Warracknabeal
Energy Park

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Attachment A.10: Social and Economic Impact Assessment

Warracknabeal Energy Park

Social and Economic Impact Assessment

Warracknabeal, Victoria
Warracknabeal Energy Park Pty Ltd

Ethos Urban

Ethos Urban acknowledges the Traditional Custodians of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We acknowledge the Wurundjeri Woi Wurrung people, of the Kulin Nation, the Traditional Custodians of the land where this document was prepared, and all peoples and nations from lands affected.

We pay our respects to their Elders past, present and emerging.

'Dagura Buumarri'
Liz Belanjee Cameron

'Dagura Buumarri' – translates to Cold Brown Country. Representing Victoria.

The river system illustrated in this visual image is bound in greens and golds to acknowledge the warmth often felt in a colder climate. The rich earth hues of green, reds and browns reflect the local landscapes of this state while the extensive use of rhythmical patterning captures the unique landscapes of flat and mountainous areas. The use of earth colours imparts a sense of strength and serenity while contrasting greens throughout the image reminds us of the lushness of the natural world, where animals and humans once lived in harmony – it reminds us of the importance to protect the lands, waterways and skies and care for our localised environment. Scattered throughout the image are bold colours of oranges – a source of energy that continues to be felt as a life-giving source. The orange hues also portray the varying sunsets in which many Victorians enjoy seeing.

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Executive Summary

This Social and Economic Impact Assessment (SEIA) has been prepared to support Warracknabeal Energy Park Pty Ltd (the Proponent) in the development of the Warracknabeal Energy Park (the Project). The Project, which is located close to the township of Warracknabeal in the Wimmera region of Victoria, will include up to 230 turbines and have an installed capacity of up to 1,500MW.

The SEIA comprises two parts: a Social Impact Assessment (SIA) and an Economic Impact Assessment (EIA). The purpose of the SIA is to analyse potential social impacts that may arise from the development and operation of the Project. The purpose of the EIA is to identify potential impacts on businesses and the regional economy, and to highlight potential economic benefits arising from the construction and operation of the Project.

The SEIA is based on the development concept and involves an assessment of common and well-understood impacts and benefits associated with wind farm development and operation, within the particular social and economic context of Warracknabeal and the broader regional area (Figure 1).

Social Impacts

Key social impacts and benefits identified through the SIA include:

1. Temporary negative impacts to way of life, community, culture, health and wellbeing and surroundings associated with construction activity. These impacts will be principally felt in the primary study area (up 5km from Project Site – refer to Figure 1), and can be mitigated to some extent through appropriate construction management techniques and proactive engagement with landholders and the broader community.
2. Potential long-term negative impacts to surroundings, culture and way of life associated with the operation of the proposed Project, particularly the cumulative visual impacts resulting from the nearby Murra Warra Wind Farm. These impacts will be principally felt in the primary study area, where the most highly impacted landholders will be participating (host) landholders, who will receive financial benefits through leasing arrangements with the Project. The Project's near neighbours may also experience impacts and the Proponent is developing a neighbour benefits scheme to share the benefits of the project with these neighbours.
3. Social benefits of the Project relate to opportunities for new local job generation, training and upskilling, and business participation across both construction and operation phases. These benefits will be observed across the secondary study area (the combined Local Government Areas of Yarriambiack, Hindmarsh, and Horsham).
4. The overall long-term benefit is the production of significant renewable energy output to help address climate change, which will contribute to the broader renewable energy production of Western Victoria Renewable Energy Zone, providing benefits to the secondary study area and the wider community. The Project also supports the Victorian State Government's stated and legislated renewable energy goals.
5. The Proponent's Community Benefit Program (CBP) is also expected to benefit communities in the primary study area. A minimum of $2,000 per turbine per annum (indexed to CPI) will be allocated to share the financial benefits of the Project with the local community. The CBP will be developed in consultation with the local community to ensure the community values and views are properly considered. Specific outcomes from the CBP may include scholarships, electricity offset schemes, landscaping programs, sponsorships and direct grants to local groups.

An in-depth summary of the social impact ratings and recommended mitigation measures is shown in Assessment of Social Impacts

Table 14 summarises the assessment of social impacts undertake for Warracknabeal Energy Park. The detailed assessment of each of the social factors is available in Appendix A.

Table 14 on page 48.

Economic Impacts

Key economic impacts and benefits identified through this EIA include:

1. The Project will involve approximately $2.5-3.0 billion in investment during the four-year construction phase. Approximately $375-450 million of construction investment, or 15% of total investment, is estimated to be retained in the Study Area (refer to Figure 9 for definition).
2. The Project will support 1,950 FTE jobs (direct plus indirect jobs) over the construction period. Once operational, 195 FTE jobs (direct plus indirect jobs) will be supported by the facility. Regional employment (Study Area) is estimated at 495 FTE during the construction phase and 70 FTE during the operational phase.
3. The Project will provide significant participation opportunities for businesses and the labour force located in the Study Area, having regard for the good match of skills and resources available. In this regard, the Proponent will work with the Industry Capability Network to ensure maximum local/regional inputs are secured.
4. The 'external' project labour requirement would be expected to generate an accommodation requirement for 500 project workers at the peak of the Project. This represents approximately 34% of total commercial accommodation rooms/cabins and short-term rentals (e.g., Air BnB) available in the Study Area. However, experience from other major infrastructure projects in the area shows greatest demand from construction workers will focus on long-term shared house rentals. The Project will provide a boost to local commercial accommodation/short-term rental operators. Additionally, there is significant potential in the existing and future long-term private rental market (e.g., unoccupied homes) to generate new revenue streams for homeowners/investors.

   (Note that given the large scale of accommodation requirements and the relatively long construction period (up to four years), it is recommended the Proponent develops a Construction Workforce Accommodation Plan prior to the construction phase of the Project commencing.)
5. Non-local construction workers living in the Study Area would be expected to inject approximately $70 million in additional spending to local and regional economies over the construction phase providing a significant boost to the service sector.
6. In terms of cumulative impacts, the only identified major projects to be located in the Study Area that may potentially be constructed at the same time as the Project are the Wimmera Plains Wind Farm, Murra Warra Solar Farm and Horsham Solar Farm. Given these three projects have been approved for some time and the Project is unlikely to commence construction until 2026, should these projects progress it is more likely they would be completed by the time the main construction phase of the Project commences.
7. The Project will only marginally affect agricultural land use, with existing farming activities continuing as normal with only 2-3% of the Project Site being used to host permanent wind farm infrastructure. While sporadic aerial spraying may occasionally occur in this area; no impacts are anticipated on aerial spraying activities, noting properties are easily accessible using traditional spraying equipment. No impacts are expected on local airstrips due to the well-spaced turbine locations, which can be easily navigated by skilled pilots.
8. Ongoing economic stimulus in the Study Area associated with the operation of the Project through the financial returns to host landowners, local wage spending, community benefit schemes payments and rates returns to Yarriambiack Council payments is estimated at approximately $610 million over 30 years (adjusted for CPI @ 3.0%).
9. Other benefits include improvements to host landowner properties through the construction of new internal roads (210km of new access tracks) which will improve efficiency of movement across the land from an agricultural and safety perspective.
10. The Project has the capacity to supply sufficient clean energy to power approximately 900,000 homes (approximately 10% of all Victorian dwellings) and, in the process, to reduce CO_2 emissions by 5.5 million tonnes per year.

Table 1 provides a Net Economic Benefit Assessment of the Project.

Table 1 Warracknabeal Wind Farm – Net Economic Benefit Assessment, Study Area

Factor	Value
Negative Economic Outcomes	
Temporary loss of agricultural land (25 years)	450-500 ha
Loss of employment (includes direct and indirect jobs)	0 jobs
Positive Economic Outcomes	
Construction Phase	
Capital investment (2022 dollars)	$2.5-3.0 billion; of which *$375-450 million (15%) is expected to be retained in the Study Area*
Construction employment (direct plus indirect jobs)	1,950 FTE jobs (over 24 months); including *495 FTE Study Area jobs (375 FTE direct on-site and 120 FTE indirect off-site)*
Operational Phase	
Employment	
Operational employment (direct and indirect jobs)	195 FTE jobs; *including 70 FTE Study Area jobs (40 FTE direct on-site and 30 FTE indirect off-site)*
Economic Stimulus	
Total Study Area economic stimulus associated with host landowner returns, operational wage stimulus, increased Council rates revenue and community benefit schemes payments (using base 2022 dollars, adjusted for CPI over 30 years).	$610 million (over 30 years)
Total Net Study Area Economic Benefits - Construction and Operational Phases (using base 2022 dollars, adjusted for CPI over 30 years).	$985-$1,060 million (or $1.0 to $1.1 billion rounded) (Construction period PLUS 30 years operations)

1.0 Introduction

1.1 Purpose of this report

This Social and Economic Impact Assessment (SEIA) has been prepared to inform and support the development of the Warracknabeal Energy Park. In particular, the SEIA has been prepared to support the Proponent's environmental referrals and planning applications.

The purpose of the Social Impact Assessment (SIA) is to analyse potential social impacts that may arise from the development, construction and operation of the Project, having regard to specific aspects of each development phase, along with social characteristics of the locality and broader district and its communities, and social trends and issues affecting these communities which may be of relevance to the proposed Project.

The purpose of the Economic Impact Assessment (EIA) is to identify and quantify (where possible) the impacts of the Project on local and regional economies over the construction and operational phases. This will include assessing any potential negative factors, highlighting potential benefits to workers, businesses and communities and recommending mitigation measures to reduce negative impacts and maximise benefits.

1.2 Scope

This Social and Economic Impact Assessment (SEIA) is based on the development concept for Warracknabeal Energy Park. The SEIA involves an assessment of common and well-understood impacts and benefits associated with wind farm development and operation, within the particular social and economic context of the Warracknabeal area. The SEIA does not undertake detailed assessments of potential amenity impacts such as visual, noise and traffic as these impacts will be assessed in standalone reports to be commissioned by the Proponent.

2.0 Project Description

2.1 Site location and context

Warracknabeal Energy Park (the Project) is located to near the town of Warracknabeal, which is approximately 55km north/north-east of Horsham in Victoria's Wimmera region.

The Project site is located on flat land that is primarily used for agricultural purposes. The land has been modified substantially over time through agricultural practices like cropping and livestock grazing with the current primary use being broad acre cropping.

Remnant patches of wooded vegetation are sparsely scattered across the Project area though the large spacing between patches offers minimal constraints on the Project's design. Similar types of vegetation can also be found along roads and on crown land areas through the Project site. Early desktop investigations in the area indicate minimal biodiversity constraints for development.

The Yarriambiack Creek is the only significant water way near the Project. The creek runs along the eastern boundary of the north cluster of turbines. Early desktop investigations indicate that this will be a source (one of the only) of cultural heritage constraints for the Project.

The Project is located north of the existing Murra Warra Wind Farm, as shown in Figure 1, and is to be contained in two zones, a north and south zone.

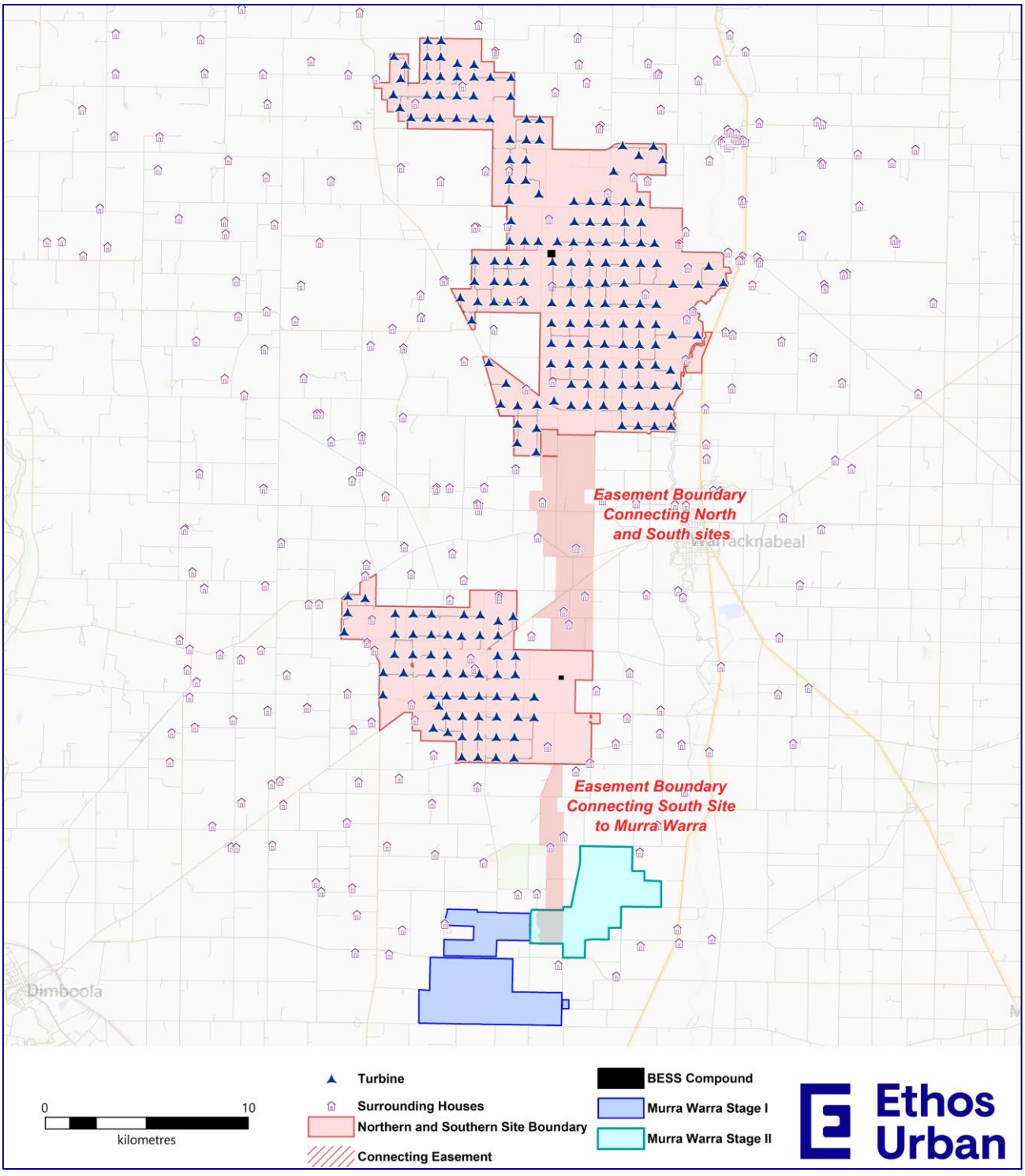

Figure 1 Site context

Source: Ethos Urban; Warracknabeal Energy Park Pty Ltd

The Project is located within the Victorian Government's proposed Western Victoria Renewable Energy Zone.

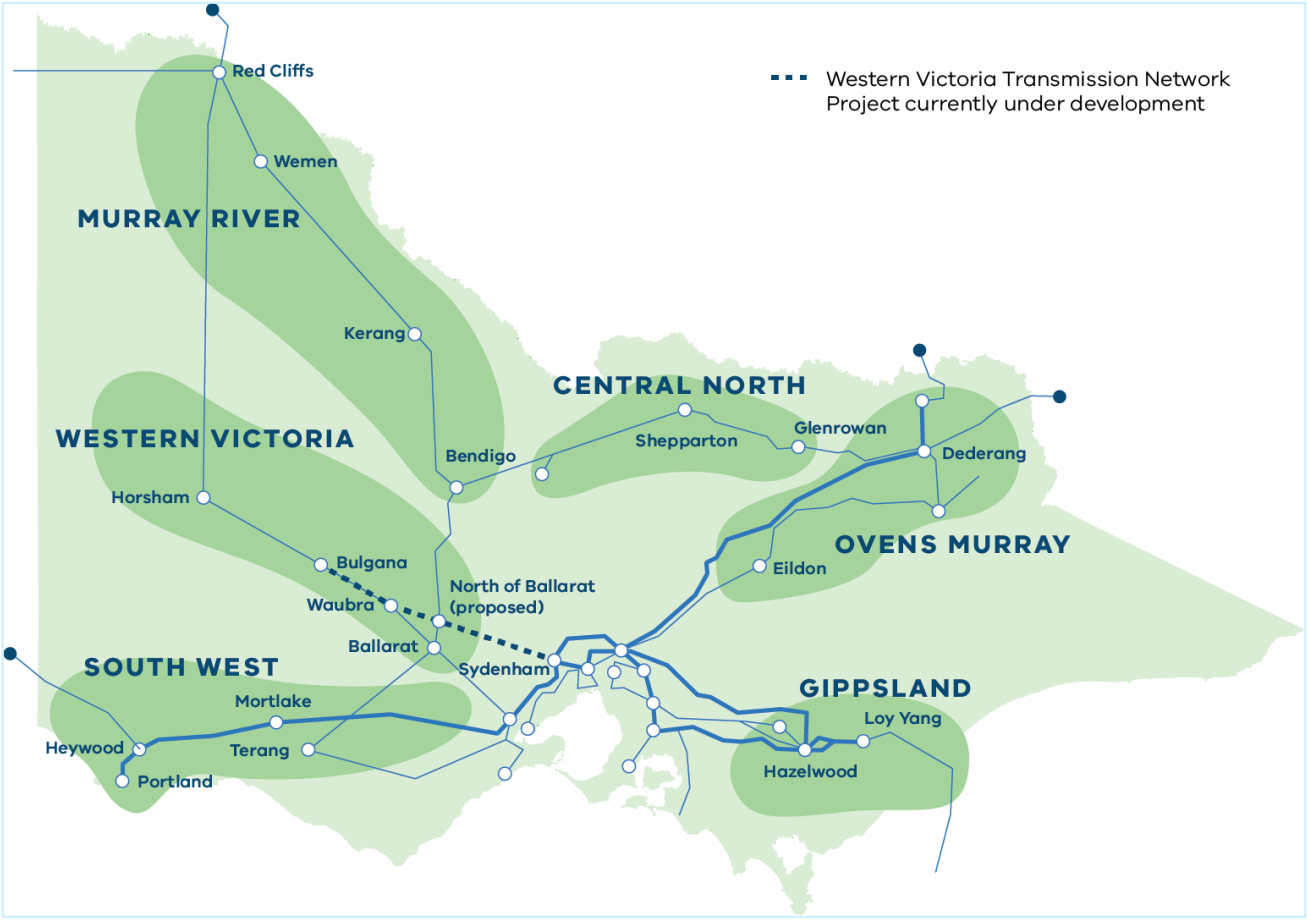

Figure 2 Proposed Victorian Renewable Energy Zones

Source: energy.vic.gov.au

2.2 Description of the Proposal

The Project is proposing up to 230 wind turbine generators to be installed across the two cluster areas with a split of 3:1 between the North and South areas respectively.

At this stage, the Project is designing for a turbine that has the following specifications:

- Rotor Diameter up to 200m
- Tip height up to 280m
- Generator size of approximately 7-8MW
- Total Project Installed capacity: Approx. 1,500MW.

The Project will also include the installation of:

- Hardstand and laydown areas for each wind turbine
- Turbine foundations
- Approximately 210km of internal access tracks, each approximately 5.5m in trafficable width with drainage as required
- Road intersection and site access upgrades
- Underground electrical cables connecting turbines to each other and the internal collector stations
- Two internal collector stations, each with space for a 300-600MW Battery Energy Storage Systems (BESS). One of the collector stations will also act as a Terminal Station, providing connection into the National Electricity Market (NEM)

- Approximately 23km of new internal overhead powerlines to connect distant wind turbine generators to the collector station
- Approximately 34km of internal overhead transmission lines to electrically connect the north and south turbine clusters to the grid connection point, and beyond to Murra Warra Terminal Station.
- Operations and Maintenance (O&M) facilities
- Permanent Meteorological Masts; and
- Various temporary construction areas including equipment laydowns, storage areas, concrete batching plants and site compounds.

2.3 Community benefit sharing program

The Proponent proposes the development of a range of Community Benefit Schemes, which are likely to include the following:

- Scholarships
- Community Benefit Fund
- Community Investment Program
- Electricity Offset Scheme
- Landscaping Program.

Financial incentives will also be provided to nearby neighbours and participating landholders - a minimum of $2,000 per turbine per annum (indexed to CPI) will be allocated to share the financial benefits of the Project with the local community. The Community Benefit Schemes will be developed through community consultation to ensure the community values and views are properly considered.

2.4 Nearby dwellings and host dwellings

There will be 24 families (and 56 different proprietors) hosting wind turbines or wind farm infrastructure and up to 5 families (10 different proprietors) hosting overhead transmission line infrastructure connecting the north and south turbine clusters. From the Project site boundary, there are:

- 29 neighbours within 1km
- 33 neighbours between 1 and 2km
- 25 neighbours between 2 and 3km
- 80 neighbours between 3 and 4km
- 22 neighbours between 4 and 5km.

