effects

The ***Social and Economic Impact Assessment*** was prepared in accordance with the Ministerial guidelines for assessment of environmental effects (the Guidelines) (DTP, 2023b). The guideline outlines that an EES should assess the social implications of a project for affected communities, including impacts to amenity, social and recreation activities, access to social infrastructure and community cohesion.

The Victorian Government's Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A guide for renewable energy development in Victoria (DELWP, 2021c) outlines that social impacts, applicable to Victorian renewable energy projects include those that *"affect local and regional communities, both directly and indirectly in a positive or negative way. The impacts can be perceptual or physical and can be felt by individuals, families, social groups, workplaces, and other segments of the community."*

To respond to the requirements of the Guidelines, the following social impacts have been assessed:

- Potential changes to local population and demographic profile
- Social structure and networks
- Residential amenity and social well-being
- Social vulnerability and differential effects on parts of the community
- Housing and social infrastructure needs
- Perceptions of aesthetic, recreational and other social values of landscape or locality
- Attitudes to proposed development.

21.4 Investigation area

The investigation area comprises the extent of the project's 'social locality', including the specific geographies and communities. There is no fixed definition for a predefined geographic boundary for a social locality. Instead, the scale of the social locality is defined on a case-by-case basis.

The social conditions are based on the definition of the project's social locality and provides information on the existing social environment and trends from which potential social impacts may arise. It provides a foundation from which social and economic impacts can be predicted.

The defined social locality considers:

- The scale and nature of the project.
- Who may be affected by the project and how they may be affected, including consideration of vulnerable or marginalised people that may be affected by the project.
- Built or natural features on or near the project site that could be affected, and the intangible values that people may associate with the features.
- Relevant social, cultural, demographic trends or social change processes occurring now or in the past near the project site and in the broader region.
- The history of the proposed project and the area.

In defining the social locality for the project, statistical areas prescribed by the Australian Bureau of Statistics (ABS), as well as land tenure of properties in or near the project site, were considered. The social locality relevant to the project is identified in Figure 21.1 and Figure 21.2, and described in Table 21.2 below.

Table 21.2 Social locality and justification

Settlement aspect	Township / Locality / Community & Population	Reason for inclusion
Host Landholders	14 landowners with project infrastructure to be located on their land	While these host landholders may experience impacts of the project, they have agreements in place with the proponent to allow access and use of their land for the project construction and operation.
Proximal Neighbours	Residents within 6 kilometres of a project wind turbine	There are 218 stakeholders (households) within 6 kilometres of a turbine who are most likely to experience impacts associated with project construction and operation.
Surrounding Locality Residents (population)	Hexham – 130 Caramut – 256 Minjah – 65 Woolsthorpe – 264 Ellerslie – 157	The project intersects or is in proximity to these localities.
Indigenous Communities	Eastern Maar Peoples	Traditional owners of the land and other Aboriginal people who value and have connection to land may have concerns relating to cultural heritage and sites of significance within or surrounding the project.
Local Transport/ Access Routes	Hamilton Highway Hamilton Lane Woolsthorpe-Hexham Road Hexham-Ballangeich Road Immigrants Lane Gordons Lane Keillor Road Warrnambool-Caramut Road	Project construction activities may affect these roads. Refer to the ***Traffic and Transport Impact Assessment*** (Appendix G) for further detail.
Major Transport Routes (over size and over mass)	Port of Portland (preferred route, three route options) Port of Geelong (alternative route)	Residents along the transport route may experience higher traffic volumes, leading to congestion and longer travel times. The presence of heavy vehicles on school bus routes could also raise safety concerns for children and other road users. Refer to the ***Traffic and Transport Impact Assessment*** (Appendix G) for indicative project transport routes extending from the Port of Portland and Port of Geelong to the project site.
Host Local Government Area (population)	Moyne Shire: 17,372	The project site is located within the Moyne LGA.
Geographically adjacent rural centres (drive times and population)	Mortlake 15 min / 1,477 Koroit 26 min / 2,184 Terang 25 min / 2,254 Port Fairy 42 min / 3,742	These settlements are included due to their physical proximity to the project, which indicates that they may be most likely to provide services to support the project.

Settlement aspect	Township / Locality / Community & Population	Reason for inclusion
Regional Centres (within 90-minute drive) (drive times and population)	Warrnambool 30 min / 31,308 Portland 1 hr 16 min / 10,016 Ararat 1 hr 5 min / 8,500 Hamilton 57 min / 10,346 Camperdown 40 min / 3,353	These larger major townships are likely to have capacity to support accommodation and service needs of the project.
Neighbouring and Proximal Local Government Areas (LGAs) (population)	Neighbouring LGAs: • Warrnambool – 35,406 • Glenelg – 20,152 • Southern Grampians – 16, 588 • Ararat – 11,880 • Corangamite – 16,115	The neighbouring LGAs surrounding Moyne LGA are likely to provide employment, accommodation and services to the project.
	Proximal: • Ballarat – 113, 763	Ballarat is located east of the project site and is likely to provide high-order services and employment to the project.
Proximal projects with the capacity to generate cumulative impacts	Mt Fyans Wind Farm Darlington Wind Farm Woolsthorpe Wind Farm Swansons Lane Wind Farm Mortlake Energy Hub	These projects have been considered as part of the cumulative impact assessment.
Transmission Line	Moorabool-Heywood	The project will connect to the existing Moorabool-Heywood transmission line.
Renewable Energy Zone	South West Renewable Energy Zone	The South West Renewable Energy Zone has been identified by the Victorian State Government as an area with abundant renewable energy resources, such as wind and sun, and being appropriate for development from a land use and environmental perspective.
Natural Attributes	Budj Bim Cultural Landscape Lake Bolac	These natural attributes are valuable to the local and regional community.

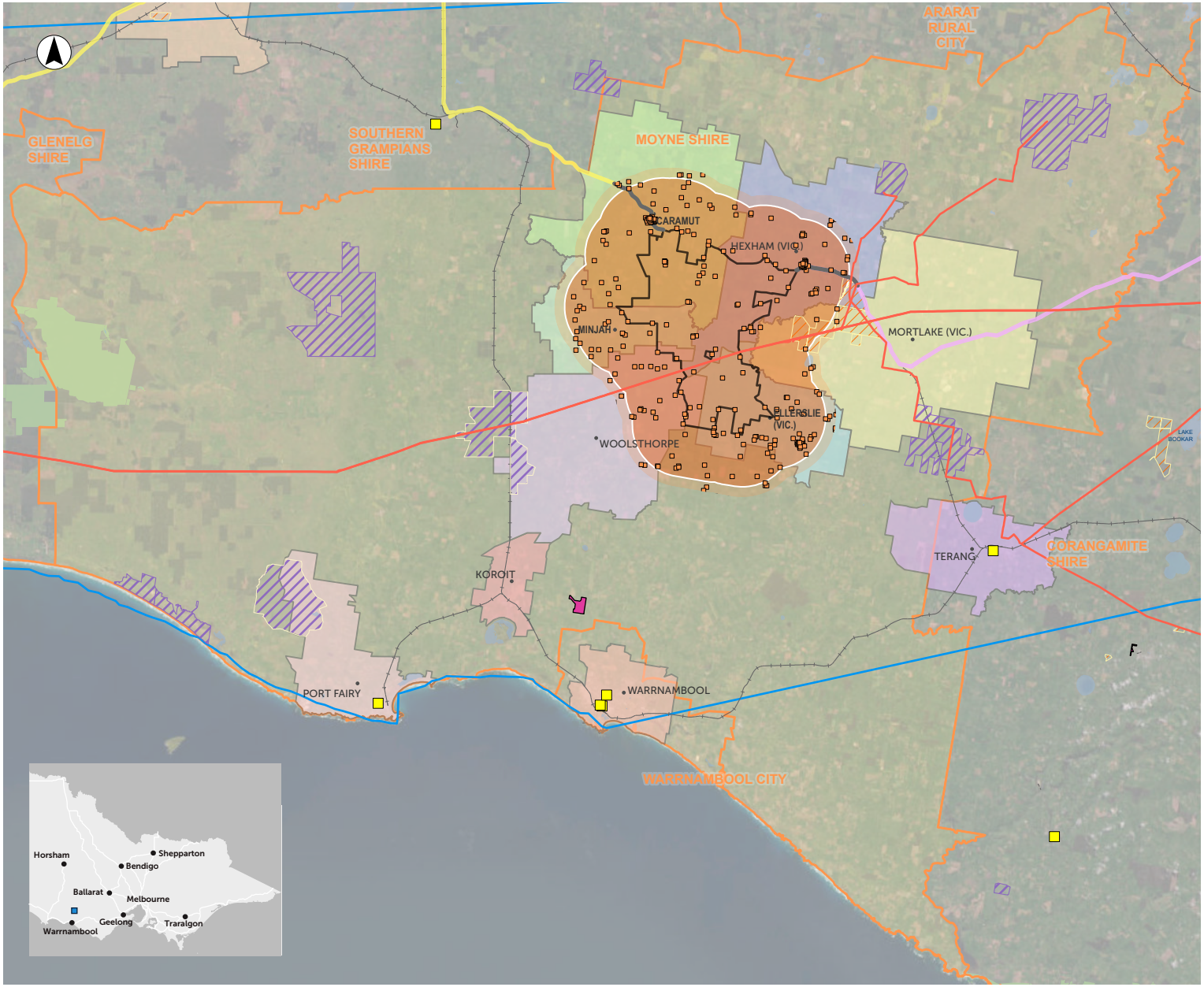
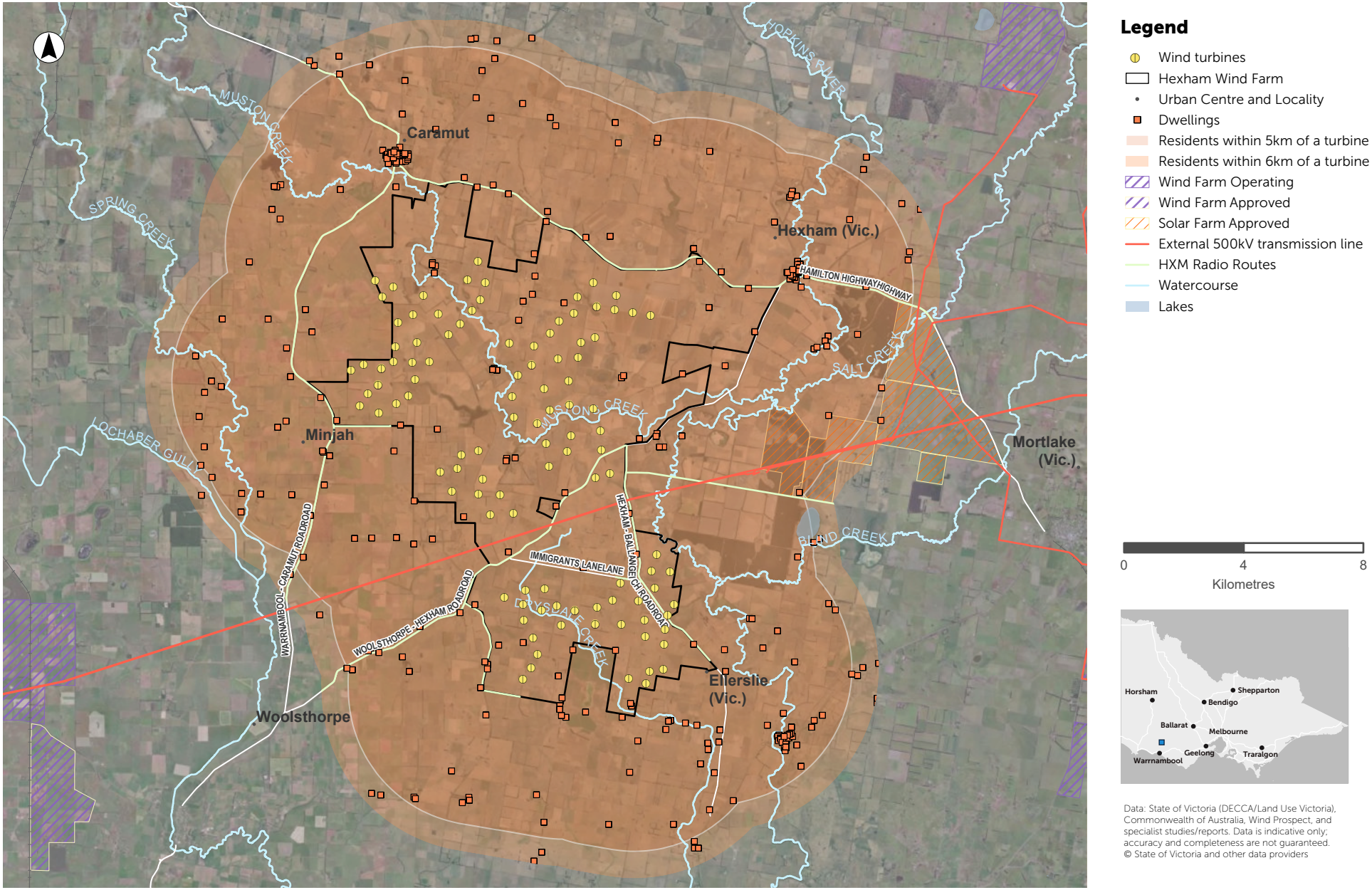