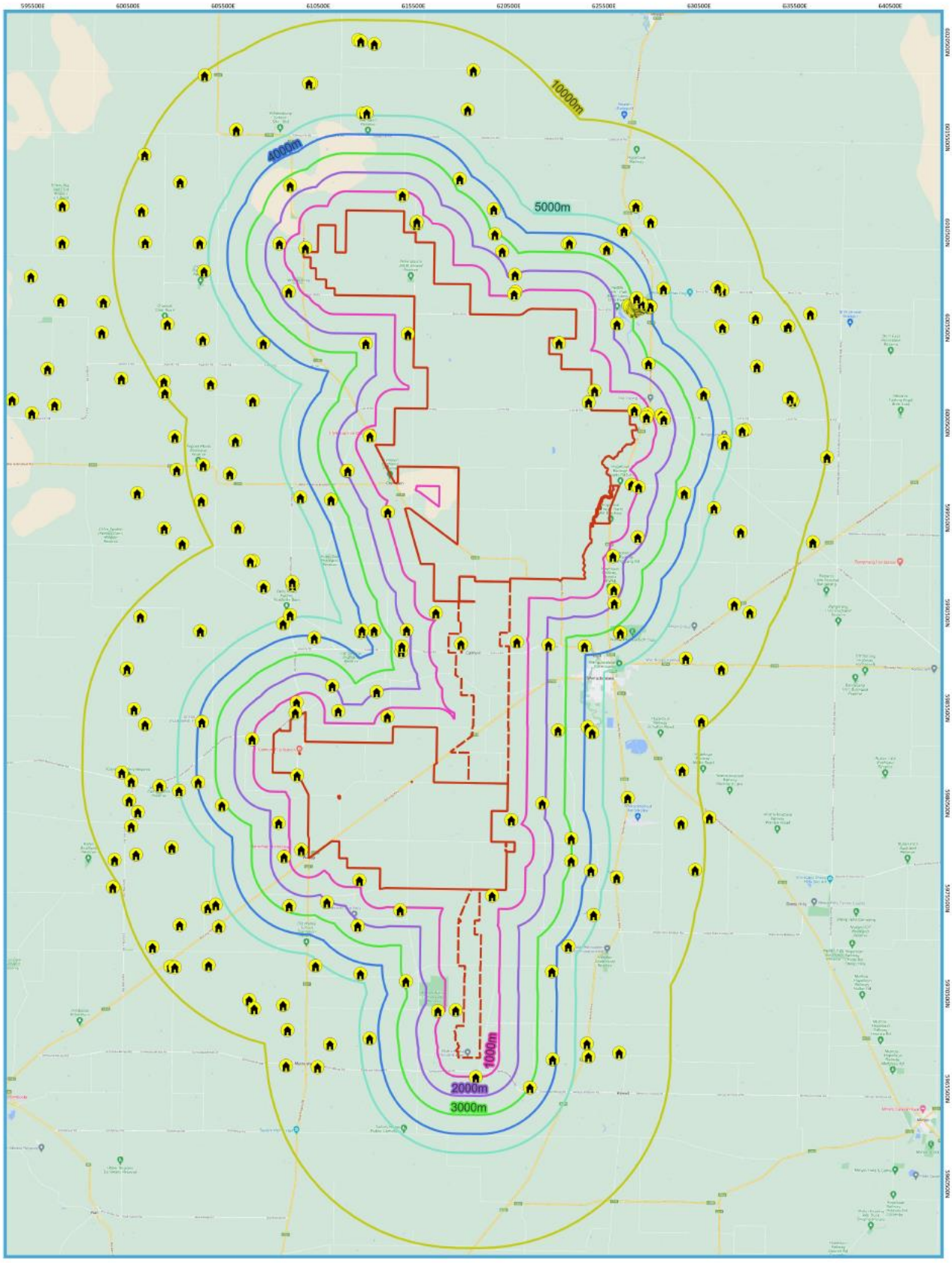

Figure 3 Project site and nearby dwellings

Source: Warracknabeal Energy Park Pty Ltd

3.0 Policy Context

3.1 Policy framework and drivers

The following section sets out the key policy implications for the Project, based on a review of the state and local policies and strategies relevant to the proposed Project.

Policy implications are summarised in Table 2 according to the following information sources:

- Paris Climate Accord (United Nations, 2016)
- Australia's Long-term Emissions Reduction Plan (Australian Government Department of Industry, Science, Energy and Resources, 2021)
- National Energy Productivity Plan (Commonwealth of Australia, 2015)
- Renewable Energy Action Plan (Victorian Government, 2017)
- Heatwave Plan 2020-2021 (Yarriambiack Shire Council, 2020)
- Climate Change Adaption (Hindmarsh Shire Council, 2012)
- Economic Development & Tourism Strategy (Yarriambiack Shire Council, 2015)
- Horsham Economic Development Strategy (Horsham Rural City Council, 2017)
- Council Plan 2021-2025 (Yarriambiack Shire Council, 2021)
- Council Plan 2021-2025 and Community Vision 2040 (Hindmarsh Shire Council, 2021)
- Council Plan 2021-2025 (Horsham Rural City Council, 2021).

Table 2 Policy Themes and Drivers Impacting the Development

Population and patterns of settlement	• Yarriambiack Shire recorded a population of 6,674 residents, with a median age of 50 years old in the 2016 census. Those aged between 45 and 64 make up the largest population cohort (30.3%). • Similarly, Hindmarsh Shire recorded a population of 5,588, with a median age of 50 years old. People aged over 65 years make up 27.5% of the population. • Horsham LGA had an estimated resident population of 20,018 people in 2020 and is expected to reach 20,599 by 2036. People aged over 65 years make up 20.2% of the population.	• Council Plan 2021-2025 (Yarriambiack Shire Council, 2021) • Council Plan 2021-2025 and Community Vision 2040 (Hindmarsh Shire Council, 2021) • Council Plan 2021-2025 (Horsham Rural City Council, 2021)
Regional renewable energy development	• It is a priority of Hindmarsh Shire's economic development plan to diversify the local economy. Council will identify "business opportunities related to renewable energy" and investigate a "renewable energy trial program for Council infrastructure..." (pg. 16). • A wind farm project has been identified as a 'Priority Economic Development Initiative' within Yarriambiack Shire's economic development and tourism strategy. • The Yarriambiack community supports the attraction of more investment into renewables within the LGA. • Hindmarsh Shire Council is committed to implementing "a range of environmentally sustainable practices throughout the Shire including solar/wind powered infrastructure and water efficient appliances" (Hindmarsh Council Plan, pg. 14). • Horsham Council will "continue to foster development in the renewable energy sector" (Horsham Economic Development Strategy, pg. 7). As one of the region's primary industries, renewable energy development will facilitate economic growth and is widely accepted by the community.	• Climate Change Adaption (Hindmarsh Shire Council, 2012) • Economic Development & Tourism Strategy (Yarriambiack Shire Council, 2015) • Council Plan 2021-2025 (Yarriambiack Shire Council, 2021) • Council Plan 2021-2025 and Community Vision 2040 (Hindmarsh Shire Council, 2021) • Horsham Economic Development Strategy (Horsham Rural City Council, 2017)

National goals for renewable energy and carbon emissions	• Development and commercialisation of low emissions technologies is the primary emissions reduction strategy to protect and prioritise the Australian economy and society in response to climate change (Australian Government Department of Industry, Science, Energy and Resources, 2021). • Improving energy productivity - through increased energy market competition and innovation and energy efficiency measures - is a key mechanism to reduce national emissions and energy costs for businesses and households (Commonwealth of Australia, 2015). • Federal Government to drive down the costs of low emissions technologies and enabling their deployment at scale across all sectors through investments, market incentives and infrastructure development to provide affordable and reliable energy (Australian Government Department of Industry, Science, Energy and Resources, 2021). • Federal Government to adopt low-cost and low emissions technologies while maintaining competitiveness of industries and without incurring new costs for Australian households or businesses (Australian Government Department of Industry, Science, Energy and Resources, 2021). • The COAG Energy Council's priority is to engage with stakeholders to understand consumer behaviour and decision-making process to reduce energy bills and increase home comfort, and to support businesses in improving energy productivity to increase output and competitiveness (Commonwealth of Australia, 2015, p.15). • Australia is party to the Paris Accord, a comprehensive international agreement to reduce greenhouse gas emissions in an effort to minimise the impacts of a warming planet. • The current national target is a reduction of emissions by 5% from 2000 levels by 2020 and a reduction of 26-28% below 2005 levels by 2030.	• Paris Climate Accord (United Nations, 2016) • Australia's Long-term Emissions Reduction Plan (Australian Government Department of Industry, Science, Energy and Resources, 2021) • National Energy Productivity Plan (Commonwealth of Australia, 2015)
Climate change and environmental sustainability in Victoria	• The State Government has established its own renewable energy targets and adopted a Renewable Energy Action Plan to support a shift to a net zero emissions energy sector by 2050. Renewable energy generation targets are set for 25% by 2020 and 40% by 2025. • The Plan also establishes the Victorian Renewable Energy Auction Scheme to support these targets. The Scheme has since supported the installation of 158 turbines across three major wind farm projects in South West Victoria. • Extreme weather events, particularly extreme heat, is a key concern of both Yarriambiack Shire and Hindmarsh Shire Councils. Climate change poses a significant threat to agricultural activity in these areas, an industry which makes up a significant proportion of the regional economy. • Horsham Council is committed to environmental sustainability and addressing the impacts of climate change. It is a local priority to reduce emissions, promote innovation and new technologies, and protect the natural environment.	• Renewable Energy Action Plan (Victorian Government, 2017) • Heatwave Plan 2020-2021 (Yarriambiack Shire Council, 2020) • Council Plan 2021-2025 (Horsham Rural City Council, 2021)

4.0 Social Context

This section provides an overview of the existing social context in the area surrounding the site. It analyses the existing social characteristics of the community within the identified study areas to better understand the potential characteristics and context of the existing community that may be impacted by the proposed development.

4.1 Study Area - SIA

For the Social Impact Assessment, study areas have been chosen taking into consideration the need to factor in both local social impacts and those likely to occur on a broader scale. The study areas have been defined using ABS Statistical Area boundaries (SA1[1] or Local Government Area boundaries) that best reflect the identified geographical areas.

4.1.1 Primary Study Area (PSA)

For this assessment, a Primary Study Area (PSA) has been defined to represent the local community within the immediate area of the site. This includes residents living within 5km of the Subject Site, that would typically experience localised social impacts the most, for example, amenity impacts associated with construction and/or operational activities. Longer-term impacts such as increased activity in the area are also anticipated to occur within the close proximity to the proposed development, as well as likely changes to perceptions of safety or community sense of place.

Due to the limitation of using Statistical Area One (SA1) boundaries defined by the ABS, SA1s that intersect with the 400m radius from the Subject Site have been included throughout this analysis. This is to ensure that all residents living within 400m are captured, however, due to the sizes of the SA1s selected, this also includes some residents living beyond the 400m radius**.** The data still provides a strong indication of the local resident profile and characteristics within PSA.

4.1.2 Secondary Study Areas (SSA)

A Secondary Study Area (SSA) has also been considered necessary for the purposes of this study due to the broader impacts and benefits that the proposed development will likely have on the surrounding community. The SSA has been defined as the combined LGAs of Yarriambiack, Hindmarsh, and Horsham.

Residents of the SSA are likely to experience some impacts during construction, and some benefits and impacts during operation. The construction workforce will likely access services located across these three LGAs. Consideration has also been given to the social profile of residents living within Yarriambiack, Hindmarsh, and Horsham LGAs more broadly.

The SIA study areas have been mapped in Figure 4, with the grey dotted line showing the PSA, and the purple dotted lines indicating the SSA of the combined three LGAs.

[1] The ABS Statistical Areas Level 1 (SA1s) are designed to maximise the spatial detail available for Census data. Most SA1s have a population of between 200 to 800 persons with an average population of approximately 400 persons. This is to optimise the balance between spatial detail and the ability to cross classify Census variables without the resulting counts becoming too small for use. SA1s aim to separate out areas with different geographic characteristics within Suburb and Locality boundaries.

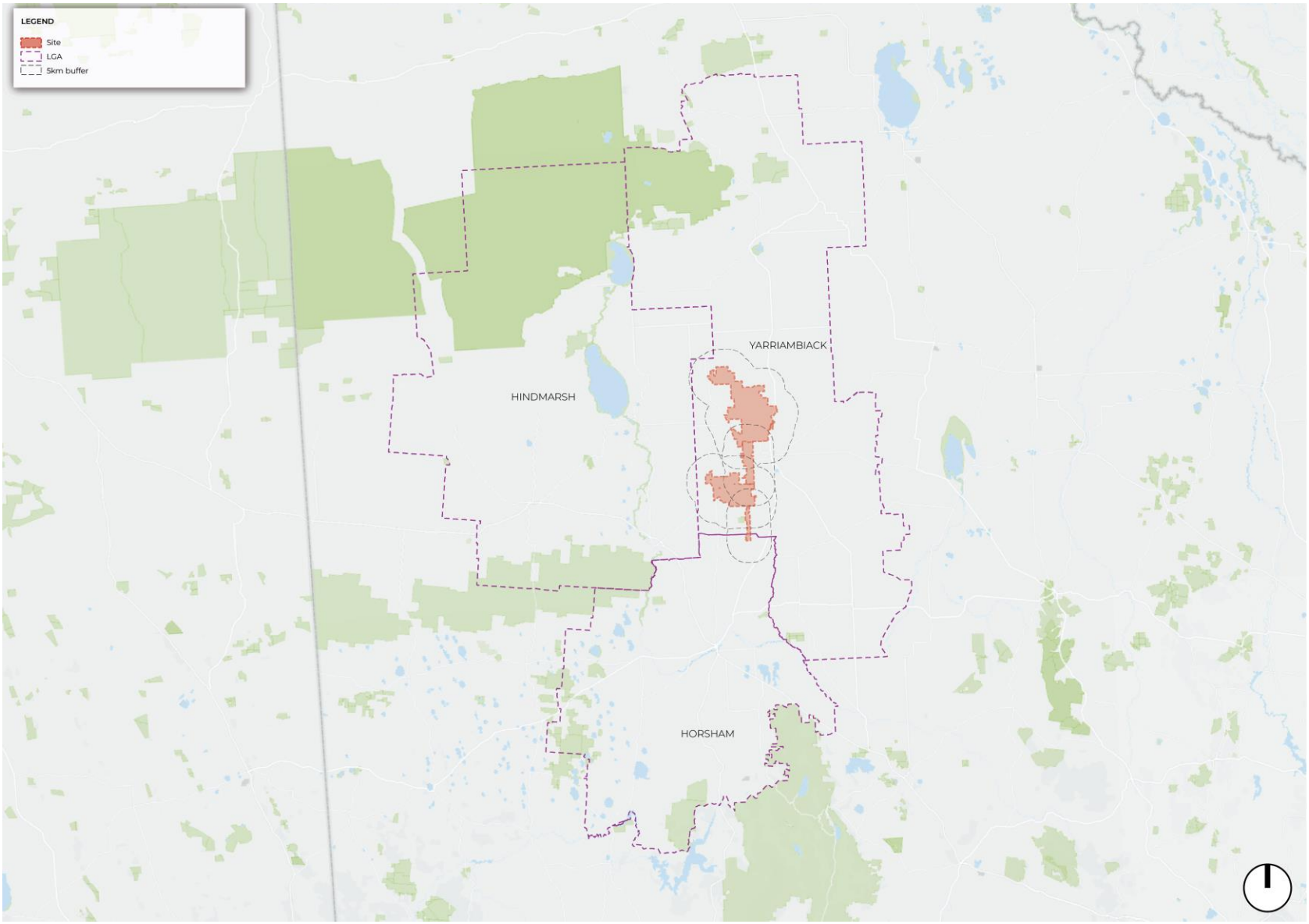

Figure 4 SIA study area map

Source: Ethos Urban

4.2 Demographic profile

Key community characteristics, according to 2016 Census data, are as follows:

- **Population:** The Primary Survey Area (PSA) had a relatively small population of approximately 2,920 in 2016. The SSA contained a population of 32,040 in 2016.
- **Household composition:** The household profile of the PSA and Secondary Survey Area (SSA) is similar to that of Victoria. Couple families are the most common household composition, with lone person households also contributing a considerable proportion.
- **Age structure:** The PSA contains a higher median age (49) than that of the SSA (45) or Victoria as a whole (43). This older age profile is driven by the large proportion of residents aged between 50 and 59 (16.4%).
- **Cultural and linguistic diversity:** The PSA and SSA are less ethnically and linguistically diverse than the State overall, with 95% of the PSA and 93.1% of the SSA born in Australia, compared to 89.4% in Victoria as a whole.
- **Need for assistance:** The PSA contains a higher proportion of residents in need of assistance with daily life (8.5%) compared to the SSA (6.9%) and Victoria as a whole (6%).
- **Educational attainment:** The PSA contains a lower proportion of educational attainment compared to the PSA or Victoria as a whole, with 1.1% having not attended school. Only 0.5% of the population did not attend school in the SSA and Victoria.
- **Household income:** The PSA has a lower median household income ($47,900) compared to the SSA ($53,290) and Victoria as a whole ($58,790). The PSA remains 18.5% lower than the Victorian median, while the SSA remains 9.4% lower.
- **Dwelling structure:** The PSA and SSA contain a higher share of separate houses (96.8%, 90.8%) than Victoria as a whole (89.7%).
- **Employment status:** The PSA and SSA contain a lower level of unemployment (4.5%, 4.9%) than Victoria as a whole (5.9%).

4.3 Population forecasts

Population estimates and forecasts have been prepared for study areas with reference to the Victoria in Future 2019 projections and rebased to the latest ABS Estimated Resident Population (ERP) figures for 2021 (ABS ERP 2022).

The estimates presented in

Table 3 shows that in 2021, the PSA had an ERP of 2,820, with a projected decrease of 410 by 2036. In 2021, the ERP of the SSA was 32,400, with a projected decrease of 1,250 by 2036.

The average annual growth rate of the PSA is -1.0%, with the SSA at -0.7%. In contrast, the overall population of Regional Victoria is growing by 1.1% per annum.

Table 3 Population Forecasts

Population	2016	2021	2026	2031	2036	2021 to 2036
PSA	2,920	2,820	2,680	2,550	2,410	-410
SSA	32,400	31,970	31,600	31,200	30,720	-1,250
Regional Victoria	1,458,790	1,552,770	1,648,650	1,743,580	1,835,060	+282,290
Average Annual Growth (no.)						
PSA		-100	-140	-130	-140	-410
SSA		-80	-80	-80	-90	-80
Regional Victoria		+18,800	+19,180	+18,990	+18,300	+18,820
Annual Growth Rate (%)						
PSA		-0.7%	-1.0%	-1.0%	-1.1%	-1.0%
SSA		-0.5%	-0.6%	-0.7%	-0.8%	-0.7%
Regional Victoria		+1.3%	+1.2%	+1.1%	+1.0%	+1.1%

Source: ABS ERP, Victoria in Future 2019

4.4 Social infrastructure context

Due to the considerable size of the development site and the regional character of its environment, it is necessary to understand its potential impact on the critical infrastructure that communities rely on. The following categories of infrastructure have been identified as influential to the health and wellbeing of residents in regional communities:

- Supermarkets, general stores, petrol stations (i.e., daily living needs)
- Emergency services
- Community facilities
- Healthcare
- Education facilities
- Places of worship.

This infrastructure has been mapped within the PSA (See Figure 5 and Figure 6).

The nearest cluster of infrastructure is located on the eastern fringe of the PSA, in the town of Warracknabeal. Warracknabeal is a small regional centre within the Yarriambiack LGA which contains several healthcare facilities – including a hospital, supermarkets, schools, emergency services, and places of worship.

While there is some isolated infrastructure (emergency services, community facilities) scattered around the PSA in other directions, these are limited and sparsely distributed. Residents are likely required to travel to larger regional centres, such as Warracknabeal, in order to obtain essential supplies and services. Horsham, about 45 minutes away, is the major centre in the region, which would offer social infrastructure and employment.

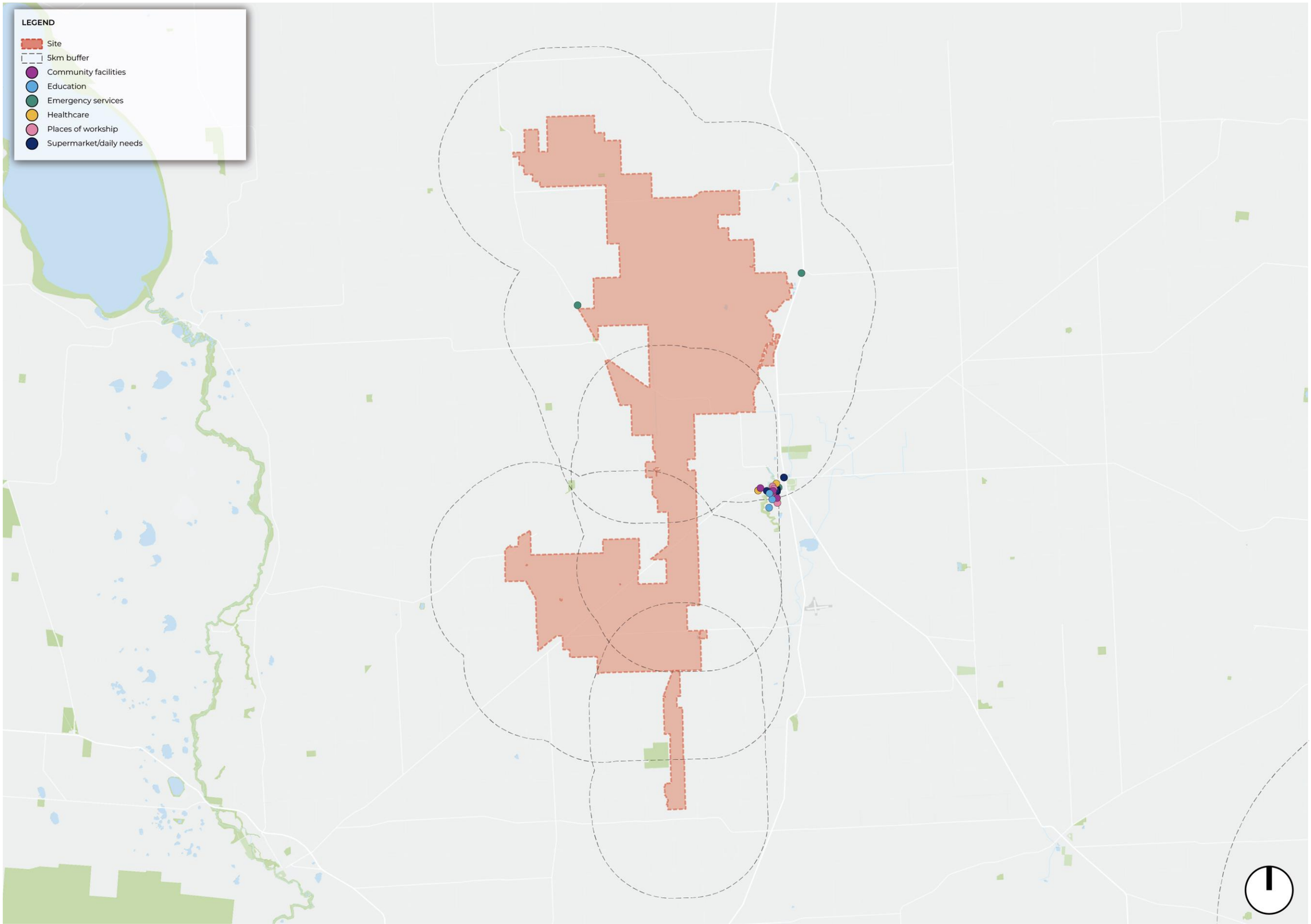

Figure 5 Social infrastructure context

Source: Ethos Urban

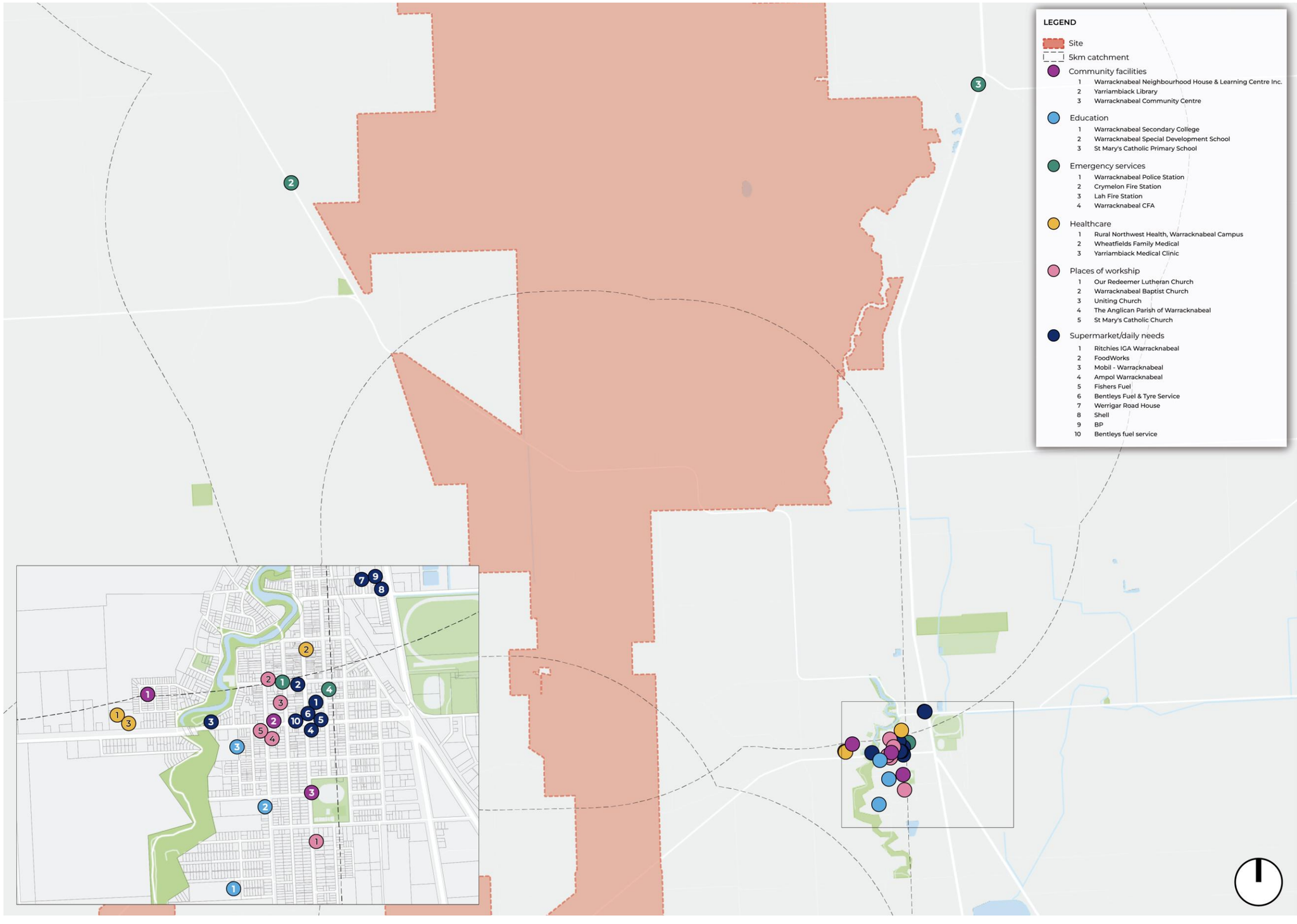

Figure 6 Social infrastructure context (zoomed)

Source: Ethos Urban

4.5 Social issues and trends

The following section provides an overview of the local social issues and trends relevant to the proposed development.

4.5.1 Climate Change and Australia's commitments

At the opening of the 2021 United Nations Framework Convention on Climate Change Conference (UNFCCC) or COP26, the Australian Government submitted its updated and enhanced Nationally Determined Contribution (NDC) to the UNFCCC secretariat. Australia has committed to achieve net zero emissions by 2050, guided by its detailed and comprehensive technology-led plan.[2] In addition to its new net zero emissions commitment, the Federal Government has also reaffirmed its target to reduce emissions by 26-28% below 2005 by 2030 and presented its seven low emissions technology stretch goals, which includes ultra-low-cost solar.[3] The updated and enhanced NDCs came at a time when climate action has become the most salient global agenda due to the growing concern over climate emergency.

Victoria's Climate Change Strategy sets out a plan to achieve net-zero emissions by 2050 in order to avoid the devastating effects of climate change. As the majority of the state's emissions come from energy production, the Victorian Government aims to ensure at least 50% of all electricity comes from renewable sources by 2030. Legislated targets will new investment into wind and solar energy projects in Victoria, with flow on benefits for communities such as new jobs and skills development. Further, the Victorian Government has established six Renewable Energy Zones (REZ) in regional Victoria.[4]

4.5.2 Impact of climate change on rural economies

The impacts of climate change have been increasingly evident and experienced in Australia. Victoria's 2019 Climate Science Report indicates that the state's climate is becoming warmer and drier and will likely worsen in the future if drastic action is not taken. By 2050, annual rainfall is projected to decrease state-wide, with a reduction of 12% expected in Horsham.[5] This will have far reaching effects on communities and the economy, particularly the rural areas of northern Victoria who rely heavily on agricultural activity.

A study of farm profitability associated with climate change and wheat yields in North-Western Victoria found that hotter and drier temperatures will likely lead to lower profitability for farmers and higher levels of volatility – "Under the more benign climate change scenarios, farms are projected to maintain or even increase their profitability. But importantly, under the predicted hotter and drier climate conditions - the scenario that is now predicted to be more likely to eventuate - farm profitability will fall in line with, but more moderately than, wheat yields (7% in Wimmera and 13% in Mallee) on average. Profits not only trend down but also show volatility from year to year".[6]

These findings illustrate the need for a coordinated response to climate change in order to stabilise agricultural production in rural Victoria. Clean energy generation through renewables projects like wind farms can make a major contribution to Victoria's response to climate change.

[2] https://www.industry.gov.au/news/affirming-australias-net-zero-emissions-by-2050-target
[3] Ibid.
[4] Victoria's Climate Change Strategy
[5] https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0029/442964/Victorias-Climate-Science-Report-2019.pdf
[6] Microsoft Word - Technical Report 22 Nov 2021.docx (monash.edu)

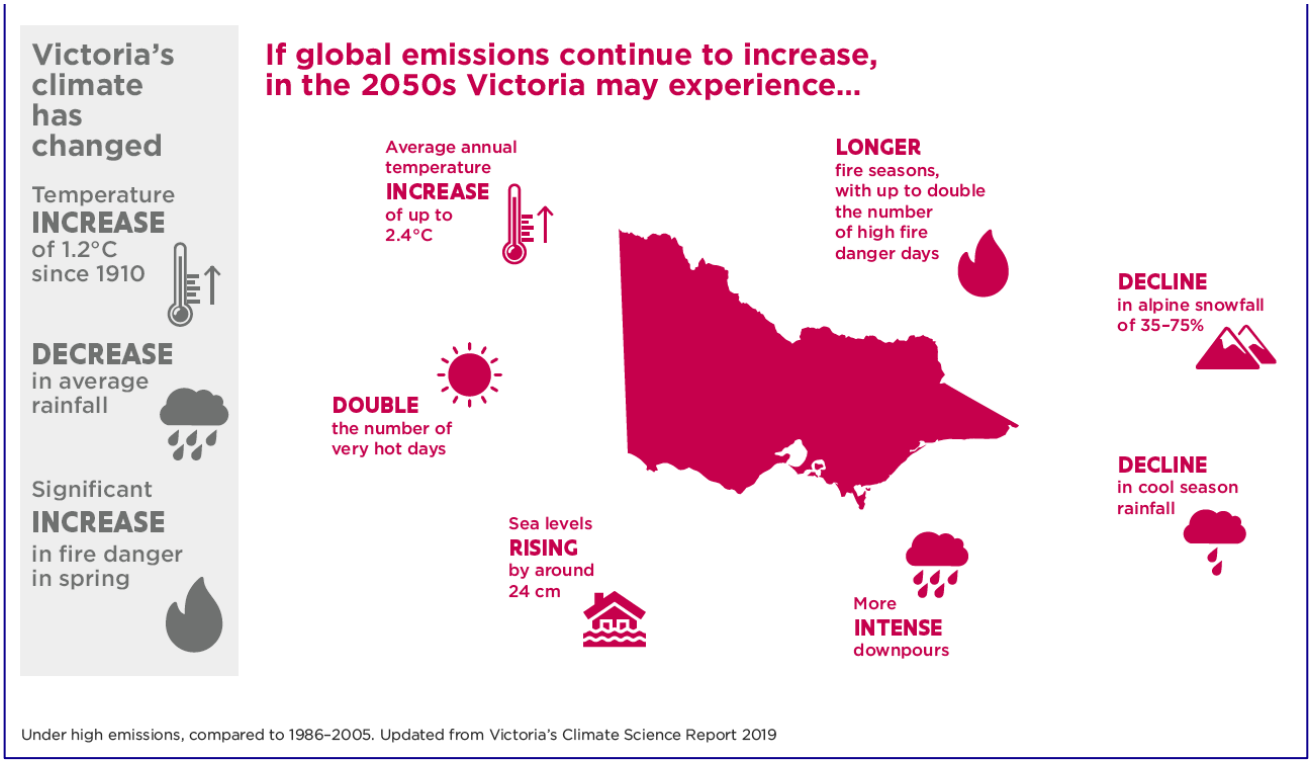

Figure 7 Climate change in Victoria

Source: Victorian Government

4.5.3 Impact of wind farms on rural communities

As wind farms and renewable energy production in general become more common in Australia, it is important to consider the impacts of this type of development on communities. The social impact of wind farms can depend heavily on the perceptions and perspectives of affected community members on renewable energy and wind farms themselves.

Wind farm opponents and objectors have suggested in the past that wind farms may contribute to poorer health for some people living in proximity. However, research indicates that the real health effects are often limited, with a greater threat to health stemming from the psychological stress from the negative perceptions surrounding wind farms. Changes to visual amenity appear to be one of the most significant impacts of wind farms to some people, due to their size and visible nature. Alternatively, some communities welcome wind farms into their community with an opportunity to benefit financially which can offset financial stress caused by drought and the hardships associated with farming. The perceived impacts appear to be highly dependable on overall attitudes toward wind farms, with equally positive and negative responses possible, depending on the location and local population.

A literature review by the National Health and Medical Research Council concluded that noise exposure levels from Australian wind farms are unlikely to cause any significant direct issues, stating that "with the exception of annoyance, sleep quality, and quality of life – which are possibly related – there was no consistent association between adverse health effects and estimated noise from wind turbines".[7] However, while limited, sleep disturbance and annoyance can have significant impacts on quality of life if not appropriately mitigated. Noise emissions from wind farms are tightly regulated in all Australian states and impacts are largely avoided through selective siting of turbines and strict monitoring and compliance regimes.

Wind farms can also have considerable social and economic impacts on rural communities. This type of renewable energy development generates a significant number of jobs during construction, which is likely to positively impact communities through local job creation and increased business for related industries in proximity.

[7] *NHMRC Information paper: Evidence on wind farms and human health*, National Health and Medical Research Council. 2015, accessed via https://www.nhmrc.gov.au/about-us/publications/nhmrc-information-paper-evidence-wind-farms-and-human-health

Payment schemes are common when wind farms acquire or rent private parcels of land, which can bring both positive and negative impacts – while the landowners receive positive compensation, it can bring about conflict between landowners who have received payment, and those who have not. Anxieties surrounding decreasing property prices as a result of wind farm development can also cause additional conflict, although a link between wind farms and property prices has not been shown to exist.[8] [9]

Furthermore, many wind farms are now offering substantial community benefit programs including revenue sharing and/or the offer of free electricity for the life of the project within certain distances of turbines. The widening of benefits throughout the community beyond simply those hosting the location of turbines has offered substantial community economic benefit.

A study by the CSIRO on the acceptance of rural wind farms in Australia found the following factors greatly influenced the likelihood of a project passing through consent authorities:

Acknowledged costs/unavoidable problems

- *The reasons for opposition by some participants suggest that wind farms proposals are triggering a range of underlying cultural or ideological concerns which are unlikely to be addressed or resolved for a specific wind farm development. These underlying issues include pre-existing concerns that rural communities are politically neglected by urban centres, commitment to an anti-development stance, and opposition to a 'green' or 'climate action' political agenda.*

'Game changers' – can enhance acceptance or increase opposition

- *Small, community-scale wind farms offer local sustainability solutions to cut greenhouse gas emissions and support local development.*
- *The layout and number of turbines in each cluster can minimise perceived negative visual impact.*
- *Noise from wind turbines is reported more frequently than transportation noise with equivalent noise characteristics.*
- *Property prices have not been found to increase or decrease, although the potential market of buyers may be decreased.*
- *Wind farms can attract tourism, but may conflict with other tourism features.*
- *For some individuals, sufficient financial compensation will make a wind farm acceptable. This could include compensation/rental payments to all residents in a specified radius, payment of electricity bills and local government contributions.*
- *There is currently no evidence linking noise impacts with adverse health effects. However, proposed wind farms can create stress, leading to negative health outcomes.*
- *The vocal minority are more often prominent in the media, and secure political attention. A group from the 'Landscape Guardian' movement of wind opposition contests half of all wind farm proposals. These groups often contact local residents early in the project and share concerns about wind farms.*[10]

Victoria's comprehensive planning and environmental assessment and approval process which enjoys the highest level of third-party involvement in the Country. Often Wind Farms are also required to undertake an Environment Effects Statement which is a comprehensive and vigorous process inclusive of the community and authorities.

There have been many wind farms in rural Victoria which have received higher levels of community support and acceptance such as Murra Warra Wind Farm, and the Golden Plains Wind Farm (GPWF), which is set to become Australia's largest wind farm.

At GPWF, lease payments offered host landowners a "collective drought-proof income" based on the number of turbines on their property. A community benefit program was also established at GPWF. Among other initiatives, the community benefit program will establish a community fund of up to $235,000 per year for initiatives, projects, and events which would benefit the communities living in proximity to the project. A community investment program will also operate, allowing non-host landowners to buy into the project and secure financial returns.[11]

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[8] *NHMRC Information paper: Evidence on wind farms and human health*
[9] *Review of the Impact of Wind Farms on Property Values*, Urbis, 21 July 2016
[10] CSIRO, 2012, Exploring community acceptance of rural wind farms in Australia: a snapshot.
[11] Australia's "largest" wind farm wins planning approval for Victoria | RenewEconomy

The Victorian Government Guide for Renewable Energy Developers identifies best practice approaches to community engagement and community benefit sharing. According to the guide, face-to-face engagement activities have been found to be most consistently beneficial in ensuring community understanding of the project. Community benefit sharing programs, when designed well and tailored to the local context, can also enhance positive community perspectives. These should be framed as an offer, rather than compensation, and led by extensive community engagement early within the project timeline.[12]

4.6 Community and Stakeholder Perspectives

4.6.1 Key stakeholders

The key stakeholders are:

- Traditional owners – the Wotjobaluk, Jaadwa, Jadawadjiali, Wergai, and Japagulk peoples
- Australian and Victorian Governments
- Local Governments - Yarriambiack, Hindmarsh, and Horsham
- Farmers and local agribusinesses
- Residents of Warracknabeal and surrounding towns and districts
- Landholders and communities along required transmission routes
- Emergency services
- Local community groups
- Electricity market operators, regulators, and participants
- Industry and business representatives
- Global and local supply chains
- Local tourism businesses and agencies
- Educational institutions
- Media.

4.6.2 Project-specific engagement

The Project has four key phases, all of which require tailored communication and engagement. They are:

- **Site selection**
  - Commenced in 2017 and is now complete
  - Objectives were to understand the social reality surrounding a potential area of interest; explore potential engagement with key stakeholders; manage expectations with honesty; create a positive feeling about the opportunities of the Project in the possible interactions with stakeholders – but make clear that the Project might not move forward; and be ready to respond to any questions.
- **Planning and approvals**
  - Commenced in 2022 and currently underway
  - This phase requires regular communication with stakeholders to ensure they understand how the Project is progressing.
- **Construction**
  - Expected to commence in 2026-2027.
  - Objectives are to proactively communicate the upcoming construction schedule, traffic movements and impacts to roads; reduce communities' stress and concerns by acknowledging and responding to any raised issues or concerns; earn trust through openness and responsiveness to community interests and concerns; demonstrate commitment to the communities' wellbeing; avoid, minimise, or remediate negative impacts from construction; seek and respond to interest in opportunities for communities created by the construction process; and require the contractors to invest in the local community.

[12] Victorian Department of Environment, Land, Water and Planning 2017, Community Engagement and Benefit Sharing in Renewable Energy Development.

- **Commissioning and operations**
  - Objectives are to continue to be an active member of the community; and strengthen collaboration through relevant partnerships that demonstrate commitment to communities' wellbeing.

4.6.3 Engagement outcomes

Engagement completed over 15 June 2021 to 15 June 2022 has identified a largely neutral or positive sentiment towards the Project.

Recent engagement carried out over May and June 2022, was able to reach a larger number of local residents. West Wind Energy used doorknocking at surrounding residential properties, and an 'open day' information session. Figure 8 indicates that respondents were mostly positive towards community engagement, land tenure, and project design. A minority of participants were negative towards noise and landholder management.