Figure 21.1 Social locality relevant to the project



Data: State of Victoria (DECCA/Land Use Victoria), Commonwealth of Australia, Wind Prospect, and specialist studies/reports. Data is indicative only; accuracy and completeness are not guaranteed.

Figure 21.2 Social locality inset

21.5 Method

Baseline data and data gathered by the proponent during stakeholder engagement activities to inform the assessment of potential social and economic impacts. The assessment was also informed by the Economic Impact Assessment undertaken by Geographia, which is provided as Appendix F to the ***Social and Economic Impact Assessment***. The assessment approach involved several steps performed by Umwelt across the three key stages: scoping, impact assessment and prediction, and social and economic impact management. These steps are further described below:

Scoping

- Identification of the extent of the project's social locality including geographies and communities relevant to the assessment.
- Preparation of community and stakeholder engagement strategy.
- Development of social and economic baseline of the project locality to understand the social and economic environment.
- Engagement with key stakeholders to validate social and economic baseline and inform assessment.
- The scoping stage of the assessment has informed the Existing Conditions described in Section 21.6 of this chapter.

Impact Assessment and Prediction

- Collaboration with project team to ensure relevant stakeholders have been provided with an opportunity to provide input.
- Engagement activities with affected stakeholders to identify key social impacts.
- Assessment of social and economic impacts (as informed by the *Economic Impact Assessment* prepared by Geographia) of project activities, providing an evidence base for impact significance.
- Identification of mitigation measures in collaboration with affected stakeholders, with consideration of the impacts identified within the Economic Impact Assessment.
- Determination of residual social and economic impact ratings, considering likelihood and magnitude.
- The impact assessment and prediction stage of the assessment has informed the Impact Assessment and Residual effects described in Section 21.7.1 and 21.7.4 of this chapter.

Social and Economic Impact Management

- Development of appropriate responses to social and economic impacts using stakeholder input.
- Communication of outcomes of specialist studies, mitigation measures and residual impacts to stakeholders.
- The social and economic impact management stage of the assessment is addressed in Section 21.7.2 and 21.7.3 of this chapter.

21.5.1 Social Impact Assessment

A social significance matrix (Table 21.3), considering magnitude and likelihood, was used to determine an overall significance of social impacts. Table 21.4 and Table 21.5 outline the magnitude and likelihood assessment criteria.

Table 21.3 Social Impact Significance Matrix
(Source: NSW Government technical supplement to support the Social Impact Assessment Guideline for State Significant Projects, 2021)

		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

Table 21.4 Defining the Magnitude Levels for Social Impacts

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

Table 21.5 Defining Likelihood Levels for Social Impacts

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

21.5.2 Economic Impact Assessment

An Economic Impact Assessment was prepared by Geographia to identify potential economic impacts associated with the project. This assessment used a regional input-output model, which tracks the total aMt of money flowing within a region's economy, considering industries, households, government, and businesses.

The assessment also considers of the potential impacts of the project on the agricultural industry in Warrnambool and south-west Victoria based on ABS Labour Force Industry data.

The method undertaken by Geographia to prepare the Economic Impact Assessment is based on the Flegg Location Quotient methodology. This approach creates a regional input-output model, using local job ratios by industry to understand local input-output aMts. The Leontief Inverse formula was then applied to the industry and household data to calculate the Total Economic Multipliers. These multipliers represent the additional expenditure generated for other supplying industries and households. This formula was used to calculate the local economic impacts of the project in addition to the existing regional expenditure.

The modelling assumptions are outlined below:

- Fixed Prices: Prices remain constant during the project's construction and operation phases, a standard assumption for input-output models.
- Discount Rate: A 4% discount rate is applied to future cash flows, as recommended by the Victorian Department of Treasury and Finance.
- Economic Growth: The investigation area's economy and industry values are assumed to grow at 2.5% per annum, matching the historical Gross Regional Product (GRP) growth rate.
- Local Economic Impacts: Annual expenditure inputs from the project's construction and operations phases are used to determine local direct economic impacts, based on project information and economic analysis.

To estimate the economic impacts of the project, the assessment quantified the total output impact using the total Gross Regional Product impact, and the total employment impact.

Gross Regional Product refers to the total economic value generated in the regional economy, including total business profits/surplus, wages, renumerations and next taxes on products and services.

Total Output refers to the total industry expenditures in the regional economy, including additional expenditure in supplying industries.

Total Employment refers to the total full-time equivalent employment impact from the project, including employment generated from supplying industry sectors.

For further details on the economic modelling, including adopted model assumptions, refer to the Economic Impact Assessment, provided in Appendix F of the ***Social and Economic Impact Assessment*** (Appendix I).

21.5.3 Stakeholder consultation

Stakeholder engagement undertaken by Umwelt included face-to-face meetings, in-person events, online surveys and targeted stakeholder interviews. These engagement activities focused on providing information on the project and planning process and building an understanding of the social context within which the project is being proposed. Through this engagement process potential social impacts of the project were identified, and community feedback sought on proposed management measures to address these impacts.

Community engagement activities are further discussed in Chapter 7 – ***Stakeholder consultation***.

21.6 Existing conditions

21.6.1 Local profile

For the purpose of the impact assessment, the local area includes the host townships (Hexham, Caramut, Minjah, Woolsthorpe, Ellerslie), adjacent townships (Mortlake, Koroit) and the Moyne LGA. The closest settlement to the project is Hexham, with a population of 130 in 2021, situated on the Hopkins River along Hamilton Highway.

Moyne Shire is part of the Barwon-South West Region, which spans an area of 27,000 square kilometres from Colac and Apollo Bay to the South Australian border, encompassing five LGAs. The region attracts nearly one million tourists annually, drawn to sites like the Shipwreck Coast, Twelve Apostles, and the Budj Bim Cultural Landscape (Great South Coast Group, 2014; Victoria State Government, 2022).

Moyne Shire, with a population of 17,374 in 2021, covers an area of 5,482 square kilometres with 96.7 per cent of its land used for primary production. Key economic industries are agriculture, forestry and fishing. Moyne Shire surrounds Warrnambool City LGA (Victoria State Government, 2022; Moyne Shire Council, 2019b).

Moyne Shire is a key area for wind farm development within the South West Renewable Energy Zone. A 2022 survey of 400 residents in Moyne Shire identified mixed views on wind farm developments: 54% positive and 29% negative, with Moyne East residents most divided. While 62% of residents favoured wind energy, 81% preferred solar.

21.6.2 Larger regional centres

Larger towns and regional centres within the area include the townships of Port Fairy, Warrnambool, Portland, Ararat and Hamilton. Larger regional facilities such as major hospitals with emergency departments and other emergency services are located within Port Fairy, Portland, Warrnambool and Hamilton, most of which are within an hour's drive of the project site. The larger regional towns also provide education facilities and medium- to large-scale retail services (e.g., large supermarkets and other speciality shops), as well as recreational facilities (e.g., sporting clubs, parks and beaches). An overview of these towns and community services and facilities they provide is included in the following sections.

Port Fairy

Port Fairy is located within the Moyne Shire and has a population of 3,742. Port Fairy is serviced by a working port managed by Moyne Shire Council and used by commercial fishers and recreational boaters and anglers. The relative proximity of Port Fairy to the project site and the wide range of amenities provided indicate the township will be an important base for non-local workers, as well as providing a limited range of construction and support services to the project. Port Fairy was a popular base for workers during the construction of the Macarthur Wind Farm.

Port Fairy provides a wide-range of amenities, including medium-scale retail services, food shops, medical services and trade supplies. Recreational entertainment includes parks, beach, river and sporting clubs.

Warrnambool

Warrnambool is the closest regional city to the project site, with a diverse housing stock, services and amenities. The City of Warrnambool has a population of 31,308. Warrnambool is connected to the project via the Principal Freight Network of Hopkins and Hamilton Highways, with links to Geelong and Melbourne via road and rail. It is considered a regional intermodal hub by Freight Victoria, with several freight and logistics businesses based in Warrnambool linking transport solutions in the region. Warrnambool is a 40-minute drive from the project site.

Key services in Warrnambool include major transport and freight services, health care (including emergency department), trade supplies, fuel supplies, large-scale retail services, food shops, entertainment (including beaches, parks, arts centre and cinema), and a significant quantity and range of commercial accommodation options.

Portland

Portland is a regional town located on Portland Bay, with a population of 10,016. Given its strategic port location, Portland would play a key role in the transportation of equipment to the project site. Key services include the Port of Portland and freight services, health care (including emergency department), medium-scale retail services, food shops, fuel supplies, entertainment and trade supplies.

Hamilton

Hamilton is the service centre of the Southern Grampians Region, located at the intersection of the Glenelg Highway and the Henty Highway and connecting to the City to Geelong. Hamilton, with its country lifestyle and good range of amenities, is likely to be attractive to some project workers including those seeking more affordable accommodation compared with Port Fairy or Warrnambool. Hamilton hosted many project workers during the construction of the Macarthur Wind Farm. Hamilton also has a strong industrial base to support the construction phase of the project.

Services available in Hamilton include health care (including emergency department), medium-scale retail services, food shops, fuel supplies, entertainment (including arts centre and cinema), trade supplies and a reasonable supply of commercial accommodation options.

Ararat

Ararat LGA is located north-west of the project site and has a population of 11,880, with most of the population living in the City of Ararat. It is a major regional service centre supported by small rural townships and is the gateway to the Grampians, a key tourism hub for the region. Ararat sits at an important road junction with the Pyrenees Highway, which connects north-western Victoria with the Port of Portland in the south. Ararat is a major regional service centre in Victoria's mid-west and is supported by several small rural townships. The region is connected through passenger and rail freight to Ballarat, Melbourne, Adelaide and the Port of Portland in the south.

Glenelg

Glenelg LGA is located west of the project site. The LGA is located around a deep-water port, with Portland being a major township and home to the only aluminium smelter in Victoria. The economy is based around service industries, timber production, grazing and manufacturing. Glenelg Shire is served by the Glenelg Highway, Henty Highway, Princes Highway, the Port of Portland and Portland Airport.

Southern Grampians Shire

The Southern Grampians Shire is located west of the project site. The LGA is a predominately rural area, with the main township being Hamilton. Much of the rural landscape is used for agriculture and sheep grazing, with some mining. Southern Grampians Shire is served by the Glenelg Highway, Hamilton Highway and Henty Highway.

21.6.3 Community Resilience and Adaptive Capacity

This section summarises the resilience and adaptive capacity of the locality compared to the rest of the region. This considers the impact of the project across community capital areas including political, natural, human, social, economic, physical and cultural. These capital areas are outlined in Figure 21.3.

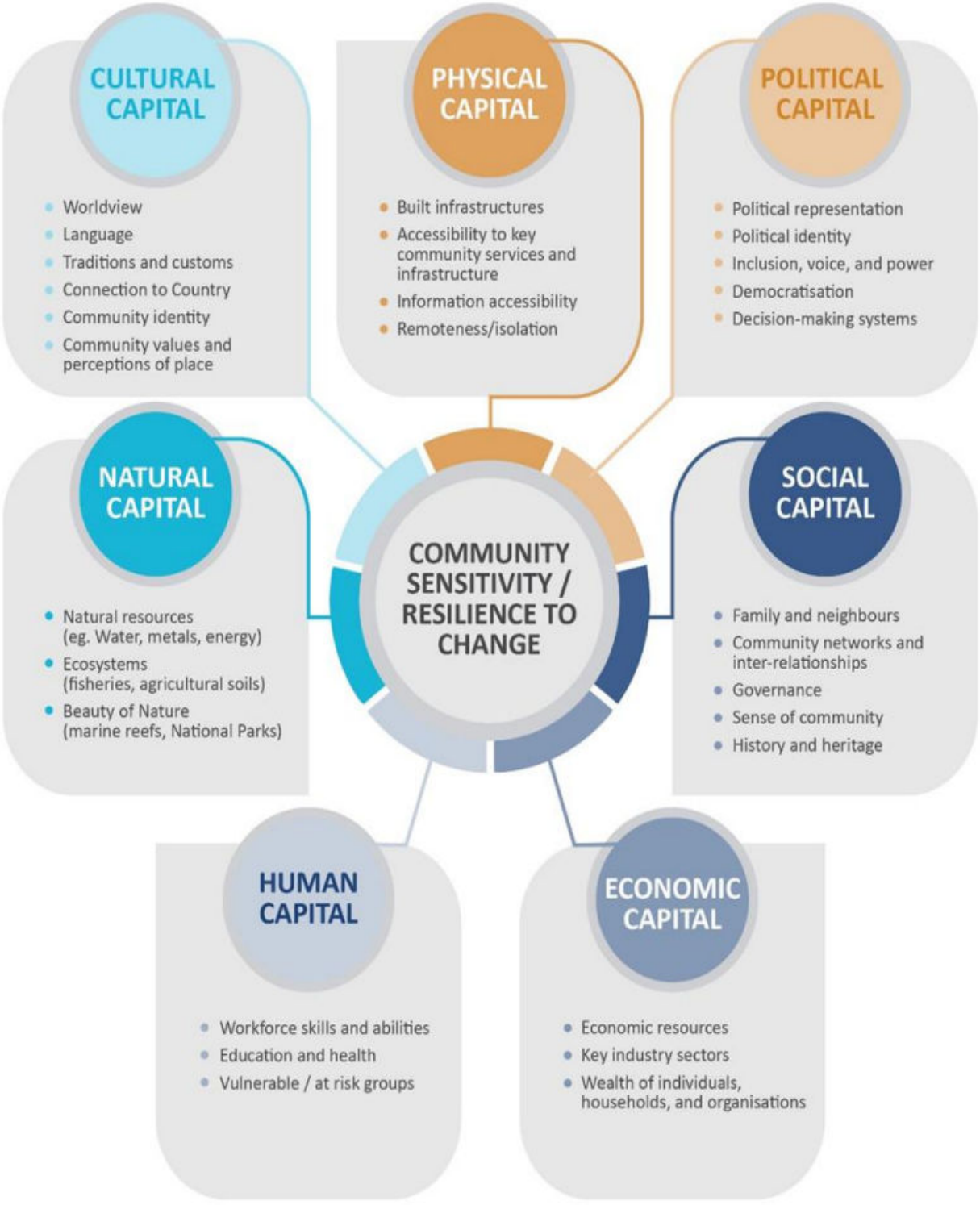


Figure 21.3 **Community Capital Areas** *(Source: Umwelt, 2025)*

Locally, residents have expressed a desire to protect their rural and social amenities and to see improvements in essential services, such as better access to health, education and housing. These communities possess strong social, natural and cultural capital, fostering a sense of community, but they are concerned about the potential cumulative impacts of further energy project development.

Regionally, issues include climate change vulnerability affecting natural capital, disparities in human capital between neighbouring LGAs, reduced economic diversity, increased cost of living, and a tighter labour market. Addressing these challenges requires a balanced approach that considers both local and regional perspectives.

Overall, the community's capacity to adapt to change, particularly in relation to the construction, operation, and decommissioning of renewable energy projects, faces significant challenges. The region is largely agricultural, with an aging population and a disproportionate socio-economic disadvantage, which exacerbate resistance to new developments. These barriers highlight the need for tailored strategies that address the unique socio-economic and demographic characteristics of the community to foster a more adaptive and accepting environment for renewable energy initiatives.

A summary of key considerations is outlined in Table 21.6.

Table 21.6 Community Capital Analysis Summary

Capital	Description	Key Aspects
Political	The structures and capabilities used to ensure representation in formal governance structures and involvement in democratic decision making.	• Moyne Shire Council has proposed a pause on planning permits for all wind farm developments to provide an opportunity to identify strategies to better manage project and cumulative impacts.
Natural	The natural assets and resources that contribute to community sustainability, including minerals, land, forests, and waterways, which provide benefit to the community, as well as environmental assets that provide social, cultural, or recreational value.	• The natural landscape is valued by the community. This land has been identified as having favourable natural resources for renewable energy development (sun and wind). • The area has high quality agricultural land. Wind farm development can allow the continuation of agricultural activities for host landholders, however they may alter the sense of place due to industrialisation of the landscape.
Human	Population size, age distribution, education and skills, general population health and the prevalence of vulnerable groups within the community.	• Slow projected population growth, combined with an aging population, reducing proportion of population within working ages (18-64 years). • Higher levels of certificate attainment provide opportunity to train or employ local workforce. • Lower attainment of bachelor's degree level limits potential skills pool for wind farm construction workforces. • Tertiary education attainment in key fields of study for wind farm construction workforces such as engineering and related technologies and architecture and building were greater across the social locality especially at certificate level. • There is a higher burden of disease in Moyne LGA, increasing demand for health services and medical practitioners.

Capital	Description	Key Aspects
Social	The level of volunteering, population, mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas, language proficiency	• Lower levels of population transiency, indicating greater social ties and connection to the local area. • Predominately family households across the social locality indicating greater demand for social and health services. • Increase in crime, which may be further exacerbated by transient workforces or significant population changes. • Disproportionate levels of socio-economic disadvantage between key townships such as Mortlake, Terang and Port Fairy, indicating unequal distribution of income, housing and employment.
Economic	The extent of financial or economic resources within a town or community, including industry and employment distribution, workforce participation and unemployment, income levels and cost of living pressures, such as weekly rent or mortgage repayments.	• Lower levels of unemployment indicate tighter labour markets, which are constrained and impact both large and small businesses. • Moyne LGA has economic reliance on few industries making them vulnerable to significant changes. Though the recent rise in renewable energy sees the LGA better positioned to support multiple industries and grow its economic resilience. • The region has a workforce skilled in key wind farm occupations, enhancing its renewable energy sector. • Home ownership is more affordable, however household costs show a contrast between rising rental payments and lower house prices, highlighting the disparity between vulnerable renters and those who can afford to buy a home.
Physical	Infrastructure and services within to the community, considering the type, quality, and degree of access to public, built and community infrastructure (including amenities, services, and utilities) as well as housing.	• There is limited access to rail transport, which restricts accessibility of work, education, and healthcare. • There is a greater reliance on cars, increasing congestion on local roads. • Limited access to medical practitioners may impact timely healthcare, which can affect overall community health. • Minimal affordable housing impacts vulnerable communities who struggle to find affordable living options, exacerbating issues of homelessness and financial instability. Though Moyne Shire Council is actively making efforts to address the housing demands of the community through housing initiatives. • The higher rate of home ownership indicates that the community has sense of place and community identity. • Regional townships such as Warrnambool in proximity to airport and travel options.
Cultural	The extent to which the local culture, traditions, or language, may promote or hinder wellbeing, social inclusion, and development.	• There is a higher Aboriginal and/or Torres Strait Islander population within Moyne and the broader LGAs who may potentially be vulnerable to changes to the region. • The social locality is rich with Indigenous culture which is celebrated by the Eastern Maar community. • Agricultural background is celebrated, and the region is a tourism destination.