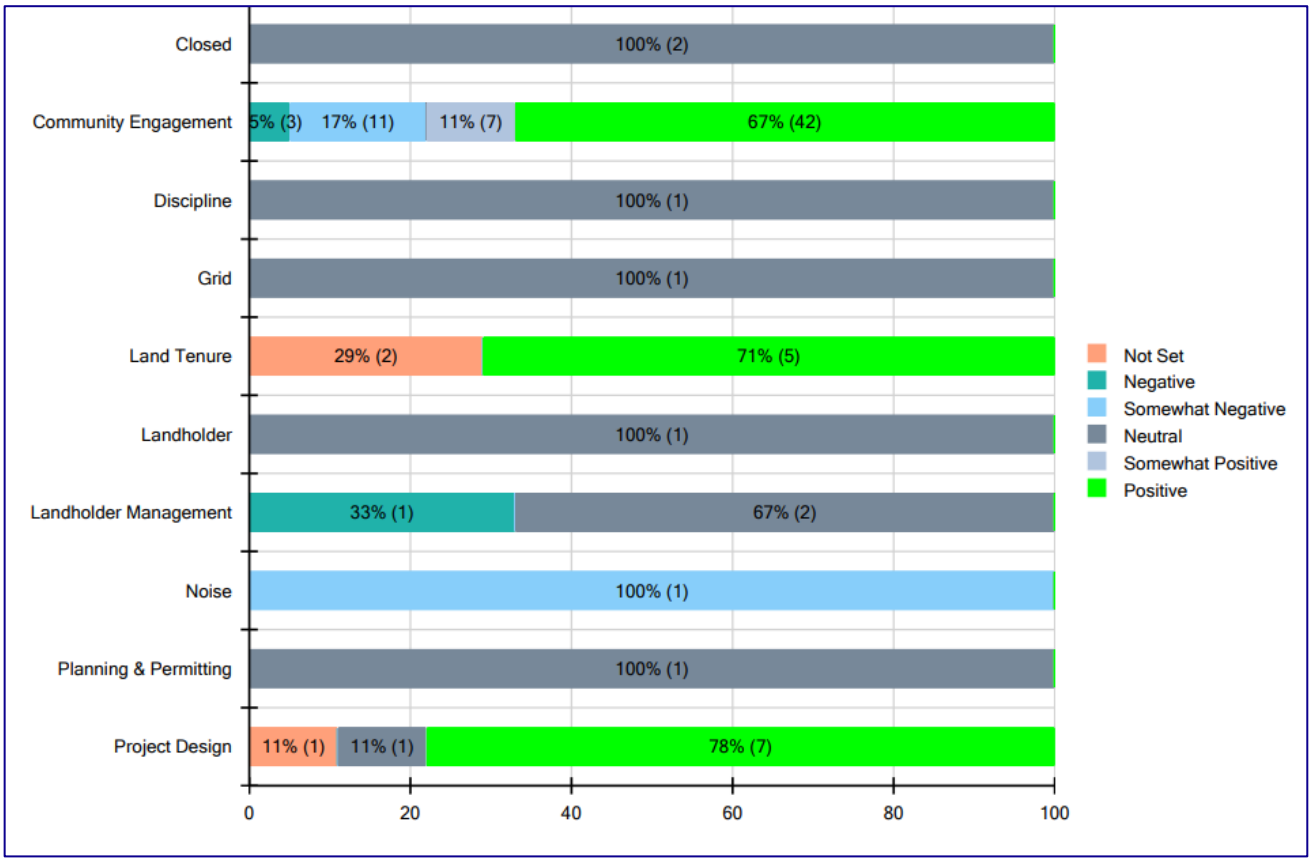

Figure 8 Community and stakeholder sentiments – 15 June 2021 to 15 June 2022

5.0 Economic Context

5.1 Study Area Definition (Economic)

The Economic Study Area (the Study Area) for the Project has been defined in terms of the following Local Government Areas (LGAs):

- Yarriambiack Shire Council
- Horsham Regional Council
- Northern Grampian Shire Council
- Hindmarsh Shire Council
- Buloke Shire Council

The main regional cities/townships/settlements in the Study Area are all located within a one-hour drive from the Project Area.

The Study Area's local and regional communities, to differing extents, have the potential to contribute to the Project and derive economic benefits from both the construction and ongoing phases of the Project.

The Study Area and Project location are shown in Figure 9.

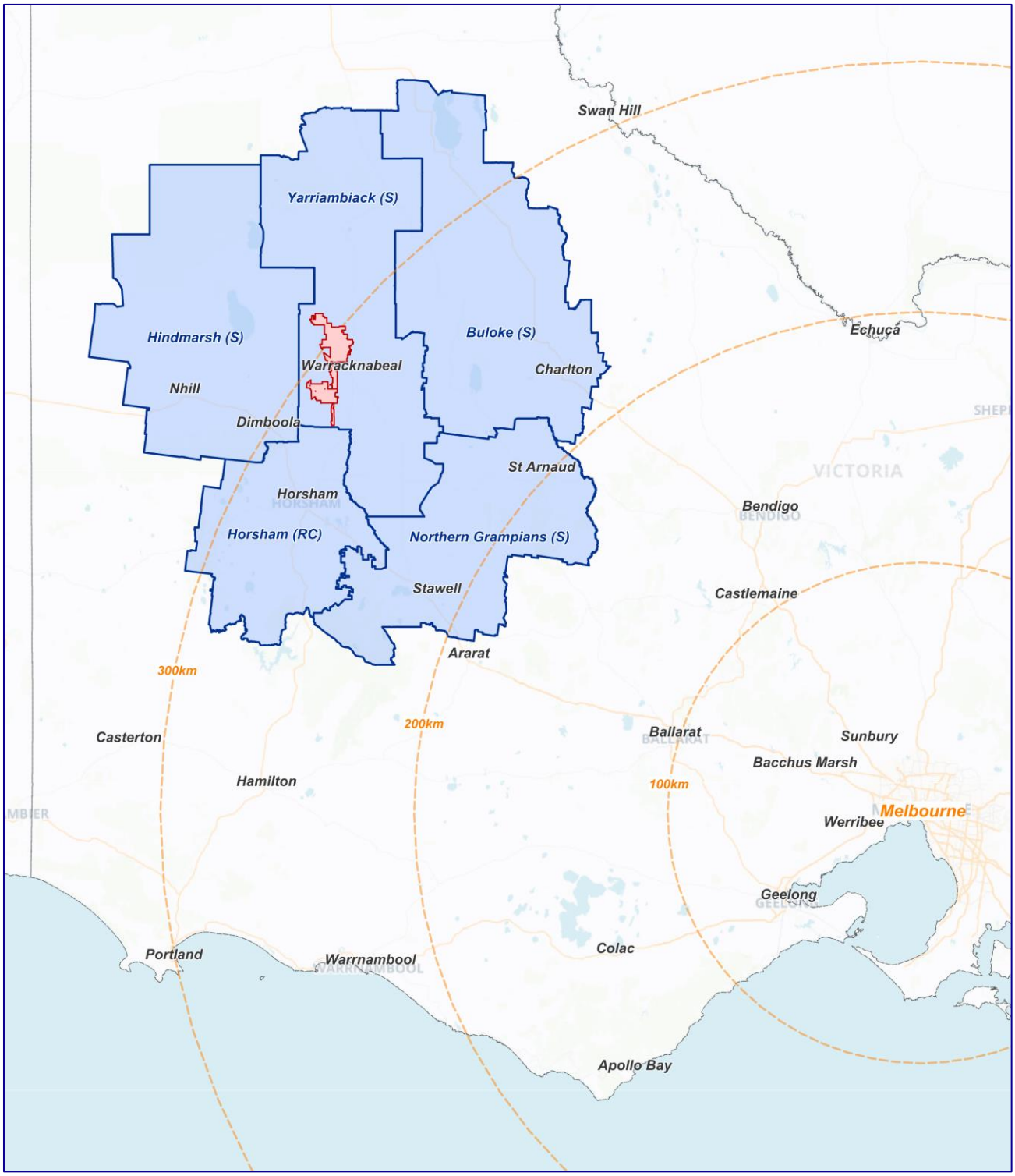

Figure 9 Economic Study Area

Source: Ethos Urban

5.2 Population

The population of the Study Area totalled 49,430 persons as of June 2021 (ABS Estimated Resident Population, 2022), including 6,450 persons located in Yarriambiack Shire.

Over the period 2021-2036, annual population growth in the Study Area is expected to decline by -0.5% p.a. (or -220 persons p.a. over 15 years) compared to the Regional Victoria growth rate of +1.1% p.a. The level of growth anticipated in the Study Area is comparatively low and driven by anticipated population declines in Buloke, Hindmarsh and Yarriambiack LGAs; with projected negative growth rates of -1.3%, -1.2% and -1.0% respectively over the 15-year period. Horsham LGA is the only municipality projected to experience an increase in population (+0.2% p.a.) between 2021-2036 at. These population projections highlight the need for local investment projects which provide new employment opportunities for residents and alternative income streams for local farmers. Both these factors can contribute to retaining, and potentially expanding, population within the Study Area.

The Project will provide new incomes to host landowners (farm operators) and neighbouring property owners, while the construction and operational phases of the Project will provide an economic stimulus (additional jobs, project contracts, new spending etc) to the local/regional economies, as well as supporting the emergence of the region's renewable energy sector.

Population estimates, which are shown in Table 4, are based on official population projections prepared by the Victorian government (2019) and the most recent ABS estimated resident population figures for 2021.

Table 4 Population Projections – Study Area, 2021-2036 (No. of Persons)

LGA/Area	2021	2026	2031	2036	Change 2021 to 2036
Population (no.)					
Buloke	6,070	5,740	5,390	5,020	-1,050
Hindmarsh	5,560	5,280	4,980	4,630	-930
Horsham	19,960	20,180	20,390	20,570	+610
Northern Grampians	11,380	11,070	10,740	10,370	-1,010
Yarriambiack	6,450	6,140	5,830	5,520	-930
Total Study Area	**49,430**	**48,420**	**47,340**	**46,100**	**-3,330**
Regional Victoria	*1,552,770*	*1,648,650*	*1,743,580*	*1,835,060*	*+282,290*
Average Annual Growth (no.)					
Buloke	-40	-70	-70	-70	-70
Hindmarsh	-40	-60	-60	-70	-60
Horsham	+20	+40	+40	+40	+40
Northern Grampians	-40	-60	-70	-70	-70
Yarriambiack	-60	-60	-60	-60	-60
Total Study Area	**-170**	**-200**	**-220**	**-250**	**-220**
Regional Victoria	*+18,800*	*+19,180*	*+18,990*	*+18,300*	*+18,820*
Average Annual Growth (%)					
Buloke	-0.7%	-1.1%	-1.3%	-1.4%	-1.3%
Hindmarsh	-0.8%	-1.0%	-1.2%	-1.4%	-1.2%
Horsham	+0.1%	+0.2%	+0.2%	+0.2%	+0.2%
Northern Grampians	-0.3%	-0.6%	-0.6%	-0.7%	-0.6%
Yarriambiack	-0.9%	-1.0%	-1.0%	-1.1%	-1.0%
Total Study Area	**-0.3%**	**-0.4%**	**-0.5%**	**-0.5%**	**-0.5%**
Regional Victoria	*+1.3%*	*+1.2%*	*+1.1%*	*+1.0%*	*+1.1%*

Sources: ABS, 3218.0 Regional Population Growth, Australia; Victoria in Future 2019

Notes: Figures rounded

5.3 Labour Force

As of December 2021 (latest available data), the Study Area had an unemployment rate of 2.8%, which is significantly lower than the rate for Regional Victoria (3.8%). The Study Area at that time had approximately 650 job seekers who were unemployed. This information is sourced from the Australian National Skills Commission – *Small Area Labour Markets* data. The Project is likely to require 1,000 Full Time Equivalent (FTE) workers at the Project's construction peak, with potentially 50% of these workers (500 FTE workers) expected to be sourced from within the Study Area – with the remaining 500 'peak' FTE workers (or 50% of the workforce) relocating from outside the Study Area.

These 500 FTE Project jobs may provide new employment opportunities for some unemployed Study Area job seekers, subject to appropriate skills match. Alternatively, some unemployed jobseekers may backfill jobs vacated by workers who are contracted to the Project.

Project workforce requirements are discussed in further detail in section 7.2.

In the context of the Study Area's large labour market comprising 23,180 persons as shown in Table 5, the construction phase of the Project alone is unlikely to cause labour supply issues, rather provide new short-term and some longer-term opportunities for labour force participants. However, cumulative impacts associated with workforce demands from other infrastructure projects proposed for the Study Area also need to be considered (refer to section 7.11).

Table 5 Resident Labour Force Statistics – Study Area, March 2021 (No. of Persons)

LGA/Area	Labour Force	Unemployed	Employed	Unemployment Rate
Buloke	2,740	70	2,670	2.6%
Hindmarsh	2,500	70	2,430	2.8%
Horsham	9,870	260	9,610	2.6%
Northern Grampians	5,230	160	5,070	3.1%
Yarriambiack	2,840	90	2,750	3.2%
Total Study Area	**23,180**	**650**	**22,530**	**2.8%**
Regional Victoria	**774,200**	**29,100**	**745,100**	**3.8%**

Source: Australian National Skills Commission, *Small Area Labour Markets,* December Quarter 2021

Note: Figure rounded

5.4 Occupational Structure

The skills base of the Study Area is reflected in its occupational structure, as indicated in

Table 6. ABS Census data for 2016 shows 32.4% of employed residents in the Study Area were, at that time, were occupied in activities generally associated with the types of skills required for the construction of a major infrastructure projects such as a wind farm (e.g., technicians and trades workers, machinery operators and drivers, and labourers).

The Study Area's representation in these occupations is slightly below the Regional Victoria average 33.9%, but generally indicating a suitable occupational base for the Project is present in the region. In total, approximately 6,290 workers in the Study Area are occupied in construction-related activities, highlighting the strong local and regional worker base available to support the Project.

Table 6 Study Area Workers – Occupational Structure, 2016

Occupation	Study Area		Regional Vic	
	no.	Share	no.	Share
Managers	4,460	20.9%	90,000	14.6%
Professionals	3,140	14.7%	107,380	17.4%
Technicians and trades workers	2,670	12.5%	91,560	14.8%
Community and personal service workers	2,500	11.7%	72,660	11.8%
Clerical and administrative workers	2,130	10.0%	69,760	11.3%
Sales workers	1,910	8.9%	59,820	9.7%
Machinery operators and drivers	1,380	6.5%	40,220	6.5%
Labourers	2,870	13.4%	76,400	12.4%
Inadequately described or not stated	340	1.6%	9,590	1.6%
Total	**21,390**	**100.0%**	**617,372**	**100.0%**

Source: ABS, Census of Population and Housing, 2016
Note: Figure rounded

5.5 Business Structure

A tangible benefit of a major infrastructure investment, such as the proposed Project, is the extent to which local/regional businesses can participate through Project contracts and other service provision.

ABS Business Counts data for June 2021 (latest available) shows the Study Area includes 610 construction businesses and a further 290 businesses associated with transport, postal and warehousing service, with these two sectors contributing 900 businesses or 15% of all businesses located in the Study Area.

This data, which is included in

Table 7, indicates a strong presence in the Study Area of the types of firms that are likely to be well-placed to service aspects of the Project. This opportunity is explored in more detail in the following Chapter.

Table 7 Business Structure – Study Area, June 2021

Sector	Non employing	1-19 Employees	20-199 Employees	200+ Employees	Total Businesses	
	no.	no.	no.	no.	no.	%
Agriculture, Forestry and Fishing	1,580	1,010	10	0	2,600	44.0%
Mining	10	10	0	0	20	0.3%
Manufacturing	70	70	10	0	150	2.5%
Electricity, Gas, Water and Waste Services	10	10	0	0	20	0.3%
Construction	330	270	10	0	610	10.3%
Wholesale Trade	80	70	10	0	160	2.7%
Retail Trade	130	190	10	0	330	5.6%
Accommodation and Food Services	60	180	10	0	250	4.2%
Transport, Postal and Warehousing	150	140	0	0	290	4.9%
Information Media and Telecommunications	10	0	0	0	10	0.2%
Financial and Insurance Services	50	30	0	0	80	1.4%
Rental, Hiring and Real Estate Services	450	50	0	0	500	8.5%
Professional, Scientific and Technical Services	130	100	0	0	230	3.9%
Administrative and Support Services	60	50	10	0	120	2.0%
Public Administration and Safety	10	10	0	0	20	0.3%
Education and Training	20	20	0	0	40	0.7%
Health Care and Social Assistance	70	70	10	0	150	2.5%
Arts and Recreation Services	30	30	0	0	60	1.0%
Other Services	140	130	0	0	270	4.6%
Currently Unknown	0	0	0	0	0	0.0%
Total	**3,390**	**2,440**	**80**	**0**	**5,910**	**100.0%**

Source: ABS, Counts of Australian Businesses, including Entries and Exits, June 2017 to June 2021

5.6 Township Services Capacity

5.6.1 Accommodation

An audit has been undertaken of commercial and private accommodation located within the Study Area's major townships. These townships generally represent a maximum drivetime of 60-minutes from the central point of the Project Area.

The Study Area has a good supply and mix of accommodation including motels, hotels, caravan/holiday parks (including cabins). Most accommodation options are located in Horsham and Nhill (refer to

Table 8); however, there are also options in townships located in proximity to the Project Area including Warracknabeal, Dimboola and Donald.

The following accommodation was available in the Study Area as of May 2022:

- 600 hotel, motel and serviced apartment rooms
- 45 cabins (located in caravan/holiday parks).

Table 8 Commercial Accommodation in the Study Area, September 2021

Surrounding township	Establishments	Rooms	Cabins	Total
Horsham	21	405	33	459
Warracknabeal	4	31	na	35
Donald	4	32	na	36
Dimboola	1	26	6	33
Nhill	7	78	6	91
Rainbow	3	30	na	33
Jeparit	2	na	na	na
Birchip	2	na	na	na
Total	**44**	**602**	**45**	**689**

Source :Ethos Urban; Trip Advisor; na: not available

5.6.2 Private Accommodation

Private accommodation is often used to support construction worker needs. This could be through leasing of holiday homes and investment properties, either privately (including Airbnb), or through real estate agents.

Data sourced from *www.airdna.co*, and included in Table 9, shows approximately 320 active short-term rentals are currently advertised in the Study Area on Airbnb and Vrbo (May 2022). These active rentals have an average of 2.5 bedrooms per rental. Therefore, in the order 790 rooms could be available in the Study Area through the short-term rental market.

Table 9 Short Term Accommodation in the Study Area, May 2022

Municipality/ Area	Total Active Rentals	Av. Rooms	Estimated Total Rooms
Horsham	56	2.5	140
Northern Grampians	231	2.4	554
Buloke	31	3.1	96
Yarriambiack	na	na	na
Hindmarsh	na	na	na
Total	**318**	**2.5**	**791**

Source: Ethos Urban; AirDNA; na: not available

As

Table 10 shows, 15.2% of Study Area dwellings (3,810 dwellings) were unoccupied at the 2016 Census, which is slightly below the Regional Victoria benchmark (16.1%). Hindmarsh and Yarriambiack LGAs have a significant share of unoccupied dwellings 18.9% and 19.2% or 570 and 680 dwellings, respectively. Shared private housing accommodation is generally a popular option for project workers employed on major infrastructure projects, with some of the Study Area's unoccupied dwellings; therefore, having the potential to enter the housing market to support the construction phase of the Project.

Table 10 Unoccupied Dwellings – Study Area, 2016

LGA	No. Occupied Private Dwellings	Unoccupied private dwellings	Total No. Private Dwellings	Share of Unoccupied Private Dwellings
Hindmarsh (S)	2,450	570	3,020	18.9%
Horsham (RC)	8,080	1,100	9,180	12.0%
Buloke (S)	2,700	500	3,200	15.6%
Northern Grampians (S)	5,110	960	6,070	15.8%
Yarriambiack (S)	2,870	680	3,550	19.2%
Total Study Area	**21,210**	**3,810**	**25,020**	**15.2%**
Regional Victoria	**577,740**	**111,130**	**688,870**	**16.1%**

Source: ABS, Census of Population and Housing, 2016
Note: Figures rounded

5.6.3 Township Services

In addition to accommodation, workers locating temporarily to the Study Area will require a wide range of other convenience services, and the Project will also need to source trade, equipment hire, manufacturing, engineering, vehicle mechanical services, and other services from businesses located in the immediate region.

The following sections provide an overview of services located in Horsham and the main townships in the Study Area, which are listed in order of driving distance from the Project Area.

Warracknabeal (Closest township to Project Area)

Warracknabeal, with a population of approximately 2,260 persons in June 2021 (ABS ERP 2022), is the largest township in Yarriambiack Shire and provides many services to the large agricultural community and its smaller rural settlements. In terms of the proposed Project, Warracknabeal could viably fulfil a small accommodation role for project workers who want to live close to the Project Area and do not wish to be located in a major centre such as Horsham. In this regard, the Warracknabeal township generally provides a good range of convenience services, including:

- Limited range of accommodation options (refer to section 5.61 above)
- IGA and Foodworks supermarkets
- Cafes, restaurants and takeaway facilities
- Branches of all major banks
- Post offices
- Shops, newsagents, pharmacies etc
- Vehicle mechanics and fuel services
- Hotels and sports clubs
- Medical services (Rural North West Health, including emergency services).

Jeparit

Jeparit is situated along the Dimboola-Rainbow Road with a small population of approximately 320 persons as of June 2021 (ABS ERP 2022). Jeparit is located approximately 40 km north-west of the Project Area (or a 30-minute drive time). The township is known for being the home to Lake Hindmarsh.

Jeparit offers a small variety of services but no accommodation. These services include:

- Jeparit Supermarket, News Agency & Café.
- Medical and Emergency Services – Jeparit Medical Clinic, Jeparit Pharmacy and police station
- Retail services – Capital Caravans, The Jugiong Wine Cellar and Curators Collective

- Mogas Service Station.
- Australia Post.
- Jeparit Primary School
- Recreational Facilities – Jeparit Swimming Pool, Broadway Playground, Tennis Court, bowls club and golf club.

Dimboola

Dimboola is situated along the Wimmera River, sitting between Melbourne and Adelaide, bypassed by the Western Highway. With a small population of approximately 1,380 persons in June 2021 (ABS ERP 2022), Dimboola is roughly located 40 km south-west of the Project Area or a 30-minute drive.

Dimboola offers a small variety of businesses, including:

- Accommodation – Two commercial accommodation options (refer to section 5.61 above)
- Food and Drink – the Victoria Hotel, Dimboola Café, Wimmera Bakery
- Other services – IGA Plus Liquor, Australia Post facilities, Newsagency, Pharmacy
- Emergency services – Ambulances and Police Station
- Three education facilities – Dimboola Primary, Dimboola Memorial Secondary College and St Peter's Lutheran School
- Recreational Facilities – Tennis Club, Swimming Pool, Recreation Reserve and Dimboola Golf Club.

Horsham

Horsham has a population of approximately 16,050 persons in June 2021 (ABS ERP 2022) and is a key regional service centre for the Wimmera, Mallee and Northern Grampians region. Horsham is located approximately 55 km to the south-west (or a 40-minute drive time) from the Project Area. Despite the relative distance and travel time from the Project Area, Horsham will likely be a key service centre providing labour, industry services, accommodation, health /emergency services to the Project. Horsham was heavily utilised by project workers and contractors involved in the construction phase of the Murra Warra wind farm projects.

The level of services/facilities available in Horsham are consistent with services commonly provided by major regional service centres. These services include:

- A wide range of commercial accommodations options (hotels, motels, caravan parks etc), as outlined in section 5.61 above).
- Construction and transport services including Miller Civil Contractors & Plant Hire, RJ Lee Construction, Horsham Steel Constructions, Ballinger Construction Pty Ltd, Wimmera Roadways, O'Sullivans Transport, MTS Cartage, J.R. Clark Haulage and other associated services
- Trade supplies – including major brands including Bunnings, Mitre-10, Tradelink, Total Tools
- Mechanical services and supplies – mycar Tyre & Auto, Toyota Service, Wimmera Diesel Injection, HJM Heavy Equipment, Bridgestone Service Centre, Burson and numerous others
- Supermarkets and bottle shops –Woolworths, Coles, ALDI, as well as a Dan Murphy's, Liquorland, BWS, Bottle-O, Celebrations and others
- Fast food outlets, cafes, bakeries, restaurants and take-away
- Horsham Plaza is the main shopping centre in Horsham and includes major retail players such as Kmart, Spotlight, Best & Less and 24 specialty tenancies
- Wide range of commercial and financial institutions – banks, solicitors, conveyancing etc
- Wide range of entertainment options and recreational facilities (parks, clubs, sports and cinema etc)
- Large range of educational facilities from early learning centres, preschools, and public and private schools Additionally, Horsham contains a Federation University campus
- Horsham has a significant range of medical and emergency services which reflects the regional importance of the town, the main services provided include – Horsham Base Hospital with an emergency department and specialty clinics, along with police stations, a fire brigade, multiple GP and specialist clinics, etc.

Donald

Donald is located approximately 55 km south-east of the Project Area, or a 40-minute drive time. The township has a residential community of approximately has 1,380 persons as of June 2021 (ABS ERP 2022), and contains a limited range of services including:

- Small-scale commercial accommodation (refer to section 5.61 above)
- Construction and Machinery related businesses - Donald Hardware, Thrifty-Link, Metaland, Donald Auto Electrical, Liersch Automotive
- Supermarket – Weir's IGA
- Variety of cafés and restaurants
- Recreational Facilities – Lawn tennis club, bowls club, swimming pool, golf club, race course and recreation reserve
- Petrol Station – BP
- Small-scale medical facilities with a local GP, pharmacy and associated services
- Three educational facilities – Donald Primary school, St Mary's School and Donald High School.

Birchip

Birchip, with a population of 660 persons as of June 2021 (ABS ERP 2022), is located 60km north-east of the Project Area, or a 45-minute drive time. The township is well known for notable grain storage facilities in the Mallee region and is home to the Big Mallee Bull Statue. Birchip's services include:

- Accommodation – Two commercial accommodation options (refer to section 5.61 above)
- Limited trade and construction supplies – Birchip Hardware Store
- Food and Drink – the Birchip Hotel, Sharp's Bakery, Birchip Café, O'Donnell's Café and wine bar
- Other services – Doyle's IGA Plus Liquor, Australia Post facilities, Newsagency, Pharmacy
- Emergency services – Ambulances, Fire Station and Police Station
- Educational Facility – Birchip P-12 School
- Medical Facilities – Birchip Hospital (a Campus of East Wimmera Health)
- Recreational Facilities – Tennis Club, Swimming Pool, Harness Racing Track, Recreation Reserve and Birchip Golf Club.

Rainbow

Rainbow is situated along the Dimboola-Rainbow Road with a small population of approximately 460 persons as of June 2021 (ABS ERP 2022). Rainbow is located approximately 50 km north-west of the Project Area (or a 45-minute drive time). Rainbow is a small township providing services and support to the surrounding agricultural industry, including:

- General services – IGA X-press plus Liquor, The Rainbow Newsagency
- Food and Drink – Royal Hotel, Eureka Hotel, Bow Bakery
- Construction-related businesses include Thrifty Link Hardware
- Medical and Emergency Services – Rainbow Hospital, Rainbow Pharmacy, Fire Station
- Shell Service Station
- Australia Post
- Rainbow P-12 College
- Recreational Facilities – Rainbow swimming pool, tennis court, bowls club and golf club.

Nhill

Nhill is located in the southern portion of Hindmarsh Shire, and is located 70 km south-west of the Project Area, or a 55-minute drive time. The township includes approximately 1,750 persons as of June 2021 (ABS ERP 2022), and contains a small range of retail and commercial offerings, including:

- Seven commercial accommodation options (see section 5.61 above)
- Trade and construction supplies – Home Hardware Nhill, Mulhallen's Mitre 10 and Bi-Rite, Hindmarsh Hire, Westmix Concrete, Typhoon Fencing.
- Grocery Stores – SUPA IGA and Nhill Market.
- A variety of cafés and restaurants.
- Recreational facilities – Golf Course, racecourse, swimming pool, bowls and recreation club and sports club
- Financial services – Commonwealth Bank and NAB branches
- Australia Post.
- Petrol stations – Ampol and Petrogas.
- Nhill Pharmacy.
- Three educational facilities – Nhill College, Nhill Lutheran School and St Patrick's School

5.7 Economic Context Summary

The key findings of this Baseline Regional Economic Profile are as follows:

1. The population of the Study Area totalled 49,430 persons as of June 2021. Over the period 2021-2036, annual population growth in the Study Area is forecast to decline by -0.5% pa, compared to the forecast Regional Victoria growth rate of +1.1% p.a. Buloke, Hindmarsh and Yarriambiack LGAs are forecast to experience notable population declines over this period. In this regard, local investment projects (such as the proposed Project) can generate new employment opportunities for residents and diversify income streams for local farmers. These factors may contribute to retaining, and potentially expanding, population levels within these LGAs and the broader region.
2. The Study Area had an unemployment rate of 2.8% in December 2021, compared to the Regional Victorian rate of 3.8%; with 650 jobseekers unemployed at that time. Construction of the Project; therefore, may provide new short-term employment opportunities for the Study Area's labour force participants (subject to suitable skills mix), with a small amount of ongoing employment also supported once the facility is operational.
3. The Study Area's occupational and business structures indicate a good base exists to service the needs of the Project, with approximately 6,290 workers and 900 businesses located in the Study Area involved in construction-related activities.
4. The major regional centre of Horsham has significant capacity to service many aspects of the Project and successfully played this role in the recent construction of the Murra Warra I and Murra Warra II wind farm projects. Smaller townships, notably Warracknabeal, but also Dimboola, Donald, Nhill etc, also likely to play a role in providing labour, accommodation and other general services to the Project.

6.0 Social Impact Assessment

6.1 Methodology – Social Impact Assessment

There is no Victorian Government framework or prescribed methodology for social impact assessments. Historically it has been up to professionals to make a judgement as to the appropriate content of a social impact assessment given the nature and scale of a project, guided by high-level scoping requirements set by the Minister for Planning. In view of these circumstances, the NSW Department of Planning and Environment's *Social Impact Assessment Guideline* (July 2021) has been used to guide the methodology of this SIA.

The NSW DPE SIA Guideline represents best practice in Australia for the assessment of social impacts of major infrastructure and building projects across a comprehensive range of categories in order to meet the requirements of relevant consent authorities. The final Guideline was informed by public consultation with SIA professionals across Australia.

As outlined in the NSW DPE SIA Guideline, social impacts vary in their nature and can be positive or negative, tangible or intangible, physically observable, or psychological (fears and aspirations). Social impacts can be quantifiable, partly quantifiable or qualitative. They can also be experienced or perceived differently by different people and groups within a community, or over time.

The assessment involves a number of steps, including a baseline analysis of the existing socio-economic environment of a defined study area or areas; identifying a list of stakeholders and considering their views; scoping of relevant issues; identification and assessment of potential impacts against the specified suite of factors set out in the SIA Guideline; determination of the significance of the impacts, and identification of measures to manage or mitigate the project's potential negative impacts and enhance potential benefits.

This methodology employed in preparing this SIA is designed to ensure that the social environment of communities potentially impacted by a project is properly accounted for and recorded, and anticipated impacts are adequately considered and assessed.

6.2 Content of the SIA

This Social Impact Assessment has been prepared as follows:

- Baseline analysis of the existing socio-economic environment, involving:
  - Study area definition, including primary and secondary geographic areas likely to be impacted (see **Section 6.1.1** of this report)
  - Demographic analysis, including socio-economic characteristics of current communities and population forecast (see **Section 4**)
  - Review of relevant policy, including local and state policy frameworks (see **Section 3)**
- Stakeholder and community engagement: Findings of stakeholder and community consultation undertaken by the Proponent have been reviewed to identify community and stakeholder aspirations and values (see **Section 4.5**).
- Identification of impacts as per the SIA Guideline parameters. The social impact assessment ultimately appraises the significance of each identified impact based on its duration, extent and sensitivity of impact "receivers." This results in a social significance rating for impacts and benefits, as per the social impact significance matrix shown in **Section 6**.
- Identification of mitigation strategies to manage impacts and enhance benefits of the development (**Section 6)**.

6.3 Overview of this Assessment

Having analysed the current social baseline for the development, this SIA sets out an assessment of social impacts arising from the Project and recommended responses, including measures to enhance social benefits and mitigate potentially negative impacts.

The SIA assesses impacts across the suite of factors. A full explanation of the methodology applied in undertaking this assessment and the rating scale used is provided at section 6.5.1 of this report.

The assessment has been based on the information available to date, and primarily represents a desktop study, informed by a review and analysis of publicly available documents relevant to the precinct, as well as information provided by the Proponent as of August 2022.

The assessment considers the potential impact on the community and social environment, resulting from the construction of the Wind Farm. This assessment also includes recommended responses to identified impacts, including both mitigation measures for potentially negative impacts and actions to enhance benefits.

6.4 Assessment Framework and Approach

The purpose of this social impact analysis is to:

- Identify, analyse and assess any likely social impacts that people may experience at any stage of the project lifecycle, as a result of the Project
- Investigate whether any group in the community may disproportionately benefit or experience negative impacts and proposes commensurate responses consistent with socially equitable outcomes
- Develop social impact mitigation and enhancement options for any identified significant social impacts.

Ultimately, there can be two main types of social impacts that may arise as a result of the proposed development. First, direct impacts can be caused by the Project which may cause changes to the existing community, as measured using social indicators, such as population, health and employment. Secondly, indirect impacts that are generally less tangible and more commonly related to matters such as community values, identity and sense of place. Both physically observable as well as psychological impacts need to be considered.

This study identifies the following key social factors relevant to the assessment of social impacts of the Project:

- Way of life
- Health and wellbeing
- Accessibility
- Community
- Culture
- Surroundings
- Livelihoods.

The impacts on decision-making systems were regarded as likely to be negligible, and therefore have not been addressed in this SIA.

6.5 Key affected communities

This assessment covers both the Primary Study Area (PSA), which is expected to experience social impacts associated with the temporary construction activities and some of the future operational impacts, as well as the broader social localities (Secondary Study Area - SSA) that are likely to experience the resulting benefits from the operational phase of the Project.

Key communities to experience social impacts and/or benefits of the Project can be grouped as follows:

- Primary producers – Agricultural industries within and surrounding Project Area
- Adjacent residents and communities
- Residents of nearby towns, including Warracknabeal

- Businesses in Warracknabeal, and surroundings towns
- Temporary construction workers in the area.

6.6 Impact assessment factors and responses

The following section sets out the assessment of social impacts arising from the proposed development and recommended responses, including measures to enhance social benefits and mitigate potentially negative impacts, across the suite of factors set out in the NSW DPE SIA Guideline. The assessment has been based on the information available to date and is primarily a desktop study, informed by a review and analysis of publicly available documents relevant to the Project.

6.6.1 Evaluation principles

The SIA Guideline classifies social impacts in the following way, which forms the core basis of this assessment:

- ***Way of life:*** *how people live, get around, work, play and interact with one another each day*
- ***Community:*** *its composition, cohesion, character, how it functions, resilience, and people's sense of place*
- ***Accessibility:*** *how people access and use infrastructure, services and facilities (private, public, or not-for-profit)*
- ***Culture:*** *both Aboriginal and non-Aboriginal - people's shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings*
- ***Health and wellbeing:*** *people's physical, mental, social and spiritual wellbeing – especially for people vulnerable to social exclusion or substantial change, psychological stress (from financial or other pressures), access to open space and effects on public health*
- ***Surroundings:*** *access to and use of natural and built environment, including ecosystem services (shade, pollution control, erosion control), public safety and security, as well as aesthetic value and amenity*
- ***Livelihoods:*** *including people's capacity to sustain themselves through employment or business*
- ***Decision-making systems:*** *the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.*

The evaluation includes a risk assessment of the degree of significance of risk, including the envisaged magnitude (duration, extent, severity/sensitivity), likelihood, and potential to mitigate/enhance and likelihood of each identified impact. The social impact significance matrix provided within the SIA Guidelines Technical Supplement (see
Table 13) has been adapted for the purposes of undertaking this social and impact assessment.

Each impact has been assessed and assigned an overall risk that considers both the likelihood of the impact occurring and the consequences should the impact occur. The assessment also sets out recommended mitigation, management and monitoring measures for each identified matter.

Magnitude of impact generally considers the following dimensions:

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

Table 11 Defining magnitude levels for social impacts

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

Source: NSW DPE, 2021, Technical Supplement - Social Impact Assessment Guideline for State Significant Projects.

Table 12 Defining likelihood levels of 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

Source: NSW DPE, 2021, Technical Supplement - Social Impact Assessment Guideline for State Significant Projects.

Table 13 Social impact significance matrix

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

Source: NSW DPE, 2021, Technical Supplement - Social Impact Assessment Guideline for State Significant Projects.

6.7 Assessment of Social Impacts

Table 14 summarises the assessment of social impacts undertake for Warracknabeal Energy Park. The detailed assessment of each of the social factors is available in Appendix A.

Table 14 Summary of impact ratings and mitigations

Impact	Impact Dimensions					Potential Impact without Mitigation		Recommended Mitigation Measure/s	Assessment of Residual Impact after Mitigation
	Period	Duration	Extent	Likelihood	Magnitude	Social Significance Rating	Experience		
Way of Life									
Threat or expectation of change to way of life	Temporary	Development phase	PSA	Possible	Moderate	**Medium**	Could be negative or positive, depending on receiver	• Implementation of a Construction Management Plan according to advice provided within technical reports. • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders. • Commencement of Community Benefit Program, developed through extensive engagement.	Potential impacts to daily life and usual routines due to changes in activity surrounding the wind farm. This impact is likely to affect landholders in the primary study area. This impact may be alleviated before commencement of construction based on an effective communications and engagement approach.
Noise, dust, vibration leading to inconvenience and disruption	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative		Potential impacts to daily life and usual routines due to changes in activity surrounding the Project's construction. This will impact landholders in the primary study area for the duration of construction activities. However, over time sensitivity to these impacts may decrease. It is also noted those landholders who will principally experience the impact are all likely to be participating landholders (either hosting turbines or have landholder agreements).
Changes to wayfinding	Temporary	Construction phase	PSA	Possible	Minimal	**Low**	Negative		
Strain on regional infrastructure and services	Temporary	Construction phase	SSA	Unlikely	Minor	**Low**	Negative		
Overshadowing and shadow flicker	Permanent	Operational phase	PSA	Likely	Moderate	**High**	Negative		Potential impacts to daily life and usual routines due to changes in the environment surrounding the wind farm. This will impact landholders in the primary study area for the duration of operational activities, but sensitivity will likely decrease over time.
Community									
Social conflict, rivalry, and feelings of envy	Temporary	Development phase	PSA	Possible	Minor	**Medium**	Negative	• Implementation of a Construction Management Plan according to advice provided within technical reports. • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders. • Commencement of Community Benefit Program, developed through extensive engagement.	Potential changes to community cohesion due to conflict (if arising). This impact is likely to affect landholders in the primary study area. This impact may be alleviated before commencement of construction based on an effective communications and engagement approach.
Changes to community composition	Permanent	Construction and operational phases	SSA	Possible	Minor	**Medium**	Could be negative or positive, depending on receiver		Potential impacts to community composition and cohesion due to a new workforce. This will impact communities in the primary and secondary study areas for the duration of construction and operational activities. However, over the construction period, sensitivity to this impact may decrease, as PSA residents become accustomed to the construction workers and changed local area.
Loss of/changed sense of community	Permanent	Construction and operational phases	SSA	Possible	Moderate	**Medium**	Could be negative or positive, depending on receiver		Potential changes to sense of place and community character associated with a new population. This will impact communities in the primary and secondary study areas for the duration of construction and operational activities. Residents of the PSA will experience the most concentrated impact, whereas it will be less noticeable across the SSA. However, residents are likely to adapt in the long term (5+ years) to this changed sense of community.
Community pride	Permanent	Operational phase	PSA	Possible	Major	**High**	Positive		Potential for increased community pride due to clean energy production. This will impact communities in the primary and secondary study areas for the duration of operational activities.
Culture									
Loss of/changes to connection to place	Permanent	Construction and	PSA	Possible	Moderate	**Medium**	Negative	• Implementation of a Construction Management Plan according to	Potential impacts to culture associated with disrupted access to Aboriginal sites of significance. This will impact communities in the primary study area for the

Impact	Impact Dimensions					Potential Impact without Mitigation		Recommended Mitigation Measure/s	Assessment of Residual Impact after Mitigation
	Period	Duration	Extent	Likelihood	Magnitude	Social Significance Rating	Experience		
		operational phases						advice provided within technical reports. • Implementation of a Cultural Heritage Management Plan developed in consultation with local Registered Aboriginal Parties • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Consideration of ways in which Aboriginal communities may be able to access significant sites (if present) throughout construction and operational phases.	duration of construction and operational activities. However, there is a low chance of any interaction with cultural heritage due to project layout and strict protocols outlined within relevant technical reports, therefore the risk of this impact is very low.
Diminished ability to Connect with Country	Permanent	Construction and operational phases	SSA	Possible	Major	**High**	Negative		Potential impacts to culture and connection to place associated with the change in land use. This may be exacerbated by other renewable energy projects in the region and the Renewable Energy Zone. This will impact communities in the secondary study area for the duration of operation of the project, though this project alone is not anticipated to make a significant long-term impact on community connection to Country.
Health and Wellbeing									
Fear and anxiety of the unknown	Temporary	Development phase	PSA	Possible	Moderate	**Medium**	Negative	• Implementation of a Construction Management Plan according to advice provided within technical reports. • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders.	Potential for mental and physical wellbeing impacts due to anxiety surrounding the project. This impact is likely to affect landholders in the primary study area. With community engagement to date suggested largely positive or neutral sentiment, this risk is likely to be largely alleviated.
Dust, noise and vibration	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative		Potential for mental and physical wellbeing impacts for immediately surrounding landowners associated with visual intrusion and noise/dust impacts of construction. This will impact landholders in the primary study area for the duration of construction activities, however, can be appropriately managed through agreed Construction Management Plan. The majority of impacted are also likely to be participating landholders who will financially benefit from the Project.
Risks to pedestrian, cyclist and vehicle safety	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative		
Perceptions of safety/unsafety	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative		
Visual prominence, operational noise, and shadow flicker	Permanent	Operational phase	PSA	Likely	Moderate	**High**	Negative		Potential mental and physical wellbeing impacts for immediately surrounding landowners associated with visual and noise impacts of the wind turbines. This will impact landholders in the primary and secondary study areas for the duration of operation of the project, however residents are likely to become accustomed to the changed conditions and impact is expected to lessen over the medium term (2-3 years).
Accessibility									
Increased travel times, frustration, and inconvenience	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative	• Implementation of a Construction Management Plan and Traffic Management Plan according to advice provided within technical reports. • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders.	Potential impacts to accessibility due to changes in activity surrounding the wind farm. This will impact landholders in the primary study area for the duration of construction activities, though appropriate traffic management techniques will alleviate much of the impact on PSA residents.
Decreased regional accessibility and ease of travel	Temporary	Construction phase	SSA	Unlikely	Minor	**Low**	Negative		
Increased availability of renewable energy	Permanent	Operational phase	SSA	Likely	Moderate	**High**	Positive		This benefit will endure for SSA residents and Victorians in the surrounding areas.