21.7 Impact assessment

A key component of the ***Social and Economic Impact Assessment*** is identifying the key issues and impacts from the perspective of affected communities and identifying ways to enhance benefits and manage negative impacts. Outcomes of engagement undertaken by Wind Prospect have also been incorporated in the evaluation of each impact, as relevant, to provide a comprehensive overview of community perspectives of impact – both positive and negative. Further detail on these engagement activities undertaken is provided in Chapter 7 – ***Stakeholder engagement***.

Figure 21.4 and Figure 21.5 summarise the community attitudes that informed the assessment and they demonstrate the level of importance and concern relating to the project based on personal interviews and community survey responses. As shown in Figure 21.4 the positive impacts of the project, based on community engagement, are reduced energy costs, local economic benefits, including employment opportunities, improved community services through effective community benefit sharing programs, and reduced climate change impacts.

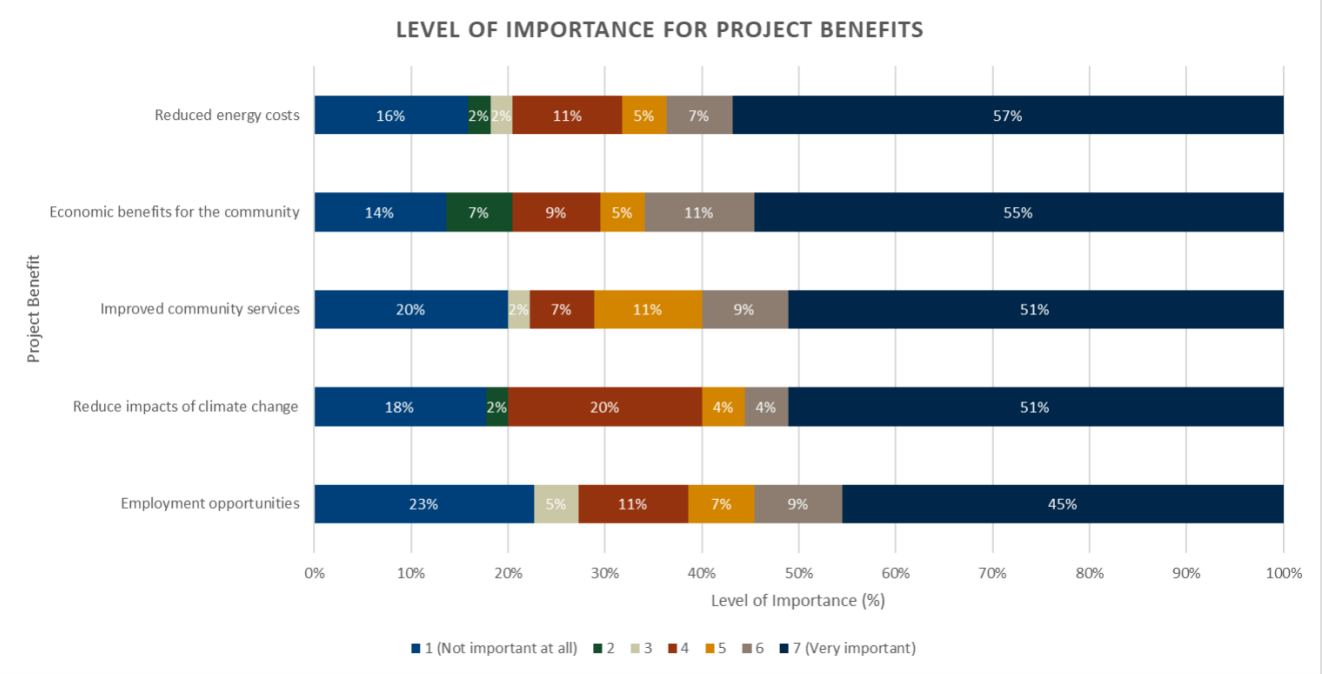


Figure 21.4 Community attitudes towards project benefits

Figure 21.5 identifies the level of concern, based on community engagement, relating to potential negative impacts. These impact themes are further discussed Table 21.7. The residual impact associated with these themes is discussed in Section 21.7.4 and summarised in Table 21.9.

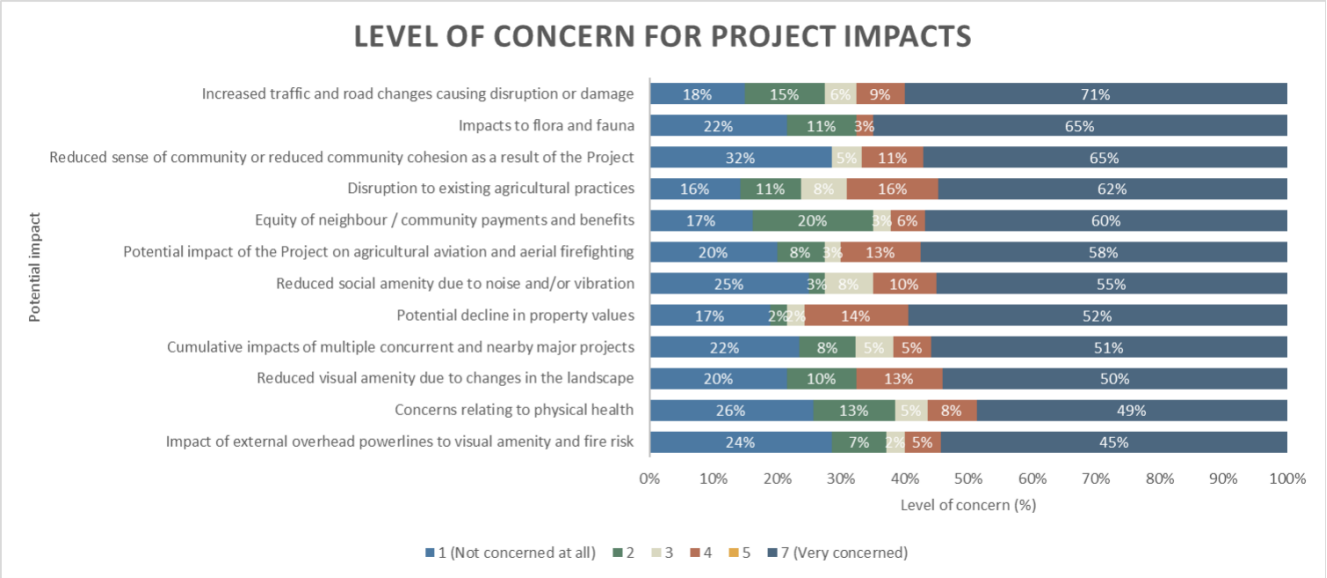


Figure 21.5 Community attitudes towards project impacts

21.7.1 Impact pathways

Insights gained through community engagement, secondary data, social research, and other technical studies undertaken for the project, have informed the identification and evaluation of the social and economic impacts.

Once operating, potential social and economic impact pathways mostly relate to the physical presence of wind turbines. Decommissioning would have similar impact pathways to construction, associated with large equipment and transport of project components away from the site, but would be of lower magnitude and for a shorter duration. As decommissioning impacts would be experienced in approximately 25 years, the significance of these impacts to the community is uncertain, however it is expected they would be substantially lower than construction impacts.

Table 21.7 Potential social and economic impact pathways

Social / economic impact theme	Project phase	Impact pathway	Impact description
Sense of place, community relations and social cohesion	Construction	Arrival of construction workforce	Temporary change to community composition, cohesion and character
	Construction and operation including quarry construction, operation and decommissioning	Changes to the visual character of the landscape	Altered community sense of place
Existing land uses and environmental and cultural values	Construction and operation	Earthworks and construction of project components	Loss of biodiversity highly valued by the community
	Construction		Impacts to cultural values and indigenous connection to country
			Loss of European culture and heritage
	Construction and operation		Reduced agricultural production due to changes in land use
	Construction including quarry construction and operation activities such as blasting	Generation of dust, noise and vibration	Reduced social amenity

Social / economic impact theme	Project phase	Impact pathway	Impact description
Access to infrastructure and services	Construction	Increased traffic on local roads (including more heavy vehicles)	Increased disruption (stress and frustration) due to increased travel times
			Reduced community safety due to deterioration of local roads
			Reduced safety on local roads along transport routes
	Construction	Arrival of construction workforce	Decreased accessibility and increase wait time for local health services and emergency services
			Increased demand for housing and accommodation, affecting accessibility, availability and affordability
	Operation	Installation of project infrastructure	Electromagnetic interference to existing radiocommunication services
Decision-making systems	Construction, operation and decommissioning	Lack of community involvement in the assessment, planning, and decision-making process	Loss of trust and engagement in decision-making systems and assessment process
			Heightened levels of community outrage associated with perceived inability to inform regional and state Renewable Energy planning and decision-making processes
Property value and livelihoods	Construction and operation	Presence of wind turbines and supporting infrastructure	Reduced access for agricultural aviation activities
			Reduction in livelihood due to reduced property values
Community health and public safety	Construction and operation	Installation of project infrastructure	Impacts to public safety associated with aerial firefighting access
	Construction, operation and decommissioning	Project development	Increased stress and anxiety due to uncertainty associated with project development and changes to way of life
	Operation	Project operation	Health and wellbeing impacts associated with noise, shadow flicker and electromagnetic field effects
Economic effects	Construction and operation	Workforce and local spending	Skills development and local employment opportunities, including procurement of local suppliers and contractors, enhancing the local economy and livelihoods
			Benefits for future generations
	Operation	Income generation	Inequitable distribution of costs and benefits associated with the project

Further details about these impact pathways are included in discipline-specific chapters including:

- Chapter 2 – ***Project rationale and benefits***
- Chapter 8 – ***Biodiversity and habitat***
- Chapter 10 – ***Brolga***
- Chapter 14 – ***Landscape and visual***
- Chapter 15 – ***Shadow flicker and blade glint***
- Chapter 17 – ***Noise and vibration***
- Chapter 18 – ***Aboriginal cultural heritage***
- Chapter 19 – ***Historical cultural heritage***
- Chapter 20 – ***Land use and planning***
- Chapter 22 – ***Aviation***
- Chapter 24 – ***Electromagnetic interference***
- Chapter 25 – ***Traffic and transport.***

These chapters are cross-referenced within this chapter, where relevant.