Impact	Impact Dimensions					Potential Impact without Mitigation		Recommended Mitigation Measure/s	Assessment of Residual Impact after Mitigation
	Period	Duration	Extent	Likelihood	Magnitude	Social Significance Rating	Experience		
Surroundings									
Decreased amenity and enjoyment of surroundings	Temporary	Construction phase	PSA	Likely	Moderate	**High**	Negative	• Implementation of a Construction Management Plan according to advice provided within technical reports. • Implementation of an Engagement and Communications Plan to communicate with affected stakeholders and residents throughout the construction and operational phases. • Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders. • Commencement of Community Benefit Program, developed through extensive engagement.	Potential amenity impacts on enjoyment of surroundings associated with noise, vibration and traffic. This will impact landholders in the primary study area for the duration of construction activities, but can be successfully lessened through appropriate construction management approaches.
Damage to local biodiversity and ecosystems	Temporary	Construction phase	PSA	Possible	Minor	**Medium**	Negative		Potential amenity impacts associated damage to local biodiversity and ecosystems (if occurring). This will impact landholders in the primary study area for the duration of construction activities. However, there is a very low chance of any ecological damage due to project layout and strict protocols outlined within relevant technical reports.
Perceptions about decreased supply of farming land and increased property prices	Temporary	Construction phase	SSA	Possible	Minor	**Medium**	Negative		Potential impacts associated with fears around changing property prices and availability of farming land. This will impact landholders in the primary and secondary study areas for the duration of construction activities. However, over time sensitivity to some perceived or feared impacts may decrease in the long term (3-5 years) as landholders realise this fear has not come to pass.
Changed amenity and sightlines	Permanent	Operational phase	PSA	Likely	Major	**High**	Negative		Potential amenity impacts on enjoyment of surroundings due to changes to the existing landscape, sightlines, and shadowing. This will impact communities in the primary study area for the duration of operation of the project. Over time, residents are likely to become habituated to the changed nature of the landscape. Many PSA residents will be participating landholders who financially benefit from the Project and the community benefit program.
Livelihoods									
Increased employment opportunities	Permanent	Construction and operational phases	SSA	Likely	Moderate	**High**	Positive	• Implementation of an Operational Plan of Management to monitor the impact of the wind farm operations on nearby residents and other stakeholders. • Prepare an Accommodation Strategy to ensure construction workforce is appropriately accommodated. • Commencement of Community Benefit Program, developed through extensive engagement. • Consideration of a Social and Sustainable Procurement Strategy to ensure local community and disadvantaged groups can benefit from the employment and business opportunities associated with construction.	Potential benefits to livelihoods across the SSA associated with the availability of local employment will endure throughout the construction period, and can be amplified in impact by a social and sustainable procurement policy to maximise benefits to local workers and businesses. Capacity of local firms is likely to further benefit long term (5-10 years) from ongoing renewable energy development in this Renewable Energy Zone. .
Financial or in-kind benefits – to participating and host landholders	Permanent	Operational phase	PSA	Likely	Major	**High**	Positive		
Stimulation of local and regional economies – including via increased tenancy levels in holiday and long-term accommodation	Permanent	Construction and operational phases	SSA	Likely	Moderate	**High**	Positive		
Strengthened capacity of local firms	Permanent	Construction and operational phases	SSA	Likely	Moderate	**High**	Positive		

6.8 SIA Conclusions

An assessment of the social impact categories, as defined within the Social Impact Assessment Guideline (NSW DPE, 2021) has been undertaken with consideration to the issues arising through the Project's construction and operation.

Each social factor is appraised with a significance of the impact based on the likelihood and magnitude of the change that would occur in that category if the proposed development would be delivered. Overall, the significance level of impacts identified in relation to the proposal range from being Low to High. Some of these impacts would be experienced as negative, and some as positive. These impacts are identified through a site visit, the landholder consultation process, other technical assessments and a desktop review.

Key impacts identified include:

- Temporary negative impacts to way of life, community, culture, health and wellbeing and surroundings associated with construction activity. These impacts will be principally felt in the PSA, and can be mitigated to a reasonable extent through appropriate construction management techniques and through appropriate and proactive engagement with landholders and neighbours.
- Possible negative impacts to surroundings, culture and way of life associated with the operation of the proposed Project, particularly the cumulative visual impacts in areas near the Murra Warra Wind Farm. These impacts will be principally felt in the PSA, where the most highly impacted landholders will be participating landholders, who will receive financial benefit from the Project.
- Social benefits of the Project relate to the opportunities for local job generation, as well as training and upskilling opportunities for local businesses from the construction and operation phases. These benefits will be observed across the SSA.
- The greatest overall long-term benefit is the production of renewable energy to help address climate change, which will contribute to the broader renewable energy production of Western Victoria Renewable Energy Zone, providing benefits to the SSA and wider community.
- The Proponent's community benefit program is also expected to benefit residents in the PSA.

6.8.1 Summary of mitigations

To monitor and measure the ongoing impact of the proposed development on relevant stakeholders and the surrounding community, the following framework is recommended:

During construction

- Implement all required mitigations as outlined in Noise, Traffic, Visual Impact, Environmental and other Assessments.
- Development and Implementation of a Construction Management Plan that includes a complaints handling procedure for identifying and responding to community issues related to construction impacts, and implementation of all recommended impact mitigation techniques from the other technical assessments as part of the Project.
- Development and implementation of a Communications and Engagement Plan. Ongoing consultation with residents in the PSA and stakeholders, including local council. Proactive engagement with those landholders likely to be highly impacted and the development of appropriate mitigation measures in conjunction with the landholders.
- Consider development of a Social and Sustainable Procurement Strategy to ensure local community and disadvantaged groups can benefit from the employment and business opportunities associated with construction.
- Development of a Community Benefit Sharing Scheme in conjunction with local community.
- Exploring opportunities with local community groups and Aboriginal organisations to preserve and maintain local connections to cultural heritage.

During operation

- Continued consultation with relevant stakeholders, as identified by the operator of Warracknabeal Wind Farm, to identify emerging social issues and trends, and quickly respond to complaints and enquiries.
- Development and implementation of an operational plan of management that mandates data collection (e.g., building on the strategy outline below) to enable ongoing monitoring of the performance of the proposed facilities over time.

7.0 Economic Impact Assessment

7.1 Methodology – Economic Impact Assessment

- Identification of a relevant Study Area for the assessment which reflects likely labour force, accommodation, and supply chain linkages available to support the Project. The Study Area is defined in terms of host and surrounding LGA boundaries.
- Baseline analysis of population, labour markets, occupational structure and business structure for the Study Area and Regional Victoria.
- Assessment of the capacity and opportunities of townships in the Study Area to participate and service the Project. This information has been compiled through a desktop review of townships and accommodation data.
- Assessment of Project investment, with investment figures provided by the Proponent and share of investment retained in the Study Area informed by benchmarking analysis of similar sized completed wind farm facilities located in regional areas.
- Assessment of Project employment (direct and indirect) for construction and operational phases. Direct employment is assessed as jobs created to support the on-site construction and operation of the Project. Indirect employment is assessed as jobs supported through the industrial and consumption/induced impacts of each Project stage. Relevant ABS multipliers are applied to construction and operational phases. Total employment numbers, ratios of direct Study Area (local) and non-study Area (imported) employment and share of indirect employment supported in the Study Area have been informed by benchmarking analysis of similar sized completed wind farm facilities located in regional areas.
- Identification of business and industry participation opportunities, with reference to baseline analysis outcomes regarding workforce size and skills composition and procurement activities proposed by the Proponent.
- Assessment of agricultural impacts which includes employment and production impacts, and benefits to host landowners from new incomes and improved on-site infrastructure.
- Assessment of accommodation and housing impacts with reference to the baseline analysis and the estimated number of construction workers that may require accommodation at the Project's peak.
- Assessment of cumulative impacts relating to the potential concurrent construction of major infrastructure projects in the Study Areas.
- Estimates of economic stimulus impacts (construction and operation phases) including Project wages and spending, landowner rental incomes, neighbour benefit payments, uplift in Council rates revenues, and the Proponent's proposed community initiatives.

7.1.1 Content of the EIA

The EIA is structured as follows:

- Baseline Regional Economic Profile
- Economic Impact Assessment
- Key Findings and Conclusions.

7.1.2 Study Area – EIA

The Economic Study Area (the Study Area) for the Project has been defined in terms of the following Local Government Areas (LGAs):

- Yarriambiack Shire Council
- Horsham Regional Council
- Northern Grampian Shire Council
- Hindmarsh Shire Council

- Buloke Shire Council.

This Study Area (outlined in Figure 9 on page 30) best represents likely labour, supply chain and service sector resources available to support the construction and operation of the Project.

7.2 Project Investment

The total construction cost for the Project is estimated to be approximately $2.5-$3.0 billion, based on information provided by the Proponent.

Major investment costs are associated with the purchase of wind turbines and towers, although significant investment is also required for civil, electrical and grid connection works. Additional investment will be required relating to project management, planning and approvals, financing, insurance and other project costs.

Based on available Engineering, Procurement, and Construction (EPC) cost data for a number of built wind farm projects of this type and scale in regional areas; approximately 15% to total investment is likely to be retained in the host Study Area. Using this retained investment share, approximately $450 million in wages, contracts and other service provision is likely to flow into the Study Area's economy over the construction phase. This recognises the strong growth/capacity building of the renewable energy sector in this region, especially associated with to the successful delivery of Murra Warra I and Murra Warra II wind farm projects along with the nearby presence of the major regional service centre of Horsham which can support many Project needs.

7.3 Project Employment

Project employment is assessed in terms of direct jobs (i.e., site-related) and indirect (or flow-on) jobs in the local and wider economies (i.e., jobs that are generated through the industrial and consumption impacts of the initial investment).

7.3.1 Construction Phase

Direct Construction Employment

Based on data sourced from similar-sized constructed wind farms, a workforce requirement of 750 Full Time Equivalent (FTE) jobs over the construction phase of the Project is estimated. This equates to approximately 0.5 FTE jobs for every 1MW of installed capacity. Note, this is an average employment figure across the construction period, with up to 1,000 FTE jobs anticipated at the Project's peak (which would last several months). Based on similar sized wind farm projects in regional/rural areas, it is anticipated 50% of direct labour (375 FTE jobs on average or 500 FTE jobs at the peak of construction) will be sourced from within the Study Area, with the remaining 50% of jobs associated with workers relocating from outside the Study Area.

Construction-related jobs are expected to be associated with a wide-range of on and off-site activities, including:

- Structural concrete foundations
- Earthworks
- Roads and access tracks
- Fencing
- Landscaping
- Vehicle and equipment hire
- Trade services
- Security
- Office cleaning
- Waste disposal
- Building maintenance
- Foundation laying
- Electrical transformer installation
- Crane works

- Cabling
- Temporary site facilities (power, water, telecommunications)
- Transport of components/workers.
- Local/ regional professional services might include:
- Civil engineering
- Mechanical engineering
- Environmental engineering and specialist consultants
- Employment agencies
- Electrical engineering
- Legal and financial services.

As indicated in Section 5.5, the business structure of the Study Area indicates that a good mix of these types of services is available in the Study Area, especially in Horsham. It is reasonable to expect, therefore, that businesses located in the Study Area will be well-positioned to provide services and secure contracts during the construction phase of the Project.

Indirect Construction Employment

In addition to direct employment (750 FTE jobs), significant employment will be generated indirectly through the employment multiplier effect. By applying an industry-standard multiplier for the construction industry of 1.6 (based on ABS Type B multipliers), the Project is estimated to generate an additional 1,200 FTE jobs over the construction period.

Indirect or flow-on jobs (which captures industry and consumption effects) include those supported locally and in the wider economy (including in other states), as the economic effects of the capital investment flow through the economy. Indirect employment creation in local and regional economies would include jobs supported through transportation, manufacturing, warehousing, trade supplies, fuel supplies, mechanical services, accommodation, catering, retail services, food, and drink etc. For the purposes of this assessment, it is assumed 10% of indirect jobs or 120 FTE jobs are supported in the Study Area, recognising relative proximity of the Project Site to supply chains, and supporting services in Horsham, Warracknabeal, and other townships.

Total Construction Employment

In summary, approximately 1,950 FTE jobs (750 FTE direct jobs and 1,200 FTE indirect jobs) are expected to be supported by the Project during the 48-month construction phase.

The amount of direct Study Area employment (i.e., on-site related) required for the Project is estimated to be approximately 350 FTE jobs (or 50% of the construction workforce), with a further 120 FTE jobs supported indirectly in the Study Area (i.e., off-site). This number of Study Area jobs (495 FTE workers) represents only 7.9% of the Study Area's labour force occupied in construction-related activities (6,290 workers) – noting also that some jobs will be associated with the non-construction sector – and this should not present a constraint to labour supply for the Project subject to cumulative impacts (refer to section 7.11) and actual labour market conditions at the time of construction.

Table 15 Construction Employment Summary

Direct Employment FTE	Study Area Employment FTE (50% Share)	Indirect Employment FTE	Study Area Employment FTE (10% Share)	Total Employment FTE	Study Area Employment FTE
750	375	1,200	120	1,950	495

Source: Ethos Urban, ABS Input-Output Tables.
Note: Figures rounded

7.3.2 Operational Phase

Direct Operational Employment

The Proponent indicates that in the order of 40 FTE jobs will be supported locally (on-site) on an ongoing basis through the operation and maintenance of the facility, with a further 10 FTE jobs supported offsite (e.g., Head Office and other functions).

Indirect Operational Employment

A number of additional jobs will also be supported indirectly through the employment multiplier effect. By applying an industry-standard multiplier for the electricity industry of 2.9 (based on ABS Type B multipliers) to the direct operational and maintenance jobs, a further 145 FTE permanent jobs would be generated in the wider State and national economies, with some of these jobs supported locally through operational supply chains and consumption impacts.

Operational-related employment is for the lifetime of the Project (i.e., 30 years); therefore, ongoing job creation represents new long-term employment opportunities at a local, regional and national level.

For the purposes of this assessment, it is assumed that 20% of indirect operational jobs are created in the Study Area. This equates to approximately 30 ongoing FTE local positions.

Total Operational Employment

The operational phase of the Project will support 195 FTE positions directly and indirectly, including 70 FTE jobs (40 FTE direct and 30 FTE indirect) in the Study Area.

Table 16 Operational Employment Summary

Direct Employment FTE	Study Area Employment FTE (80% Share)	Indirect Employment FTE	Study Area Employment FTE (20% Share)	Total Employment FTE	Study Area Employment FTE
50	40	145	30	195	70

Source: Ethos Urban, ABS Input-Output Tables.
Note: Figures rounded

7.4 Industry and Business Participation Opportunities

In terms of cost efficiencies (lower transport costs, machine hire costs, labour costs etc), many large construction projects located in regional areas are, where possible, serviced locally or from within the immediate region.

As identified above, the Study Area comprises approximately 900 construction firms and many other businesses associated involved in activities likely to be required for the Project, including transport operators, electrical engineers, trade suppliers, vehicle and machinery hire, auto mechanics etc.

In terms of local procurement and content initiatives, the Proponent will:

- work directly with the Industry Capability Network (ICN) and have a project specific website developed with the ICN, where people can sign up for project updates, view work packages, etc
- hold local briefings to inform the community of upcoming jobs, contracts, work packages, etc
- advertise locally in newspapers and social media and make it a standard condition of procurement contracts a requirement of suppliers to maximise local content and employment opportunities
- create a local database of contractors and interested employees in the area and develop an Australian industry participation plan to ensure opportunities for local procurement
- as a standard business practice from the start of development, focus on local procurement measures in order to bring as much business as possible to the region, share project benefits locally and minimise environmental impacts.

7.5 Housing and Commercial Accommodation Sector Impacts

Estimates produced by Ethos Urban indicate up to 500 non-local staff may need to be accommodated in the region at the Project's peak (which may last for several months). These staff will include general managers, project managers and supervising engineers. Contract lengths will vary. This highlights the need for range of accommodation types including higher-end options for professional staff on longer contracts, to convenient low-cost options for those on short-term contracts.

As highlighted in Section **Error! Reference source not found.**, the Study Area has a capacity of approximately 1 ,480 rooms and cabins in commercial accommodation / short-term rental in locations within a 60-minute drive of the Project Area. Assuming each non-local worker require individual accommodation (500 rooms), only 34% of this accommodation stock would be required at peak times to service the Project. However, this requirement is likely to be much lower as many workers may choose to access the private long-term rental market (share 3-4 bedroom houses) or stay with family or friends (where possible) rather than use commercial accommodation/short-term rentals. For the Murra Warra Wind Farm projects, most general construction workers had a strong preference to be accommodated in shared houses (long-term rentals); with commercial accommodation/short-term rentals mainly used by management/professional staff.

This data indicates that adequate capacity exists in the Study Area to accommodate the number of non-local workers expected at the peak of the Project, even allowing for increased demand from other regional infrastructure projects and seasonal demands (holiday periods, agricultural activities etc). Importantly, the influx of these workers will support higher occupancy rates and revenues for local accommodation operators and private property owners, particularly during off-peak periods. However, given the scale of accommodation required and the long construction timeframe (up to four years); it may be prudent for the Proponent to prepare a Workforce Accommodation Plan (in conjunction with key stakeholders) prior to the construction phase of the Project commencing.

7.6 Local Wage Spending Stimulus

Estimates produced by Ethos Urban indicate that 50% of the 750 direct FTE construction jobs (375 FTE jobs) may need to be sourced from outside the Study Area, particularly specialist and management positions.
This level of employment would equate to approximately $125 million in wages (2022 dollars) on the basis that each non-local worker is employed for 48 months and earns the average construction wage of $90,000 pa (source: ABS, *Average Weekly Earnings 6302.0*, November 2021).

A considerable portion of these wages would be spent in the Study Area, where these workers will be based. An estimated $70 million in wages (2021 dollars) would likely be directed to local and regional businesses and service providers during the construction period. This estimate is based on reference to the ABS *Household Expenditure Survey* which indicates that approximately 75% of post-tax wages are likely to be spent by workers in the regional economy in view of the wide range of goods and services available in the Study Area. This spending would include the following:

- Housing expenditure, including spending on accommodation at hotels, motels, caravan/holiday parks, B&Bs, and private rental dwellings
- Retail expenditure, including spending on supermarket items, clothing, books, homewares etc.

- Recreation spending associated with day trips and excursions, gaming (lottery, sports betting, etc), purchases in pubs and clubs (although noting that expenditure at restaurants is included in the retail category)
- Personal, medical and other services, such as GP fees and local prescriptions, fuel, vehicle maintenance and so on.

This level of personal spending would generate the equivalent of approximately 470 FTE jobs in the services sector (based on 1 FTE job allocated for every $150,000 of induced spending), supporting jobs in the Study Area associated with retail, accommodation, trade supplies, cafes and restaurants etc. These jobs are included in the 'indirect employment' estimates outlined in Table 16 above.

7.7 Impacts on Local Roads

Local roads will be upgraded to facilitate construction of the Project. In broad terms, the Project will ensure roads are left in "as good or better" condition than their current condition.

7.8 Impacts on Agricultural Land

The impact of the Project on agricultural activity is likely to be small, due to the following factors:

- Only a very small proportion of agricultural land, estimated at 450-500 ha or 3.7% of the 26,000 ha site area, will be lost to permanent infrastructure e.g., internal access roads, siting of turbines and other infrastructure requirements
- The land is principally used for crop and cereal production and these activities can continue as normal within the Project Site (minus the 450-500 ha required for permanent infrastructure).
- Importantly, according to data sourced from ABARE the total infrastructure footprint represents only 0.025% of the Wimmera's productive agricultural land (which totals approximately 2 million ha). This minimal loss of land is an important outcome, as this area of Victoria is highly productive with a significant share of land under crop.
- Benefits to host landowner properties from the Project include improved access facilitated by approximately 210 km of new / upgraded tracks, which improves efficiency of movement across the land which in turn reduces bushfire risks decreasing the likelihood of loss of buildings, machinery, livestock and fencing.
- As traditional methods of spraying are predominantly used in the region, aerial spraying is rarely used and therefore, minimal impact is anticipated. Turbines will be spaced generously and aerial spraying can safely be completed by qualified pilots in consultation with the wind farm operator.

7.9 Impacts on Land and Property Prices

Land and property values are subject to a range of complex factors and relationships which makes it difficult to isolate one particular factor as causal to price movements. Influential factors on land and property prices include:

- Supply and demand dynamics
- Economic confidence
- Interest rate movements
- Investment and capital growth potential
- Land use and transition potential
- Availability of finance/loans
- Specific characteristics of a site/property
- Environmental factors (drought, flood, bushfires).

Research has been undertaken to isolate the impacts of wind farms on property prices (e.g., Review of the Impact of Wind Farms on Property Prices, Urbis, 2016 for the NSW Government).

The Urbis report notes that over a relatively long assessment period of 2000 to 2015:

> *"There is insufficient sales data to provide a definitive answer to the question of whether wind farm development in NSW impacts on surrounding land values utilising statistically robust quantitative analysis techniques." (Executive Summary page. I).*

With regard to national and international studies, Urbis conclude:

"The literature review of Australian and international studies on the impact of wind farms on property values revealed that the majority of published reports conclude that there is no impact or a limited definable impact of wind farms on property values. Those studies which identified a negative impact are based in the northern hemisphere and are associated with countries with higher population densities and a greater number of traditional residential and lifestyle properties affected by wind farms. This is generally contrary to the Australian experience, with most wind farms being located in low population density environments that derive the majority of their value from productive farming purposes." (Executive Summary page. I).

Based on the above factors and findings, it is not possible to reliably assess the impact on property and land values on surrounding properties due to the construction and operation of the Project; however, but it is noted that residential uses are not the dominant land use in the region. Additionally, it is important to recognise that this particular factor has not been raised during the community engagement process undertaken by the Proponent to date.

7.10 Ongoing Economic Stimulus

Landowners

Landowners involved in hosting Project infrastructure (29 families across 66 individual proprietors) will receive annual lease payments from the Proponent. While these individual payments are confidential, the Proponent estimates the aggregated annual value of these leases will be approximately $6.5 million (2022 dollars).

Leasing landowners will be able to continue to undertake agricultural activities on their land unaffected by the Project (excluding land used for Project infrastructure); therefore, it can be expected that a portion of lease revenues will be reinvested back into the local economy through ongoing farming activities as well as business, household and individual consumption in the Study Area.

Neighbouring property owners (non-host) living within 2km of a turbine may also receive annual payments under the proposed Financial Incentive that forms part of the Community Benefit Schemes (see below).

7.11 Returns to Council and the Community

Council

Established under section 96(6A) of the *Electricity Industry Act 2000*, the Payment in Lieu of Rates (PiLoR) framework allows councils and electricity generators to negotiate annual payments.

The PiLoR framework was amended by the Victorian Government in October 2018 to account for solar generators coming online now and in the future. In general, financial returns to Council from renewable energy projects are considerably higher than revenue associated with rateable agricultural activities. For example, the 2018/19 PiLoR guidelines include a fixed charge of $54,400 and a variable charge of $1,225 per MW (of installed capacity).

Using this revised PiLoR framework, it is estimated Yarriambiack Shire Council will in Year 1 receive annual revenue from wind farm operations at the site of approximately $2.1 million (2022 dollars) – excluding the existing rates revenue collected from the site. Under the PiLoR guidelines, this value will then increase in line with CPI over the operational lifetime of the wind farm (i.e., 30 years).

Unlike a new residential development (where Council incurs costs such as garbage collection; maintenance of parks, open space, roads, footpaths; provision of community services; etc) the cost to Council of providing resources for the wind farm site is likely to be relatively small and would be limited to road maintenance, garbage removal and the like. Therefore, the uplift in rates revenues generated from the operation of the wind farm on the Project Site will represent a net return to Council.

This will be an important source of additional income for Yarriambiack Shire Council, noting general rates are now subject to rate capping under the Victorian Government's Fair Go Rates System. For year ending 2020/21, Council collected approximately $12.8 million in rates and charges and generated an overall income of $29.9 million (*Yarriambiack Shire Council Annual Report 2020-2021*). Therefore, revenue raised by the Project (once fully operational) through the PiLoR mechanism would represent an uplift of 16% in rates and charges and 7% in total revenue using the anticipated $2.1 million pa figure.

Importantly, this additional revenue can be re-invested by Council in local infrastructure and services, which will benefit the community more generally.

Community Benefit Schemes

The Proponent proposes the development of a range of Community Benefit Schemes, which are described in section 2.3.

A minimum of $2,000 per turbine pa (indexed to CPI) will be allocated to share the financial benefits of the Project with the local community through these initiatives. This could result in up to $440,000 p.a.(2022 dollars) in year 1 of operations, which would then increase in line with CPI over the 30-year operational period.

7.12 Cumulative Impacts

In terms of potential cumulative economic impacts, the following projects have been identified through the Department of Environment Land Water and Planning (DELWP):

- Wimmera Plains Wind Farm (proponent: BaywaRE - 54 turbines 300MW, 15km north of Horsham. Approved 2021
- Murra Warra Solar Farm (RES) – 235MW – 22km south of Warracknabeal: Approved 2017
- Horsham Solar Farm (Esco Pacific) – 130MW 4km east of Horsham: Approved 2017.

The location of these projects is outlined in Figure 10.

Given these three projects have been approved for some time and the Project is unlikely to commence construction until 2026, should these projects progress, it is more likely they would be wholly or mainly completed by the time the main construction phase of the Project commences.

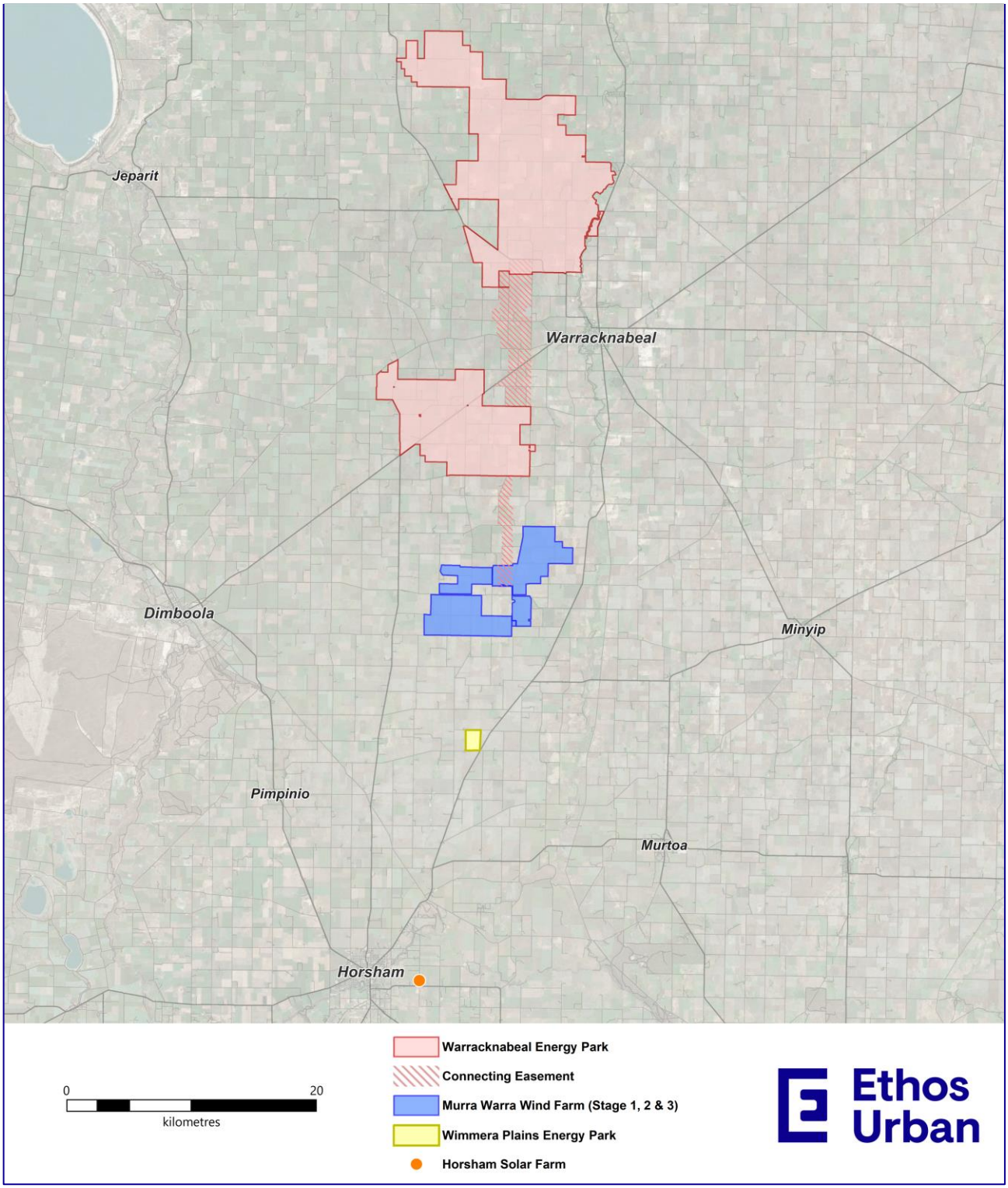

Figure 10 Cumulative Impacts: Potential Major Infrastructure Projects to be Located in the Study Area

Source: Ethos Urban

7.13 National Grid Supply and Environmental Benefits

National grid and environmental benefits of the Project include:

- Capacity to power for more than 900,000 Victorian homes, which represents 10% of Victoria's household annual energy consumption
- Reduction of 5.5 million tonnes of CO2 annually, compared to energy produced from coal-fired power stations (currently the primary source of power generation in Victoria)
- These reduced CO2 emissions represent the equivalent of removing 1.2 million carbon-emitting cars from the road.

7.14 EIA Conclusions

1. The Project will involve $2.5-3.0 billion in investment during the four-year construction phase. Approximately $450 million of construction investment, or 15% of total investment, is estimated to be retained in the Study Area.
2. The Project will support 1,950 FTE jobs (direct plus indirect jobs) over the construction period. Once operational, 195 FTE jobs (direct plus indirect jobs) will be supported by the facility. Regional employment (Study Area) is estimated at 495 FTE during the construction phase and 70 FTE during the operational phase.
3. The Project will provide significant participation opportunities for businesses and the labour force located in the Study Area, having regard for the good match of skills and resources available. In this regard, the Proponent will work with the Industry Capability Network to ensure maximum local/regional inputs are secured.
4. The 'external' project labour requirement would be expected to generate an accommodation requirement for 500 project workers at the peak of the Project. This represents approximately 34% of total commercial accommodation rooms/cabins and short-term rentals (e.g., Air BnB) available in the Study Area. However, experience from other major infrastructure projects in the area shows greatest demand from construction workers will focus on long-term shared house rentals. The Project will provide a boost to local commercial accommodation/ short-term rental operators. Additionally, there is significant potential in the existing and future long-term private rental market (e.g., unoccupied homes) to generate new revenue streams for homeowners/investors.
5. Given the large scale of accommodation requirements and the relatively long construction period (up to four years), it is recommended the Proponent develops a Construction Workforce Accommodation Plan prior to the construction phase of the Project commencing.
6. Non-local construction workers living in the Study Area would be expected to inject approximately $70 million in additional spending to local and regional economies over the construction phase providing a significant boost to the service sector.
7. In terms of cumulative impacts, the only identified major projects to be located in the Study Area that may potentially be constructed at the same time as the Project are the Wimmera Plains Wind Farm, Murra Warra Solar Farm and Horsham Solar Farm. Given these three projects have been approved for some time and the Project is unlikely to commence construction until 2026, should these projects progress it is more likely they would be completed by the time the main construction phase of the Project commences.
8. The Project will only marginally affect agricultural land use, with existing farming activities continuing as normal with only 4% of the Project Site being used to host permanent wind farm infrastructure. While sporadic aerial spraying occurs in this area; no impacts are anticipated on aerial spraying activities or on local airstrips due to the well-spaced turbine locations which can be easily navigated by skilled pilots.
9. Ongoing economic stimulus in the Study Area associated with the operation of the Project through the financial returns to host landowners, local wage spending, community benefit schemes payments and rates returns to Yarriambiack Council payments is estimated at approximately $610 million over 30 years (adjusted for CPI @ 3.0%).
10. Other community benefits include improvements to host landowner properties through the construction of new internal roads (210km of new access tracks) which will improve efficiency of movement across the land from an agricultural and safety perspective.

11. The Project has the capacity to supply sufficient clean energy to power approximately 900,000 homes (approximately 10% of all Victorian dwellings) and, in the process, to reduce CO_2 emissions by 5.5 million tonnes per year.

Table 17 provides a Net Economic Benefit Assessment of the Project.

Table 17 Warracknabeal Wind Farm – Net Economic Benefit Assessment, Study Area

Factor	Value
Negative Economic Outcomes	
Temporary loss of agricultural land (25 years)	450-500 ha
Loss of employment (includes direct and indirect jobs)	0 jobs
Positive Economic Outcomes	
Construction Phase	
Capital investment (2022 dollars)	$2.5-3.0 billion; of which *$375-450 million (15%) is expected to be retained in the Study Area*
Construction employment (direct plus indirect jobs)	1,950 FTE jobs (over 24 months); including *495 FTE Study Area jobs (375 FTE direct on-site and 120 FTE indirect off-site)*
Operational Phase	
Employment	
Operational employment (direct and indirect jobs)	195 FTE jobs; *including 70 FTE Study Area jobs (40 FTE direct on-site and 30 FTE indirect off-site)*
Economic Stimulus	
Total Study Area economic stimulus associated with host landowner returns, operational wage stimulus, increased Council rates revenue and community benefit schemes payments (using base 2022 dollars, adjusted for CPI over 30 years).	$610 million (over 30 years)
Total Net Study Area Economic Benefits - Construction and Operational Phases (using base 2022 dollars, adjusted for CPI over 30 years).	$985-$1,060 million (or $1.0 to $1.1 billion rounded) (Construction period PLUS 30 years operations)

8.0 SEIA Conclusion

This SEIA has been prepared to support Warracknabeal Energy Park. The SEIA is based on the development concept and involves an assessment of common and well-understood impacts and benefits associated with wind farm development and operation, within the particular social and economic context of the Warracknabeal and broader regional area.

8.1 Social Impacts

Key social impacts and benefits identified through the SIA include:

1. Temporary negative impacts to way of life, community, culture, health and wellbeing and surroundings associated with construction activity. These impacts will be principally felt in the primary study area (up 5km from Project Site – refer to Figure 1), and can be mitigated to some extent through appropriate construction management techniques and proactive engagement with landholders and the broader community.
2. Potential long-term negative impacts to surroundings, culture and way of life associated with the operation of the proposed Project, particularly the cumulative visual impacts resulting from this Project and the nearby Murra Warra Wind Farm. These impacts will be principally felt in the primary study area, where the most highly impacted landholders will be participating (host) landholders, who will receive financial benefits through leasing arrangements with the Project. The Project's near neighbours may also experience impacts and the Proponent is developing a neighbour benefit sharing program to share the benefits of the project with these neighbours.
3. Social benefits of the Project relate to opportunities for new local job generation, training and upskilling, and business participation across both construction and operation phases, as well as potential for unoccupied rentals properties and holiday accommodation to be used by construction workers, generating income for locals. These benefits will be observed across the secondary study area (the combined Local Government Areas of Yarriambiack, Hindmarsh, and Horsham).
4. The overall long-term benefit is the production of significant renewable energy output to help address climate change, which will contribute to the broader renewable energy production of Western Victoria Renewable Energy Zone, providing benefits to the secondary study area and the wider community. The Project also supports the Victorian State Government's stated and legislated renewable energy goals.
5. The Proponent's Community Benefit Program (CBP) is also expected to benefit communities in the primary study area. A minimum of $2,000 per turbine per annum (indexed to CPI) will be allocated to share the financial benefits of the Project with the local community. The CBP will be developed in consultation with the local community to ensure the community values and views are properly considered. Specific outcomes from the CBP may include scholarships, electricity offset schemes, landscaping programs, sponsorships and direct grants to local groups.

8.2 Economic Impacts

Key economic impacts and benefits identified through this EIA include:

1. The Project will involve approximately $2.5-3.0 billion in investment during the four-year construction phase. Approximately $375-450 million of construction investment, or 15% of total investment, is estimated to be retained in the Study Area (refer to Figure 9 for definition).
2. The Project will support 1,950 FTE jobs (direct plus indirect jobs) over the construction period. Once operational, 195 FTE jobs (direct plus indirect jobs) will be supported by the facility. Regional employment (Study Area) is estimated at 495 FTE during the construction phase and 70 FTE during the operational phase.
3. The Project will provide significant participation opportunities for businesses and the labour force located in the Study Area, having regard for the good match of skills and resources available. In this regard, the Proponent will work with the Industry Capability Network to ensure maximum local/regional inputs are secured.
4. The 'external' project labour requirement would be expected to generate an accommodation requirement for 500 project workers at the peak of the Project. This represents approximately 34% of total commercial accommodation rooms/cabins and short-term rentals (e.g., Air BnB) available in the Study Area. However,

experience from other major infrastructure projects in the area shows greatest demand from construction workers will focus on long-term shared house rentals. The Project will provide a boost to local commercial accommodation/ short-term rental operators. Additionally, there is significant potential in the existing and future long-term private rental market (e.g., unoccupied homes) to generate new revenue streams for homeowners/investors.

(Note that given the large scale of accommodation requirements and the relatively long construction period (up to four years), it is recommended the Proponent develops a Construction Workforce Accommodation Plan prior to the construction phase of the Project commencing.)

5. Non-local construction workers living in the Study Area would be expected to inject approximately $70 million in additional spending to local and regional economies over the construction phase providing a significant boost to the service sector.
6. In terms of cumulative impacts, the only identified major projects to be located in the Study Area that may potentially be constructed at the same time as the Project are the Wimmera Plains Wind Farm, Murra Warra Solar Farm and Horsham Solar Farm. Given these three projects have been approved for some time and the Project is unlikely to commence construction until 2026, should these projects progress it is more likely they would be completed by the time the main construction phase of the Project commences.
7. The Project will only marginally affect agricultural land use, with existing farming activities continuing as normal with only 2-3% of the Project Site being used to host permanent wind farm infrastructure. While sporadic aerial spraying may occasionally occur in this area; no impacts are anticipated on aerial spraying activities, noting properties are easily accessible using traditional spraying equipment. No impacts are expected on local airstrips due to the well-spaced turbine locations, which can be easily navigated by skilled pilots.
8. Ongoing economic stimulus in the Study Area associated with the operation of the Project through the financial returns to host landowners, local wage spending, community benefit schemes payments and rates returns to Yarriambiack Council payments is estimated at approximately $610 million over 30 years (adjusted for CPI @ 3.0%).
9. Other benefits include improvements to host landowner properties through the construction of new internal roads (210km of new access tracks) which will improve efficiency of movement across the land from an agricultural and safety perspective.
10. The Project has the capacity to supply sufficient clean energy to power approximately 900,000 homes (approximately 10% of all Victorian dwellings) and, in the process, to reduce CO_2 emissions by 5.5 million tonnes per year.

8.3 Conclusion of SEIA

This SEIA has conducted that the Project will provide substantial economic benefit to the region and will offer job opportunities to local community members and regional Victorians. While some negative social impacts will result from the construction period, they should mostly be able to be managed via legislated requirements, appropriate construction management and communications and engagement with affected communities.

Some negative social impacts will result during the operation – namely the visual impact of the wind farm to residents of the primary study area. But on balance, it is believed the majority of long-term social impacts can be managed or mitigated and will be counterbalanced by the social benefit of the Project, given there appears to be majority support for the Project in the local area.

Appendix A Social Impact Assessment – Detailed Discussion

This section includes the detailed assessments of the social factors.

Way of life

This section assesses: *People's way of life – that is, how they live, work, play and interact with one another on a day-to-day basis.*

Potential impacts

During development:

- Threat or expectation of change to way of life - concerns that everyday life is going to change due to this development and construction impacts, and then wind farm operation. Equally, some people may be excited by possibilities of employment opportunities, renewable energy supply. However, ongoing community engagement, which is being undertaken by the Proponent, can be used to manage this risk.

During construction:

- Temporary negative impacts to way of life associated with the noise, dust and vibration caused by the construction activity at the site, which may result in disruption and associated inconvenience for adjacent residents and nearby communities. Construction, at about 5 years in length, is notably long, so will represent a sustained negative impact on way of life. The impacts will mainly affect residents living within the PSA and along roads close to the construction site, who may be disrupted by construction noise and dust.
  - It is noted that as this assessment refers to the concept stage, further detail may be provided on construction impacts at a later stage and could be incorporated into an updated version of the SIA.
- Potential inconvenience and disruption to way of life associated with changes to access and wayfinding through the PSA due to the establishment of the construction site, which may result in inconvenience and disruption to community members and disruption of normal routines.
- Potential way of life impacts for residents of the SSA associated with cumulative construction impacts, i.e., an extended period of disruption due to changed road conditions, noise, dust and changed wayfinding.
- Potential for strain on regional infrastructure and services in the SSA due to the presence of approximately 750 FTE workers (on average) during construction. There may be fears from local stakeholders that the temporary population increase due to construction jobs in the renewable energy sector will put a strain on public infrastructure and services. However, business owners may welcome this increase in workers in the area due to the potential to provide new business.

During operation:

- Minor inconvenience to daily living routines due to a small loss of land to wind farm infrastructure, and occasional visits by staff for maintenance. However, existing land uses in the Project Area are largely able to continue as planned.
- Impacts to views and visual amenity associated with shadowing and shadow flicker which is likely to affect neighbouring properties. These impacts may also be cumulative for some residents due to overlapping areas of influence with Murra Warra Wind Farm.
- The Proponent will design a community benefit program after further consultation with the community – this is anticipated to generate benefits to way of life. Details are to be confirmed as the Project progresses.

Responses / mitigation measures

During development and construction:

- Mitigation measures will be developed and included in the Project's various construction management plans to reduce the impacts associated with noise and vibration during the construction phase.
- Shadow flicker assessments will be undertaken to ensure shadow flicker at all neighbouring properties is within the limits set out in the Victorian Policy and Planning Guidelines for wind farms.

Potential impacts
• Develop and implement a Communications and Engagement Plan to ensure that all stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided, alongside a complaints and enquiries management process. • Proactive engagement with highly impacted landholders and residents (particularly those in the PSA) to discuss impacts and work out mitigation techniques whenever possible that suit the landholder. The provision of easy to understand and transparent information on the Project, the development, construction and operation processes will help manage landholders' concerns and fears about changes to way of life. <u>During operation:</u> • Operate and manage the wind farm in a way that minimises the impact of the wind farm operations on nearby residents and other stakeholders. • Implement a Benefit Sharing Scheme.

Summary:	
Overall impact	Overall, once operational, the wind farm will have minimal impact on the way of life experienced within the community. Negative social impacts associated with way of life are medium during construction, but low to non-existent during operation: • **Construction: Medium (possible moderate) – negative** • **Operation: Low (unlikely minimal) - negative**
Likelihood	Short term construction impacts with longer term low way of life impacts resulting primarily from the impacts to view and visual amenity.
Duration	Operational impacts are long term until the Project is decommissioned, however the perceived visual impact is likely to lessen over time as people in the area become accustomed to the Project
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages.
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (within the PSA). Operational impacts will likely affect adjacent residents in the PSA. The SSA will experience positive benefits rather than any negative impacts during operation.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated and well communicated due to the presence of residences close to the Project. During operation, there will be very minimal impacts, if any. Maintaining good relationships with surrounding landholders will enhance the Project's position in the community.

Community

This section assesses: *its composition, cohesion, character, how it functions, resilience, and people's sense of place*.

Potential impacts
<u>During development:</u> • Project details revealed during consultation activities may result in social conflict, rivalry, and feelings of envy among local residents. Development may drive conflict in the community, with some in support and others in opposition, creating division across the spectrum. This is likely to affect those residing within the PSA. Though some residents who either strongly oppose or support renewable energy development within the SSA may also be impacted. However, ongoing community engagement, which is being undertaken by

Potential impacts

the Proponent, can be used to manage this risk. All engagement to date has shown largely positive sentiment towards the Project, which may suggest this impact on community is unlikely to eventuate.