21.7.2 Design mitigation

Avoidance and minimisation of impacts has been central to the development of the project. The approach has been to avoid potential impacts first, then minimise the severity of the impact, followed by the application of targeted management measures that protect people and the environment.

Throughout the EES process the project design has been refined to address concerns raised by the community and in response to the outcomes of specialist studies. These changes have included:

- Application of buffer zones around key townships (e.g., a four kilometre buffer from the Caramut township zone, and three kilometre buffer from Ellerslie and Hexham township zones).
- Application of 1.5-kilometre buffer from neighbouring dwellings to the closest wind turbine.
- Reducing potential impacts to Brolga populations by avoiding long rows of turbines. Gaps between turbines effectively mitigate potential barrier effects, regardless of whether an additional wind farm is constructed nearby (Appendix D – ***Flora and Fauna Assessment***).
- Avoiding registered Aboriginal places and minimisation of encroachment on legislated areas of Aboriginal cultural heritage sensitivity (Appendix J – ***Aboriginal Cultural Heritage Impact Assessment***).
- Incorporating turbine free buffers around confirmed or historical Brolga breeding wetlands (Appendix C1 – ***Brolga Impact Assessment***).
- Placement of 100 metre buffers around DEECA-mapped wetlands, specific watercourses and ephemeral drainage lines to minimise impacts on native vegetation, threatened ecological communities and listed flora species (Appendix D – ***Flora and Fauna Assessment***).
- Realignment and micro-siting of infrastructure to avoid most native vegetation, Grassy Eucalypt Woodland of the Victorian Volcanic Plain and Natural Temperate Grasslands of the Victorian Volcanic Plain where infrastructure is to be constructed (Appendix D – ***Flora and Fauna Assessment***).

A range of other commitments to mitigate impacts to vegetation and habitat during construction have also been proposed (refer Appendix D – ***Flora and Fauna Assessment***).

21.7.3 Environmental management measures

To further minimise potential impacts, management controls will be implemented during the design, construction, operation and decommissioning of the project. Committed social and economic management measures are outlined in Table 21.8. These management measures are further discussed in Chapter 28 – ***Environmental management framework.*** A broad range of management controls have been proposed to minimise potential impacts to amenity, culture and the environment, and are presented within other discipline-specific chapters of this EES.

Table 21.8 Social and economic management measures

Social / economic impact theme	Project phase	Management measures	Number
All impact pathways	Pre-construction Construction Operation	**Community and Stakeholder Engagement Plan** 1. Prior to the commencement of construction, develop and implement an overarching Community and Stakeholder Engagement Plan to facilitate ongoing consultation between the Proponent and the broader community. 2. The Community and Stakeholder Engagement Plan will: a. provide an approach for ongoing engagement with the broader community about the long-term benefits and opportunities of the project b. outline how the Proponent will maintain a stakeholder database throughout the life of the project to assist identifying and resolving project issues experienced by stakeholders efficiently, to put stakeholder ease of communication and issue resolution at the heart of stakeholder relations c. outline procedures and mechanisms for the regular distribution of accessible information about or relevant to the project d. identify opportunities to provide timely, useful and accurate information regularly about construction activities, schedules and milestones e. include measures to notify affected landowners and neighbours well in advance about any specific construction issues with direct impacts on properties (e.g., traffic management, out-of-hours work) and how they can easily reach the project team with questions f. detail the mechanisms for advising the community in advance of upcoming works (where necessary) and how the proponent will work with community to mitigate the negative impacts of construction whenever possible g. be reviewed and adapted based on community feedback so that the communications and engagement approach is fit for purpose and meets the needs of the community h. address the requirements of relevant EMMs, including specific engagement to be undertaken in relation to potential impacts to groundwater use, the storage of dangerous goods, aviation and electromagnetic interference.	EMM02

Social / economic impact theme	Project phase	Management measures	Number
	Construction Operation	**Community and Stakeholder Engagement Plan - Complaints management procedure** 1. Prior to the commencement of construction, a complaints management procedure will be developed as part of the Community and Stakeholder Engagement Plan (EMM02) to ensure that concerns or grievances are handled consistently and fairly. 2. The complaints management procedure will: a. outline the process for making and recording complaints b. provide a range of avenues (e.g., direct phone number, email) for community members to express their concerns or ask questions c. specify response and resolution procedures to ensure timely responses are provided to complaints raised d. outline roles and responsibilities within the project team for the receipt, handling and escalation of complaints e. outline how community members can escalate their concerns should they not receive a response that meets their expectations. 3. The complaints management procedure will include a process for managing complaints relating to noise, and radio reception strength at pre-existing dwellings within 5 kilometres of the project site.	EMM03

Social / economic impact theme	Project phase	Management measures	Number
Sense of place, community relations and social cohesion	Operation	**Neighbour Benefit Sharing Program** 1. Prior to the commencement of operation, implement a Neighbour Benefit Sharing Program to promote community understanding and make a positive contribution to the potentially affected communities. 2. The Neighbour Benefit Sharing Program will include the following payments for those with a dwelling located within 6 kilometres of a constructed wind turbine (excluding stakeholder landowners): a. a one-off payment of $1,000 at the substantial commencement of construction b. a neighbour benefit payment of: i. $3,500 per constructed turbine located within two kilometres of the dwelling ii. $1,000 per constructed turbine located between two kilometres and three kilometres of the dwelling iii. $100 per constructed turbine located between three kilometres and six kilometres of the dwelling c. the neighbour benefit payment would be a minimum of $1,000 and maximum of $30,000 per year d. an energy cost offset plan to help the occupants of neighbouring dwellings with the cost of electricity, with an annual value of up to $2,000 e. Community Benefit Fund that contributes $1,000 per year per wind turbine upon commissioning of the wind farm f. a Community Co-investment Program providing an opportunity for community members and organisations to invest in the operational project, subject to sufficient interest from the local community. 3. Further engagement and involvement with the affected communities will be carried out to determine how the Neighbour Benefit Sharing Program, and in particular the Community Benefit Fund, would be set up, managed and spent.	EMM04
	Construction	**Accommodation and Employment Strategy - Management of workforce influx** 1. As part of the Accommodation and Employment Strategy (EMM05), measures to manage workforce influx will include: a. development of workforce codes of conduct b. promotion of strategies to facilitate engagement and integration of the temporary workforce in community life, through preparation of workforce welcome packs and community inductions and participation in community events and membership of local community groups c. support for local community groups, organisations and programs that address local community needs, through both in-kind (company and workforce participation) and monetary investment activities that create social value at the community level.	SE01

Social / economic impact theme	Project phase	Management measures	Number
Existing land uses and environmental and cultural values	Pre-construction Construction Operation	**Ongoing engagement around cultural heritage connections** 1. Undertake ongoing engagement with the local community and Aboriginal organisations to explore ways in which connections to local cultural heritage can be preserved and enhanced.	SE02
Access to infrastructure and services	Construction	**Accommodation and Employment Strategy** 1. Prior to the commencement of construction, develop and implement an Accommodation and Employment Strategy to manage the potential effects of workforce influx on the local community and local economy. 2. The Accommodation and Engagement Strategy will: a. outline measures to ensure sufficient accommodation is available for the construction and operational workforce associated with the project b. consider measures to maximise benefits to the local economy and business community c. consider potential cumulative impacts associated with concurrent developments in social locality.	EMM05
	Construction	**Accommodation and Employment Strategy - Temporary Workforce Accommodation** 1. As part of the Accommodation and Employment Strategy (EMM05), construct a purpose-built temporary workforce accommodation facility close the project site in consultation with Council. This will be subject to further planning and an assessment of environmental effects.	SE03
Economic effects	Construction Operation	**Accommodation and Employment Strategy - Employment partnerships** 1. As part of the Accommodation and Employment Strategy (EMM05), develop partnerships with businesses, local employment agencies, training and education providers to maximise local employment and contract opportunities. Measures could include: a. partnering with education and training organisations to offer special apprenticeships and programs b. developing a local procurement strategy for employment or contracts that gives preference to local and regional residents and businesses, including incorporating local content requirements into key project contracts to maximise local employment opportunities	SE04

21.7.4 Residual impacts

Residual effects are described based on the method described in Section 21.5.1. While all construction impacts would be temporary, potential impacts during operation may last for the life of the wind farm (i.e., 25 years or more). Residual effects related to decommissioning, associated with large equipment and transport of project components away from the site, would have similar impacts to the construction phase but would be of lower magnitude and for a shorter duration. The significance of resulting social impacts is anticipated to be substantially lower than construction impacts, noting that there is some uncertainty as they would be experienced in more than 25 years' time.

Sense of place, community relations and social cohesion

Change in community cohesion and character

Large-scale projects have the potential to alter or change the sense of community and community cohesion. These connections are developed through the interaction that people have with their environment and their community involvement and membership. The cumulative impact of multiple projects being developed in the region, including other renewable energy projects, are seen to be further contributing to reduced levels of social cohesion.

Management measures include the preparation of a Community and Stakeholder Engagement Plan [EMM02], Community Benefit Fund and Neighbouring Benefit Sharing Program [EMM04]. These initiatives provide direct benefits to affected communities and serve to lessen the perceived disruption or division caused by the project. The implementation of these management controls will also assist to facilitate discussions between community members and project representatives about project impacts and strengthen support for community events that promote cohesion.

While these measures are expected to reduce the potential impact of the project on community cohesion and character, the residual impact from these changes due to differing attitudes to renewable energy development in the local area is anticipated to be medium.

Change in sense of place

The project has the potential to affect community members' sense of place, particularly where the nature of a project is different to the existing environmental context (Devine-Wright, 2009; Giuliani, 2003; Marshall et al., 2019). These impacts will be reduced through the implementation of management controls.

The impact associated with resulting changes to the landscape can be reduced through the selection of appropriate colours for project infrastructure and vegetation screening. Vegetation screening of eligible dwellings will be implemented through an off-site landscaping plan, undertaken in consultation with landowners on a case-by-case basis [EMM LV02]. Refer to Chapter 14 – ***Landscape and visual*** for further discussion.

In consultation with the community, the Neighbour Benefit Sharing Program [EMM04], has been developed to benefit both those living near project infrastructure and the broader community. The Neighbour Benefit Sharing Program would provide financial compensation to residents living up to six kilometres from a project turbine and would include a Community Benefit Fund which is intended to support local projects and initiatives that enhance community wellbeing. This fund can be used for a variety of purposes, such as improving local amenities, funding educational programs, or supporting local environmental conservation efforts. Through the Neighbour Benefit Sharing Program and Community Benefit Fund, Wind Prospect seeks to ensure the project delivers tangible, positive outcomes for the local community.

With the implementation of these management measures, the social impact from the disruption to sense of place due to changes in surroundings and visual amenity associated with the project construction and operation is anticipated to be medium.

Change in community composition

During construction, the composition of the community would be affected by the presence of a large workforce. A temporary population increase of around 360 construction workers is expected over a 24-month period. While some of the workforce may live locally, an influx of external workers may decrease community cohesion and change the community composition and demographics. This impact may be compounded by the development of multiple projects around the same time.

Workforce influx would be managed through the Accommodation and Employment Strategy [EMM05], and measures to facilitate the engagement and integration of the temporary workforce in community life, and workforce participation in local community groups and programs [EMM SE01]. With the implementation of these management measures, the impact of the project on community composition was assessed as low.

Existing land uses and environmental and cultural values

Social amenity

Construction activities associated with the project can generate noise and vibration impacts, as well as traffic on the external road network. Local roads within and surrounding the project site have been identified as requiring upgrades to accommodate construction traffic, and to improve road safety and traffic capacity during the construction phase.

To manage amenity impacts associated with the generation of noise, vibration, and traffic, a Construction Noise and Vibration Management Plan [EMM NV01] will be prepared to address the effects of construction noise and vibration related to on-site activities and off-site traffic movements. A detailed Traffic Management Plan will be prepared to identify, assess and minimise impacts on road operations and road safety for road users where construction occurs outside the project site [EMM TT01].

Additionally, with the implementation of Temporary Workforce Accommodation [EMM SE03], traffic impacts will be reduced by housing workers closer to the project site and centralising workforce facilities. This would decrease congestion and traffic on local roads and reduce strain on the existing road network. The Temporary Workforce Accommodation is complemented by strategies such as the establishment of a Green Travel Plan [EMM TT02], which encourages carpooling and the use of shuttle buses to minimise light vehicle traffic associated with the workforce. Refer to Chapter 25 – ***Traffic and transport*** for further discussion.

Neighbouring landholders and local road users are likely to experience more significant impacts due to the capacity of the local road network to handle heavy vehicle movements. These stakeholders will benefit from the outlined measures aimed at mitigating disruptions and enhancing road conditions around the project site. To manage construction traffic efficiently, a Construction Traffic Management Plan [EMM TT01] will be developed and implemented to mitigate impacts through the scheduling of construction traffic movements outside peak travel times (including school zones), consulting with local councils and VicRoads, and providing timely updates to community members about construction activities.

Additionally, the establishment of a Complaints and Grievance Mechanism [EMM03] will allow stakeholders to raise concerns related to construction activities and ensure timely resolution.

Reduced social amenity due to increased construction related traffic, and increased noise and vibrations during construction and operation was assessed as having a low significance rating following the implementation of recommended management controls.

Environmental values

The Flora and Fauna Assessment undertaken by Nature Advisory identified that EPBC Act listed migratory birds, and EPBC Act and/or FFG Act listed mammals, bats, reptiles, frogs, invertebrates and non-migratory birds are considered likely, or have the potential, to occur within the project site. However, impacts to these fauna species were assessed as either low or very low (refer to Chapter 12 – ***Biodiversity and habitat*** for further discussion).

A Brolga Impact Assessment was also undertaken by Nature Advisory for the project, which identified 22 brolga breeding wetlands within five kilometres of the project site (refer to Chapter 10 – ***Brolga*** for further discussion). Turbine-free buffers around the wetlands have been applied to ensure the project does not significantly impact on the Brolga breeding success.

With the implementation of these measures and the Community and Stakeholder Engagement Plan [EMM02], the social impact significance rating from the loss of biodiversity highly valued by the community (including habitats for nesting Brolgas) is considered low.

Cultural values

Culture is defined as people's shared beliefs, customs, values and stories, and connections to land, places, and buildings. Impacts to culture may result from changes to the community's cultural connection to the landscape.

Aboriginal cultural heritage

Earthworks during construction may impact unknown or unregistered Aboriginal places such as previously unrecorded subsurface stone artefacts. The Cultural Heritage Management Plan (CHMP) will include a Contingency Plan for managing the discovery of Aboriginal cultural heritage.

During consultation with the Eastern Maar Aboriginal Corporation, concerns were raised about potential impacts of the project on Wedge-tailed Eagles, which hold significance to the Eastern Maar Aboriginal Corporation due to their totemic value. Wedge-tailed Eagles have been observed within the project site during ecological surveys (refer to Chapter 8 – ***Biodiversity and habitat***). Design measures to mitigate impacts on Wedge-tailed Eagles included establishing a 500-metre buffer around Wedge-tailed Eagle nests to wind turbines, overhead transmission infrastructure or project buildings, and avoiding the removal of large trees up to 500 metres from known nests. The project team will work with the Eastern Maar Aboriginal Corporation to further develop strategies to avoid and minimise impacts on Wedge-tailed Eagles [EMM SE02].

The significance of the impact on cultural values, particularly the totemic value that the Eastern Maar Aboriginal Corporation associate with Wedge-tailed Eagles, has been assessed from the Eastern Maar Aboriginal Corporation's perspective only. As such, the impact has been assessed as having a high significance in relation to the level of stakeholder concern. From a social impact risk approach, the significance rating is unable to be assessed.

Refer to Chapter 18 – ***Aboriginal cultural heritage*** for further discussion on Aboriginal cultural heritage relevant to the project site.

Historic (European) heritage

The Historic Heritage Impact Assessment, undertaken by Tardis Archaeology, did not identify any known historic heritage or historic archaeological deposits that will be affected by the project. A Heritage Management Plan would be prepared that outlines measures to avoid impacts to known registered historic heritage places and unidentified historic archaeological sites that may be discovered during ground disturbing works [EMM HH01]. The social significance rating from loss of European culture and heritage is low.

Refer to Chapter 19 – ***Historical cultural heritage*** for further discussion on historic heritage within the project site.

Existing land use

The Land Use and Planning Assessment, undertaken by Bunjil Planning, identified that project impacts from the reduction of available agricultural land during construction, decommissioning and operation are anticipated to be minor, with a short-term, reversible and localised impact on a small percentage of the project site. The proposed use of the land is compatible with the existing agricultural land use and will have a negligible impact on agricultural land use during operation of the project. The project will also diversify the local agricultural economy. Refer to Chapter 20 – ***Land use and planning*** for further discussion.

The Economic Impact Assessment, undertaken by Geographia, identified that the project will impact approximately 140 hectares of agricultural land. Assuming an 80% agricultural land coverage in the proposed permanent infrastructure areas, this may result in a potential annual loss in agricultural output of $272,800 within the operational footprint. The establishment of the Community Benefit Fund [EMM04], which is estimated to provide a total annual benefit of around $1.2 million annually will manage impacts associated with agricultural land loss.

With the implementation of Host Landholder Agreements and the Stakeholder Engagement Plan [EMM02], the social impact significance from reduced agricultural production due to changes in land use (perceived or otherwise) was assessed as low.

Access to infrastructure and services

Construction traffic

Travel times and safety

Impacts to way of life due to construction-related traffic increasing local travel times was raised as a concern during stakeholder consultation. These concerns relate to the delivery of wind turbine components from either the Port of Portland or Port of Geelong, and the potential for increased travel times on major transport routes and local roads, and access impacts for road users and emergency responders. Concerns were also raised regarding the current standard and capacity of existing roads to accommodate additional traffic movements, and the safety of community road users (particularly school children utilising local bus stops and school bus routes). These concerns may be further exacerbated given the potential for up to six different projects within the South West Renewable Energy Zone to be constructed around the same time as the project. The ***Traffic and Transport Impact Assessment*** (Appendix G) indicates there will be a significant increase in traffic movements especially during peak construction, with external roads estimated to have up to 870–1,360 vehicle movements per day across the road network.

Construction traffic is proposed to be managed through the establishment of temporary workforce accommodation [EMM SE03] and encouraging carpooling and/or use of project provided transit services, where appropriate, to reduce light vehicle construction traffic in and around the project site [EMM TT02]. A Traffic Management Plan will be developed and implemented, which will outline requirements to schedule construction traffic outside peak travel times (including school zones), in consultation with the local council and VicRoads, and inform community members near the project site of construction activities in a timely manner [EMM TT01]. Ongoing engagement with the community will occur in line with the Stakeholder Engagement Plan [EMM02], including development of a complaints and grievance mechanism to allow road users to raise concerns about construction-related issues with the developer [EMM03].

It is acknowledged that landholders adjacent to the project site and local road users may experience a greater level of impact than others, given the capacity of the local road network to cater for heavy vehicle movements. As such, impacts to these stakeholders are likely to be more significant.

Traffic impacts would primarily occur during the construction phase, associated with workforce mobilisation and delivery of materials and equipment. Impacts during operations would be significantly reduced.

With the implementation of these measures, the social impact significance rating from stress and frustration associated with increased travel times, and reduced safety on local roads from construction traffic movements was assessed as medium. Reduced community safety due to deterioration of local roads along transport routes from construction traffic movements was assessed as low following the implementation of recommended management measures.

Construction workforce demand

Services

An existing lack of access to medical services for existing communities is likely to be exacerbated by incoming non-resident workforces. During construction, the temporary population influx may also impact emergency services through changes in demand, access and/or capacity. As the area currently has limited health service provision capacity, particularly in relation to general practitioner access, it will be necessary to ensure that appropriate strategies are in place. This may include ensuring that the construction workforce have access to telehealth or medic services. Management measures include the implementation of the Accommodation and Employment Strategy [EMM05] and developing a Construction Environmental Management Plan prior to construction and Temporary Workforce Accommodation facility [EMM SE03] to ensure the workforce has access to these health services, alleviating pressure on existing local healthcare systems, while safeguarding worker wellbeing.

The residual impact to local health services and emergency services accessibility and wait times due to the construction workforce demand was assessed as medium.

Housing and accommodation

The accommodation and housing needs of the construction workforce is a concern for stakeholders given the nature of the region and the presence of other key industry sectors (e.g. agriculture and tourism). The cumulative impact associated with housing and accommodation was also raised, suggesting that existing accommodation levels are insufficient to house the construction workforce. It could also result in the flow-on effect of displacing existing community residents due to a lack of available housing or a change in their existing rental agreements.