During construction:

- The construction period may disrupt the existing local community surrounding the site, including:
  - Impacts to composition:
    - Changes to the composition of the local community may be experienced during construction, with an increased number of construction workers in the local area. The construction period is forecast to generate 1,000 FTE jobs at the construction peak, or 750 FTE jobs on average across the construction phase.
    - This may lead to perceptions of unsafety due to an increase in the number of external contractors, trades and construction workers in the area. For some residents in the PSA, these contractors could be perceived as 'strangers', negatively impacting on sense of community and community safety.
    - This impact may extend beyond the PSA, as townships further away from the site may be seen as more desirable to future workers, due to available infrastructure and services.
  - Cumulative impacts associated with the potential loss of sense of community due to long term presence of construction workers. It is noted that the site lies within the Western Victoria Renewable Energy Zone and will likely supply a considerable proportion of the state's renewable energy into the future. There are a number of operational and planned renewable energy projects in this Renewable Energy Zone that will continue to draw a construction workforce to this area, which may change the sense of community across the SSA.

During operation:

- Operation of the wind farm may result in a changed sense of community (either positive or negative, depending on community perceptions). A weakened sense of community may develop if conflict and division occur among residents during the development and construction phases and does not abate. Alternatively, sense of community may be strengthened if residents reach a positive consensus about the Project and support the Project. Based on the positive sentiment to date, this positive impact is more likely than the negative one.
- Operation of the wind farm may result in community pride due to the availability of renewable energy to meet local needs and being provided to the grid. The knowledge that their energy source is clean and not contributing to climate change may increase community pride.

Responses / mitigation measures

During construction:

- Mitigation measures set out in the Construction Management Plan will be implemented to reduce the impacts to local businesses associated with disruption during the construction phase.
- Develop a communications and engagement strategy to communicate with surrounding residents, workers, and visitors to ensure that all stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided.
- Collectively shape the Community Benefit Sharing Program with community – to result in outcome the community agrees on and takes pride in.

During operation:

- Maintain positive working relationships with landholders and residents in the PSA, as guided by the Communications and Engagement Plan for the Project.
- Implementation of the Community Benefit Sharing Program.

Summary:

Overall impact	There is expected to be a minor positive impact on community during operation. Negative social impacts associated with community are medium during construction. • **Construction: Medium (minor possible) – negative** • **Operation: Low (minimal unlikely) – positive**

Potential impacts	
Likelihood	Likelihood of negative impacts related to sense of community is medium, however negative impacts are not expected during operation.
Duration	Negative impacts will be limited to the Project's construction period. Positive benefits during operation are likely to endure over the Project's operation period.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (the PSA). Operational benefits will likely affect adjacent residents in the PSA. Ongoing renewable energy development in the SSA may have minor negative cumulative impacts related to sense of community.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the moderate sensitivity of users of the site and communities directly affected.

Accessibility

This section assesses: *how people access and use infrastructure, services and facilities (private, public, or not-for-profit)*

Potential impacts
<u>During construction:</u> • Potential increased travel times, inconvenience, frustration, as normal routes may be busier or slower. This will mostly affect residents within the PSA for a prolonged period. Residents of the SSA may experience occasional road delays associated with the transportation of the wind turbines into the Project Site. The transportation of over-sized loads should be appropriately communicated in advance by appropriate communications, such as VMS boards. - It is noted that as this assessment refers to the concept stage, further detail may be provided on construction impacts at a later stage, and this SIA can be updated further. • Decreased regional accessibility and ease of travel due to cumulative impacts - extended disruption in the area – from ongoing renewable energy development. It is noted that the site lies within the Western Victoria Renewable Energy Zone and will likely supply a considerable proportion of the state's renewable energy into the future. The ongoing construction will impact the road network, and also access to facilities due to presence of construction workforces who will require accommodation in the region. While the Project will not contribute to the bulk of the impacts in the REZ, its delivery does contribute to some of the broader changes in the area resulting from renewable energy development. • Decreased accessibility due to damage to local roads - heavy vehicles damage roads local users rely on, impacts how people can get about and the ability of farmers to move farming vehicles. An assessment of the likely impact of the Project on traffic and transport during construction has not yet been completed by the Proponent. However, it is expected that road authorities (Department of Transport and local Councils) will require that any damage to the local road network is repaired in a timely manner which will mitigate this risk. It is also likely some upgrades to local roads will be made in order to accommodate heavy vehicles. These road upgrades will ultimately benefit local residents in the PSA. **<u>During operation:</u>** • There may be very minor decreased ease of travel in the PSA due to presence of vehicles accessing site for maintenance/operations, though this access is expected to be very occasional only. • The creation of 40 FTE on-site jobs during operation is not expected to impact on access to services and infrastructure in the SSA. • Road upgrades will yield a positive benefit for communities living in the PSA, supporting improved accessibility.

Potential impacts
• There will be increased availability of renewable energy on the grid as a result of the operation of the Project, which will result in benefits for the SSA and Victorian communities.
Responses / mitigation measures
<u>During construction:</u> • Mitigation measures set out in the Construction Management Plan will be implemented to reduce the impacts associated with traffic during the construction phase. • Appropriate commination to residents in SSA ahead of any oversized loads on the road network, through VMS boards and local communications channels, such as the local newspaper. • Implement the Communications and Consultation Plan developed for the Project ensuring that all community members and stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided, alongside a complaints and enquiries management process. **<u>During operation:</u>** • None required.
Summary:

Overall impact	There is expected to be minimal impact on accessibility during operation. Negative social impacts associated with accessibility are medium during construction, but low during operation: • **Construction: Medium (minor possible) – negative** • **Operation: Low (minimal very unlikely) – negative and positive**
Likelihood	Low to no impacts on accessibility are likely during operation, and negative impacts are expected to be low during operation, with some positive benefits expected from improved local road networks
Duration	Construction impacts are temporary, and operational impacts are longer until de-commissioning.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (PSA). Operational impacts will likely affect adjacent residents in the PSA, and benefits from renewable energy provision will benefit the SSA.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the moderate sensitivity of users of the site and communities directly affected.

Culture

This section assesses: *both Aboriginal and non-Aboriginal - people's shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings*

Potential impacts
<u>Construction phase:</u> • Potential changes to the community's connection to place associated with the construction period, which would result in changes to the appearance and functionality of the site and may disrupt place narratives

Potential impacts
associated with the site. Whilst the site is vacant, some people (including Aboriginal and Torres Strait Islander people) may have memories associated with the site. - It is noted that as this assessment refers to the concept stage, further detail on Aboriginal and non-Aboriginal cultural Heritage may be provided at a later stage, and this SIA can be updated accordingly. • A changed sense of place, starting during construction, and continuing into operation, may impact residents in the PSA, and those people who have a particular connection to the Warracknabeal area. **Operational phase:** • Operation of the wind farm may result in diminished ability to Connect with Country due to a changed sense of place. Aboriginal people may have diminished ability to gain sustenance (spiritual or otherwise) from the land. • During operation, there will be a changed sense of place for people who had a prior connection to the Warracknabeal area. Over time, the impact of this change may dissipate. However, for people who have a strong dislike of wind farms and a strong connection to the area as it was prior to the Project, the impact to their sense of place and connection to the land may always be significant, due to how personal cultural and landscape connection values are.
Responses / mitigation measures
During construction: • Proactive management to ensure no disturbance of cultural heritage, to be outlined in future Cultural Heritage Management Plan. During operation: • Consider ways in which Aboriginal communities may be able to maintain access to the land.
Summary:

Overall impact	Provision of a wind farm may have a positive or negative impact to culture, depending on community perceptions. Potential disturbance to Aboriginal sites will have a significant impact to culture. Negative social impacts associated with culture are moderate during construction and operation: • **Construction: Medium (possible moderate) - negative (TBC after completion of ACHA)** • **Operation: Medium (minor possible) – negative (TBC after completion of ACHA)**
Likelihood	Positive impacts of the proposed development during operation will depend on community perceptions and an individual's connection to place.
Duration	Operational impacts are long term, construction impacts are temporary.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages.
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (PSA). Operational impacts will likely affect residents in the PSA and SSA, especially those with a strong connection to the Warracknabeal area.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the sensitivity of users of the site and communities directly affected.

Health and Wellbeing

This section assesses: *people's physical, mental, social and spiritual wellbeing – especially for people vulnerable to social exclusion or substantial change, psychological stress (from financial or other pressures), access to open space and effects on public health*

Potential impacts

During development:

- Impacts to wellbeing, such as fear, anger, anxiety stemming from the unknowns and changes proposed during the development and construction phases. This may create a variety of feelings for nearby residents, exacerbated by conflict if there is strong opposition or disagreement in the community on the Project. Consultation to date has indicated mostly positive sentiments associated with the Project. Some residents may have positive wellbeing impacts due to belief they will benefit from employment or business opportunities, or due to their support for projects that assist with responding to climate change.

During construction:

- Potential health and wellbeing impacts for adjacent residents, associated with construction dust, noise and vibration. Rural communities often experience higher levels of disadvantage and poorer health compared to urban locations. These impacts may be particularly felt by those with pre-existing conditions. Impacts to wellbeing and health for receivers especially those with existing respiratory conditions, if there was to be pollution, contamination of local air, water, and land resources.
  - It is noted that as this assessment refers to the concept stage, further detail may be provided on construction impacts at a later stage once noise levels and construction details have been assessed.
- Potential risks to pedestrian, cyclist and vehicle safety - construction vehicles and machinery moving around the area. This presents a risk to people who regularly travel in the vicinity. The Proponent is expected to develop a Traffic Management Plan to ensure the safety of the road network for all users during construction.
- Cumulative impacts to wellbeing from ongoing construction in this region has the potential to cause local residents, psychological stress and deteriorated health. It is noted that the site lies within the Western Victoria Renewable Energy Zone and will likely supply a considerable proportions of the state's renewable energy into the future.
- Potential impacts to perceptions of safety – adjacent residents and nearby communities may feel unsafe in their surroundings due to presence of construction site and unfamiliar workers (1,000 FTE during the peak of construction).
- A minority of the community may believe there are negative impacts to human health from living near wind turbines. The National Health and Medical Research Council (NHMRC) concluded in 2015 that there is no 'consistent evidence that wind farms cause adverse health effects in humans' after a comprehensive review of available evidence.[13] For some people, this misbelief about the negative impacts may cause changes to wellbeing, in the form of anxiety or worry, which may commence during the development or construction phase.
- Some of the fears expressed by local people about wind farms may stem from broader cultural or ideological concerns related to regional development and character, which will not be resolved by this project alone. Research by CSIRO suggests that regional fears about or opposition to renewable energy development may be influenced by regional areas being politically neglected when compared to cities or to denial of climate change positions taken by individuals.[14]

During operation:

- Overshadowing and shadow flicker may negatively impact upon the wellbeing of adjacent residents associated with changes to solar access and views. There are up to 63 dwellings within 2km of the Project

[13] *NHMRC Statement: Evidence on Wind Farms and Human Health*, National Health and Medical Research Council, July 2015, accessed via https://www.nhmrc.gov.au/about-us/publications/nhmrc-statement-evidence-wind-farms-and-human-health

[14] The reasons for opposition by some participants suggest that wind farms proposals are triggering a range of underlying cultural or ideological concerns which are unlikely to be addressed or resolved for a specific wind farm development. These underlying issues include pre-existing concerns that rural communities are politically neglected by urban centres, commitment to an anti-development stance, and opposition to a 'green' or 'climate action' political agenda.' *Exploring community acceptance of rural wind farms in Australia: a snapshot*, Nina Hall, Peta Ashworth and Hylton Shaw, CSIRO Science into Society Group, 2012, p.11

Potential impacts
Site. After a Shadow Flicker Assessment has been completed for this Project, this SIA can be updated to reflect the further detail on likely impacts to nearby dwellings. • Peace of mind may be felt by surrounding communities due to usage of renewable energy. Some people may feel better knowing that the electricity in their area is not contributing to climate change. • It is anticipated that wind turbines may generate noise. This noise is expected to comply with the 'General Environmental Duty' under the EPA Regulations. For a minority of landholders, they may experience this noise in a way that impacts on their mental and physical health, despite noise levels during operations expected to sit below the legislated levels. Once a Nosie Assessment has been completed for the Project, this SIA can be updated to reflect the further detail available. • The visual prominence of wind turbines at the site may have negative mental wellbeing impacts for those who perceive their presence to be a blight on the previously uninterrupted landscape. A visual impact assessment completed by the Proponent found that the impacts from the Project would generally be low. However, for people who do not like the appearance of wind farms, the visual and cumulative visual impact (due to the presence of Murra Warra Wind Farm) may always be perceived as high. It is noted that the Proponent's community engagement to date has found that the majority of people in the immediately adjacent area are supportive of the project.
Responses / mitigation measures
<u>During construction:</u> • Mitigation measures set out in the Construction Management Plan will be implemented to reduce the impacts associated with noise, vibration, dust and shadow flicker during the construction phase. • Implement the Communications and Engagement Plan developed for the Project ensuring that all community members and stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided, alongside a complaints and enquiries management process. • Implementation of any agreed noise or visual mitigation measures for nearby dwellings, such as screening, planting vegetation or operational noise mitigation techniques. <u>During operation:</u> • Management of noise and visual impacts as per the relevant technical reports. • Ongoing engagement with nearby residents of the PSA to establish if negative impacts are being experienced – and to work out mitigation techniques if appropriate and needed.
Summary:

Overall impact	Negative social impacts associated with health and wellbeing are medium during construction, but low during operation: • **Construction: Medium (possible moderate) - negative** • **Operation: Low (unlikely minimal) - negative**
Likelihood	Negative impacts are possible during construction, and minimal and unlikely during operation.
Duration	Operational impacts are expected to be long term, however, impacts to wellbeing associated with worry or anxiety are expected to decrease over time as people come to realise to some fears have not come to pass.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages

Potential impacts	
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (PSA). Operational impacts will likely affect adjacent residents (PSA). The SSA will benefit from the impacts of increasing renewable energy provision.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the moderate sensitivity of users of the site and communities directly affected.

Surroundings

This section assesses: *access to and use of natural and built environment, including ecosystem services (shade, pollution control, erosion control), public safety and security, as well as aesthetic value and amenity*

Potential impacts
<u>During construction:</u> • Impacts on the amenity of the area associated with dust, noise, vibration, and changes to sightlines due to construction activity. Temporary changes to sightlines may result in decreased amenity and enjoyment of surroundings. • Land clearing activities associated with construction may change existing vegetation cover and impact local fauna. Local biodiversity and ecosystems may be impacted, which may cause concern among local residents.   - It is noted that as this assessment refers to the concept stage, further detail may be provided in a Flora and Fauna or Biodiversity Assessment on construction impacts at a later stage, and this detail can be incorporated into a new version of the SIA. • Construction activity may impact local farming land - about 500 ha, which is relatively small scale. However, the Project may result in some concern in local farming communities about decreased supply of farming land and concern about inflated property prices. There is a perception from some landowners that the presence of the proposed wind farm, or the cumulative impact of the proposed wind farm alongside several others, has the potential to negatively impact on property values. However, research from the US, UK, and Australia indicates that property values are influenced by a range of factors and are not necessarily impacted by the presence of nearby wind farms.[15] [16] <u>During operation:</u> • Operation of the wind farm will result in changed amenity and sightlines for residents in the PSA. The wind turbines will disrupt existing views and may cause overshadowing and shadow flicker, with possibly less vegetation cover than previously. • The cumulative impact of this wind farm, alongside Murra Warra Wind Farm to the south, will undoubtedly result in a notable different visual landscape, with is further highlighted due to the very flat land profile in this area. This visual impact will be notable in both the PSA and SSA, as the two wind farms will be visible at a distance. For some people, this may be perceived negatively. • The visual prominence of wind turbines at the site may have negative impacts for those who perceive their presence to be a blight on the previously uninterrupted landscape. For people who do not like the appearance of wind farms, the visual and cumulative visual impact will always be high. There are likely to be dwellings and areas of private open space have been orientated to take in views of the landscape features. The visual impact of turbines at the site as well as Murra Warra nearby may result in cumulative impacts to

[15] General, N.V., 2009. Preliminary assessment of the impact of wind farms on surrounding land values in Australia. Hoen, B., Brown, J.P., Jackson, T., Wiser, R., Thayer, M. and Cappers, P., 2013. A spatial hedonic analysis of the effects of wind energy facilities on surrounding property values in the United States (No. LBNL-6362E). Lawrence Berkeley National Lab. (LBNL), Berkeley, CA (United States). Laposa, S. and Mueller, A., 2010. Wind farm announcements and rural home prices: Maxwell ranch and rural Northern Colorado. Journal of Sustainable Real Estate, 2(1), pp.383-402. Sims, S. and Dent, P., 2007. Property stigma: wind farms are just the latest fashion. Journal of Property Investment & Finance.

[16] *Review of the Impact of Wind Farms on Property Prices*, Urbis, 2016 for the NSW Government

Potential impacts
mental wellbeing of landowners and the community associated with the visual impacts among those who highly value views of uninterrupted landscapes.
Responses / mitigation measures
<u>During development and construction:</u> • During development, enter into agreements with nearby landholders to share the financial benefits of the project, which provides some offset of amenity impacts (already being undertaken by Proponent). • Offer landscaping to affected neighbours to provide visual screening of turbines from their dwellings. • Mitigation measures set out in the Construction Management Plan will be implemented to reduce the impacts associated with noise and vibration and visual amenity during the construction phase. • Implement the Change Management Strategy and Communications and Consultation Plan developed for the Project ensuring that all stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided. <u>During operation:</u> • Implementation of mitigation techniques related to visual impact as recommend by the technical assessments, such as screening and landscaping programs. • Develop an operational plan of management to monitor the impact of the wind farm operations on surrounding residents and other users, and proactively responds to complaints and enquiries to resolve issues.

Summary:	
Overall impact	The Project will have medium-high impacts on surroundings. • **Construction: Medium (possible moderate) – negative** • **Operation: High (moderate likely) – negative**
Likelihood	Impacts to surroundings and amenity are likely.
Duration	Operational impacts are long term, but the impact on individuals may lessen over time (5+ years) as people become accustomed to the changes to landscape.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages.
Extent	Construction impacts would likely impact the adjacent residents and nearby communities within a 5km radius surrounding the site (PSA). Operational impacts will likely affect adjacent residents in the PSA, especially those located closer to the turbines.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the moderate sensitivity of users of the site and communities directly affected.

Livelihoods

This section assesses: *people's capacity to sustain themselves through employment or business*

Potential impacts
<u>Construction phase:</u> • Increased employment opportunities in the area for local and regional workers. This will benefit both residents of the PSA and SSA. The Project is expected to create 1,000 FTE jobs during the peak of

Potential impacts
construction, with potentially 50% of these jobs secured by regional workers (including those residing in the PSA and SSA). • There is likely to be increased patronage for local businesses associated within increased construction workers in the area. Construction workers may choose to spend their income at local businesses, such as supermarkets and other retail outlets, cafes and restaurants, entertainment venues and petrol stations. The Project is expected to contribute $70 million p.a. to the local/regional economy over the construction period. • There is also likely to be creation of business opportunities for the local economy associated with increased industry activity (trade supplies, engineering, equipment hire, transportation etc), and the presence of the construction workforce. **Operational phase:** • Financial or in-kind benefits resulting from the community benefit program. This is likely to benefit adjacent residents in the PSA. • There is likely stimulation of the regional economy, leading to additional infrastructure investment and socioeconomic advancement, which benefit residents of the SSA. The local council will receive $1.8 million in rates funding via this Project, which can be used to make improvements and upgrades to the LGA. • Strengthened capacity of local firms across the SSA associated with increased project experience, allowing them to gain further work in the future due to other renewable energy projects being developed in the REZ.
Responses / mitigation measures
During construction: • Mitigation measures set out in the Construction Management Plan will be implemented to reduce the impacts to local businesses associated with disruption during the construction phase. • Develop a communications and engagement strategy to communicate with surrounding residents, workers, patients and carers and visitors to ensure that all stakeholders are made aware of the timing and likely impact of the construction period. Opportunities for feedback and to ask questions should also be provided. • Consider development of a Social and Sustainable Procurement Strategy to ensure local community and disadvantaged groups can benefit from the employment and business opportunities associated with construction. During operation: • Consider socially sustainable procurement methods which prioritise employment of local residents of the SSA.
Summary:

Overall impact	There is expected to be minimal impact on livelihoods during operation. Negative social impacts associated with livelihoods are medium during construction, but low during operation: • **Construction: High (moderate likely) – positive** • **Operation: High (moderate likely) – positive**
Likelihood	Positive impacts from the proposed development are highly likely.
Duration	Operational benefits are long term, construction impacts are temporary.
Severity/ sensitivity	Moderate sensitivity to impacts - due to construction taking place in a community with slightly higher disadvantage than the VIC population, including lower average household incomes, and higher average ages
Extent	Benefits associated with livelihoods will be felt in the SSA.
Potential to mitigate/ enhance	Construction impacts would need to be proactively mitigated due to the moderate sensitivity of users of the site and communities directly affected.

Decision-Making Systems

This section assesses: *the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.*

Impacts on decision-making systems are likely to be negligible in relation to this project due to the largely positive sentiment to date from community and stakeholders. Therefore, this social factor has not been assessed.