As outlined in the Accommodation and Employment Strategy and under a base case (5%) local employment scenario target, 84.5% of the incoming workforce would be able to be housed in existing traditional short-term accommodation such as hotels, motels and caravan parks within 1.5-hours' drive of the project site without causing strain on existing accommodation. The additional 14.5% of the incoming construction workforce may also be feasibly accommodated within other short-term accommodation providers like Airbnb, which has a significant supply in the region. A Temporary Workforce Accommodation facility [EMM SE03] is also proposed as a measure to mitigate impacts to housing availability.

While the influx of a temporary construction workforce may impact the availability of housing, additional demand for housing and accommodation may also have economic benefits, particularly for local accommodation providers.

The residual impact to housing and accommodation accessibility, availability and affordability due to construction workforce demand was assessed as low.

Electromagnetic interference

Wind turbines can cause interference to electromagnetic signals such as those associated with television and radio transmissions, meteorological radars, and wireless and satellite internet, and mobile phones.

The electromagnetic interference assessment, prepared by DNV Australia Pty Ltd, identified that following the implementation of design and management controls, the project is unlikely or has a low potential to cause electromagnetic interference to existing radiocommunication services. Refer to Chapter 24 – ***Electromagnetic*** interference for further discussion.

To address perceptions of electromagnetic interference impacts, the project will provide stakeholders with further information in relation to likelihood of electromagnetic interference exposure. With the implementation of recommended management measures, the social significance of impacts associated with electromagnetic signal interference was assessed as low.

Decision-making systems

Decision-making systems refers to the extent to which people can participate in decisions that affect their lives, as well as the degree to which people feel they have access to sufficient information and the opportunity to make informed decisions about changes to their homes and communities. In the context of the project, the key aspect of decision-making systems is whether the community feels they have been involved in the assessment, planning and decision-making process of the project, but also during construction and operation of the project.

As part of the Stakeholder Engagement Plan [EMM02], a project website will be maintained to provide up-to-date information on the status of the project during construction and operation, as well as provide a means for the community to contact the project's team. A complaints management procedure would be developed that outlines the process for making and recording complaints and specifies response and resolution procedures to ensure timely responses are provided to complaints raised [EMM03].

With the implementation of recommended management measures, the impact associated with loss of trust and engagement in decision-making systems and assessment process was assessed as medium.

Heightened levels of community outrage associated with perceived inability to inform regional and state renewable energy planning and decision-making processes was assessed as low.

Property values and livelihoods

Agricultural practices

The aviation impact assessment identified that the project may impact aerial agricultural operations immediately surrounding wind turbines and meteorological monitoring masts. However, these impacts would largely be experienced by stakeholder (participating) landowners. With the implementation of design measures, the impact to aerial agricultural operations is considered low (refer to Chapter 22 – ***Aviation*** for further discussion).

With the implementation of the Stakeholder Engagement Plan [EMM02] and host landholder agreements, the significance of impacts to access for agricultural aviation activities was assessed as low.

Property values

Neighbouring landholders to renewable energy projects often raise concerns around the potential impact of project infrastructure on their property values (Office of the Australian Energy and Wind Farm Commissioner, 2020). However, research by the NSW Agriculture Commissioner concluded that evidence of large-scale renewable energy developments influencing adjacent land values is lacking (NSW DPI, 2023), and a study by Energy Markets & Policy (2023) determined that adverse effects to property values are not evident within 1.5 kilometres of a wind turbine. There are no non-stakeholder dwellings within two kilometres of a wind turbine, except for the two dwellings constructed around 2020 for the purpose of creating a buffer for their property.

The Economic Impact Assessment undertaken for the project determined that the proposed project design has no substantive impact on transport accessibility or agricultural production. As wind turbine infrastructure does not significantly disrupt other farming practices (such as sheep and cattle grazing and dairy farming), activities are anticipated to only be marginally impacted. Where permanent land structures impair agricultural production potential, analysis shows that these are sufficiently compensated for through Neighbourhood Benefit Sharing programs (Geographia, 2025).

The Neighbour Benefit Sharing Program [EMM04], which provides financial compensation to eligible dwellings and retail premises within six kilometres of the project site, will also provide financial benefits to local landholders. The significance of impacts to livelihoods due to reduced property values was assessed as medium.

Community health and public safety

Aerial firefighting

A Fire Risk Impact Assessment undertaken for the project by Fire Risk Consultants identified that large bushfires have historically occurred in the surrounding landscape, although these have not affected the project site. While there is potential for bushfires to occur within the project site under elevated fire danger conditions, the assessment determined that, with the implementation of management measures outlined in the Design Guidelines and Model Requirements for Renewable Energy Facilities (CFA, 2025) (e.g., preparation of a Risk Management Plan, Fire Management Plan and Emergency Management Plan [EMM BF01]), the project would not increase the risk of fire to surrounding communities, farming assets and other infrastructure (refer to Appendix P – ***Fire Risk Impact Assessment*** for further discussion).

With the implementation of recommended management measures, including continued consultation with the Country Fire Authority in line with the Stakeholder Engagement Plan [EMM02], the significance of impacts to public safety associated with aerial firefighting access was assessed as medium.

Health and wellbeing

Concerns relating to the impact of wind turbine operation on health and wellbeing are associated with project uncertainties during project development and lifecycle, as well as from the generation of noise, shadow flicker and electromagnetic fields.

Increased stress and anxiety due to uncertainty associated with project development and changes to way of life is a concern for stakeholders. With continued engagement with the community and nearby landholders through the Stakeholder Engagement Plan [EMM02] the significance of impacts to health and wellbeing associated with project uncertainties (during project development and lifecycle) was assessed as low.

Noise

The ***Noise and Vibration Impact Assessment*** (Appendix E1), undertaken by Marshall Day Acoustics, identified that project wind turbine noise levels are predicted to comply with the noise limits for all nearby dwellings in accordance with the relevant wind farm noise standard. Landholders hosting project infrastructure and/or neighbouring landholders within five kilometres of a turbine who may have a heightened sensitivity to noise are likely to be more impacted by the project. Potential noise impacts during construction and operation will be managed through the implementation of a Construction Noise and Vibration Management Plan [EMM NV01] and Operational Noise Management Plan [EMM NV06]. Refer to Chapter 17 – ***Noise and vibration*** for further discussion.

With the implementation of recommended management measures, the significance of impacts to health and wellbeing associated with turbine noise was assessed as low.

Shadow flicker

Rotating blades of wind turbines can cast intermittent shadows to a person located in the shadow of the wind turbine, referred to as 'shadow flicker'. Ongoing exposure to shadow flicker can cause annoyance and may lead to discomfort and potential health issues such as headaches and visual disturbances. Repetitive shadow flicker can also contribute to stress and anxiety, impacting overall quality of life.

The ***Shadow Flicker Impact Assessment*** (Appendix M), undertaken by Entura, identified that when taking the effects of cloud cover into consideration, six stakeholder dwellings are predicted to experience shadow flicker durations greater than the recommended limit in accordance with the requirements of the Planning Guidelines for Development of Wind Energy Facilities in Victoria (DTP, 2023a) (refer to Chapter 15 – ***Shadow flicker and blade glint*** for further discussion). No non-stakeholder (neighbouring) dwellings would receive levels of shadow flicker greater than the recommended limit. If measured shadow flicker is recorded above the specified yearly limit at non-stakeholder dwellings, mitigation measures including the micro-siting of turbines in the final design, conducting strategic screen plantings, using smaller wind turbine blades or implementation of a curtailment strategy, may be required [EMM SF02].

With the implementation of recommended management measures, the significance of impacts to health and wellbeing associated with shadow flicker was assessed as low.

Electromagnetic fields

Electromagnetic fields are generated by the electrical components of wind turbines, including generators and transmission lines. While the levels of electromagnetic fields produced by wind turbines are generally low and within international safety guidelines, some people are concerned about potential long-term health effects associated with these fields including possible links to headaches, sleep disturbances and other health issues. The uncertainty and anxiety surrounding electromagnetic field exposure can also contribute to stress and negatively impact overall wellbeing.

With the implementation of the Stakeholder Engagement Plan [EMM02] the significance of impacts to health and wellbeing associated with electromagnetic fields was assessed as low.

Economic effects

Community costs and benefits

Landholders who have agreed to host project infrastructure will benefit from a diversified income stream, with the potential for agricultural activities to continue on their land during project construction and operation. This co-use of the land will allow landholders to maintain their traditional agricultural and other business practices, while also benefiting financially from the project, leading to more stable and enhanced economic outcomes for these landholders.

A Neighbour Benefit Sharing Program [EMM04] will be implemented, offered to eligible dwellings and/or operating retail premises (not hosting project infrastructure) within six kilometres of the project. The program includes a one-off construction payment, an annual energy cost offset plan, and an annual payment. The annual payment aMt is calculated based on their proximity to the project and the number of wind farms within six kilometres of the property (with a maximum payment of $30,000 per year). The Neighbour Benefit Sharing Program is expected to

contribute $1.2 million per annum to the local community based on a 106-wind turbine project.

As part of the Neighbour Benefit Sharing Program, Wind Prospect has also committed to creating a Community Benefit Fund that contributes $1,000 per turbine per year to the local community, once the project is operational [EMM04]. This would further ensure that the wider community realises social benefits from the project throughout its lifecycle, with annual funding to be provided to local community organisations and programs

With the implementation of host landholder agreements and the Neighbour Benefit Sharing Program and Community Benefit Fund, the significance rating of the inequitable distribution of costs and benefits associated with the project is anticipated to be low. The enhancement of local economy and livelihoods due to construction workforce influx and project activity is expected to have a positive (high) impact.

Skills development and local employment opportunities

There are significant economic benefits associated with the project that will have a positive impact on the local economy (Moyne Shire Council) and the broader region.

The project will provide opportunities for upskilling and training local workers to maximise benefits for the project. Under the base case (most likely) scenario, it is feasible to achieve up to 5% local employment during construction (18 full-time equivalent work hours (FTEs)). A local procurement target of 100% has been proposed for the operation phase.

The construction workforce would likely have a positive effect on local and regional businesses, with increased expenditure on services such as accommodation, hospitality, retail and medical from local wage spending. The construction phase is expected to support 360 FTEs direct jobs and 192.6 FTEs indirect jobs in the region during the construction period, with $249.8 million expected to be invested locally during this phase. Most procurement and employment opportunities will be within the construction industry (supporting an additional 390.4 direct and indirect FTE jobs), followed by health and social services (an additional 26.5), manufacturing (an additional 21.2), and public administration and safety (an additional 13.9).

During project operation, $13.4 million is expected in local operation expenditure over the life of the project. In an average year in the operational phase, the project is expected to support 32.7 FTEs jobs in the region directly related to the operations and to employment generated from supplying industries in the region. These impacts are likely to be experienced within the electricity, gas, water and waste services industry (supporting an additional 25.7 direct and indirect FTE jobs), followed by healthcare and social assistance (an additional 1.0), and professional services (an additional 0.8).

The establishment of a Community Benefit Fund [EMM04] would further ensure that the wider community realise social benefits from the project throughout its lifecycle, with annual funding to be provided to local community organisations and programs. This would be further increased through the cumulative benefit from other proposed renewable energy developments within the Renewable Energy Zone and their associated community investment / benefit sharing programs.

With measures to enhance the expected project benefits, residual effects (benefits) are anticipated to be high to very high.

Economic benefits from project construction are further discussed in Chapter 2 – ***Project rationale and benefits***.

21.7.1 Cumulative impacts

The project has the potential to influence the social and economic values of the local and regional community. Cumulative impacts associated with multiple renewable energy developments within the South West Renewable Energy Zone, where the project is located, may amplify or compound these effects. These impacts should be considered collectively, and strategies should be developed to allow for appropriate management, mitigation, and enhancement through multi-stakeholder collaboration.

Chapter 26 – ***Cumulative effects*** provides an overview of projects within 30 kilometres of the proposed Hexham Wind Farm, and details the potential cumulative socio-economic impacts and considerations associated with the project.

21.7.2 Impact assessment summary

A summary of the ***Social and Economic Impact Assessment*** is shown in Table 21.9 below, with the full assessment presented in Appendix I.

Table 21.9 Residual social impact assessment summary

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
Sense of place, community relations and social cohesion	Construction	Arrival of construction workforce	Reduced community cohesion due to differing attitudes to renewable energy development in the social locality	Very high	Stakeholder Engagement Plan [EMM02] to provide transparent and timely information regarding the Project acknowledging psycho-social impacts Management of workforce influx [EMM SE04] Neighbour Benefit Sharing Program [EMM04] to target social investment in programs and activities that enhance community cohesion	Medium
			Change in community composition	High	Accommodation and Employment Strategy [EMM05] including workforce code of conduct and workforce integration planning Management of workforce influx [EMM SE04] to engage and integrate temporary workforce	Low
	Construction and operation including quarry construction, operation and decommissioning	Changes in surroundings and visual amenity of the landscape	Disruption to sense of place	High	Stakeholder Engagement Plan [EMM02] Neighbour Benefit Sharing Program [EMM04] with focus on place-based community benefits	Medium
Existing land uses and environmental and cultural values	Construction including quarry construction and operation activities such as blasting	Generation of dust, noise and vibration	Reduction in social amenity due to increased construction related traffic	Medium	Stakeholder Engagement Plan [EMM02] Complaints and Grievance Mechanism [EMM03]	Low
			Reduction in social amenity due to increased noise and vibrations	Medium	Stakeholder Engagement Plan [EMM02] Complaints and Grievance Mechanism [EMM03] to ensure community can inform proponent where there is noise, vibration and over pressure issues	Low

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
	Construction and operation	Earthworks and construction of project components	Loss of biodiversity highly valued by the community e.g., protection of wildlife habitats for nesting brolgas, other birds	High	Stakeholder Engagement Plan [EMM02] to inform community of relevant management approaches Neighbour Benefit Sharing Program [EMM04] support initiatives that enhance the habitat of nesting brolgas and other bird species in collaboration with local environmental groups	Low
	Construction		Impact on cultural values and indigenous connection to country, including loss of culturally valued totemic Wedge-tailed Eagles	Unable to be assessed	Ongoing engagement around cultural heritage connections [EMM SE02] to collaborate with the RAP on appropriate management strategies including on Country guardians	Unable to be assessed
			Loss of European culture and heritage	Low	Stakeholder Engagement Plan [EMM02] Complaints and Grievance Mechanism [EMM03]	Low
	Construction and operation		Reduced agricultural production due to changes in land use (perceived or otherwise)	Medium	Stakeholder Engagement Plan [EMM02]	Low

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
Access to infrastructure and services	Construction	Increased traffic on local roads (including more heavy vehicles) including quarry traffic	Increased disruption (stress and frustration) associated with increased travel times on nominated transport routes	High	Complaints and Grievance Mechanism [EMM03] to ensure community can inform proponent of incidents or concerns arising from heavy vehicle traffic. Stakeholder Engagement Plan [EMM02] to include: • Implementation of school workshops to educate families and children on required behaviours and risks regarding oversize and overmass vehicles and increased traffic movements • Engagement with proximal landholders, to minimise disruptions to farming activities, and to ensure impacts on farming cycles are appropriately managed	Medium
			Reduced safety on local roads along transport route (non-arterial) due to light and heavy vehicle movements	High		Medium
			Reduced community safety due to deterioration of local roads	High		Low
	Construction	Arrival of construction workforce	Decreased accessibility and increased wait time for local health services and emergency services	High	Accommodation Employment Strategy [EMM05] to ensure all construction workers have access to health services to reduce demand on local services Management of workforce influx [EMM SE04] Temporary Workforce Accommodation [EMM SE03] which will provide medical services for the project workforce.	Medium
			Increased demand for housing/ accommodation due to construction workforce influx affecting accessibility, availability and affordability	High	Construction Workforce Accommodation Strategy [EMM05] Temporary Workforce Accommodation [EMM SE03]	Low
	Operation	Installation of project infrastructure	Electromagnetic interference to existing radiocommunication service	Low	Stakeholder Engagement Plan [EMM02] including transparent communication that includes relevant research and safety standards to be shared with key stakeholders	Low

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
Community engagement	Construction and operation	Lack of community involvement in the assessment, planning, and decision-making process	Loss of trust and engagement in decision-making systems and assessment process	High	Stakeholder Engagement Plan [EMM02] Complaints and Grievance Mechanism [EMM03]	Medium
			Heightened levels of community outrage associated with perceived inability to inform regional and state Renewable Energy planning and decision-making processes	Medium	Stakeholder Engagement Plan [EMM02] to provide direct access to technical experts and to provide timely responses to any information requests in formats that are accessible to multiple stakeholder types.	Low
Property values and livelihoods	Operation	Presence of wind turbines and supporting infrastructure	Reduced access for agricultural aviation activities	Medium	Stakeholder Engagement Plan [EMM02] including engagement with key stakeholders e.g. local aerodrome Neighbour Benefit Sharing Program [EMM04]	Low
	Construction and operation		Reduction in livelihood due to reduced property value	Medium	Neighbour Benefit Sharing Program [EMM04] including consultation with proximal landholders in relation to property values	Medium
Community health and public safety	Construction and operation	Installation of project infrastructure	Increased risk to public safety due to reduced access for aerial firefighting (perceived or otherwise)	Medium	Stakeholder Engagement Plan [EMM02]	Medium
	Construction, operation and decommissioning	Project development	Anxiety / stress associated with uncertainties associated with project development and lifecycle	Medium	Stakeholder Engagement Plan [EMM02] to provide engagement with community members and proximal landholders	Low

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
	Operation	Project operation	Reduced mental health and wellbeing due to turbine noise (perceived or otherwise)	Medium	Stakeholder Engagement Plan [EMM02] Construction Noise and Vibration Management Plan [EMM NV01]	Low
			Health and wellbeing impacts associated with shadow flicker from turbines	Medium	Stakeholder Engagement Plan [EMM02] Measures to be implemented where shadow flicker is recorded above the specified yearly limit at non-stakeholder dwellings [EMM SF02]	Low
			Health and wellbeing impacts associated with frequency of electromagnetic fields associated with turbine operation and transmission infrastructure (perceived or otherwise)	Low	Stakeholder Engagement Plan [EMM02]	Low
	Quarry construction and operation	Construction dust	Reduced air quality as a result of increased dust and particle matter causing potential impacts to respiratory health.	Medium (applicable to host and neighbouring land holders) Low (applicable to broader community)	Quarry Work Plan [EMM07]	Low

Impact theme	Project phase	Impact pathway	Description	Impact significance rating (before mitigation)	Management measures	Residual impact rating
Economic effects	Construction and operation	Local economy and local spending	Enhanced social outcomes for local and regional communities through targeted community benefit sharing and investment initiatives	High (benefit)	Neighbour Benefit Sharing Program [EMM04] Accommodation and Employment Strategy [EMM05]	High (benefit)
			Enhancement of local economy and livelihoods due to construction workforce influx and project activity	High (benefit)		
			Local economic development (employment, procurement and skills development) resulting in enhanced human and economic capital	High (benefit)		
	Operation	Income generation	Intergenerational equity from renewable energy production to address the climate crisis	Very High (benefit)	Neighbour Benefit Sharing Program [EMM04]	Very high (benefit)
			Increased financial sustainability for landholders	High (benefit)	Neighbour Benefit Sharing Program [EMM04]	High (benefit)

21.8 Conclusions

The Social and Economic Assessment has determined social impacts of the project based on the consolidated outcomes of engagement with key stakeholders and community members. It contains an overview of the social and economic impacts and opportunities, including recommendations to manage potential impacts.

Through the design process, the project has sought to avoid and minimise potential impacts to people and the local community. Management controls will be implemented as part of the project delivery to reduce social and economic impacts associated with the construction and operation of the project. However, given the scale of the project, social and economic impacts (both positive and negative) are predicted to occur.

During construction there may be negative impacts associated with the generation of dust, noise and vibration, and changes to the visual character of the landscape, increased traffic on local roads and the presence of a construction workforce. During operation, the physical presence of the wind farm may cause impact to community members. With the implementation of design and management measures, the social and economic impact significance was assessed to range from low to medium. Impacts with a residual impact ranking of 'medium', are summarised below:

- Reduced sense of community and cohesion due to differing attitudes to renewable energy development in the social locality.
- Decreased accessibility and increased wait time for local health services and emergency services.
- Reduced safety on local roads along transport route (non-arterial) due to light and heavy vehicle movements.
- Increased disruption (stress and frustration) associated with increased travel times on nominated transport routes.
- Loss of trust and engagement in decision-making systems and assessment process.
- Disruption to sense of place due to changes in surroundings and visual amenity associated with the attributes and function of the landscape (industrialisation).
- Changes in the visual landscape, impacting resident's sense of place and experience of the local area (onsite related).

The project is predicted to result in the following positive outcomes:

- Intergenerational equity provided by renewable energy production to address the climate crisis.
- Increased financial sustainability for landholders that are hosting project infrastructure.
- Enhancement of the local economy and livelihoods due to construction workforce influx and economic project activity.
- Enhanced social outcomes for local and regional communities through targeted community benefit sharing and investment initiatives.
- Local economic development (employment, procurement and skills development) resulting in enhanced human and economic capital.