

# Technical Report – Socio-economic Impact Assessment

Virya Energy

Yanco Delta Wind Farm  
19 October 2022



## Executive summary

Virya Energy is proposing to construct, operate and maintain the Yanco Delta Wind Farm (the Project). Approval is sought under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and Part 9, Division 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project would involve the construction, operation and maintenance of a wind farm with up to 208 wind turbine generators (WTGs), a battery energy storage system (BESS) and associated electrical infrastructure. The generating capacity of the wind farm is approximately 1,500 megawatts (MW).

This socio-economic impact assessment has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) relating to social and economic impacts and will assist the Minister for Planning to make a determination on whether or not to approve the Project. It provides an assessment of potential impacts of the Project on socio-economic values and outlines proposed management measures.

## Existing environment

The Project would be located within Murrumbidgee Council Local Government Area (LGA) and Edward River Council LGA, north-west of the Jerilderie township, around the localities of Moonbria and Mabins Well. The Project would be located within the proposed South-West Renewable Energy Zone (REZ), in New South Wales. It would connect to Transgrid's Dinawan Terminal Station, which is scheduled to be completed as part of Transgrid and ElectraNet's Project EnergyConnect in 2025.

The Project area and surrounding areas are zoned as RU1 Primary Production under the Conargo Local Environmental Plan 2013 and the Jerilderie Local Environmental Plan 2012. The Project area is used predominately for sheep grazing and agriculture.

## Overview of socio-economic impacts

During construction, the Project would have following positive and negative impacts for communities in the study areas associated with:

- Creation of local employment and training opportunities on the Project
- Opportunities for local businesses to support construction activities and the needs of the construction workforce
- Increased participation in recreation, sporting and community clubs due to influx of construction workers
- Temporary property impacts associated with the establishment of temporary construction sites and accesses
- Influx of up to 150 non-local construction workers and associated demand for housing, accommodation and essential community services, and potential impacts on community cohesion due to such things as disparities in community participation, impact on residents' access to services, possible anti-social behaviour
- Noise and dust from construction and haulage activities, potentially impacting amenity for residential uses closest to the Project
- Increased use of roads by construction traffic, resulting in temporary disruptions and potential road safety risks.

The Project is also expected to generate a total gross value added (GVA) increase of \$1.095.53B during the construction period, including a GVA increase of \$391.26M for the Project region and \$704.27M for the rest of the State. These benefits would primarily attribute to the manufacturing, construction, and professional, scientific & technical services industries. Construction expenditure on the Project is also expected to create jobs as it circulates through the economy, estimated to reach up to 22,892 full time equivalent person years of employment during the construction phase.

Locally, potential operational impacts for communities in the primary and secondary study areas would mainly be associated with impacts on community values due to a loss of agricultural land and landscape and visual impacts of the Project.

## Management measures

Management measures implemented during the Project would avoid, mitigate or manage identified negative socio-economic impacts of the Project's construction, operation and decommissioning, and maximise or enhance positive impacts. Further, socio-economic impacts of the Project would also be managed by the implementation of environmental management measures for other relevant technical studies which would manage impacts associated with traffic and transport, noise and vibration, air quality, landscape and visual amenity and biodiversity.

Consultation and communication with communities and stakeholders through the planning, construction, operation and decommissioning phases will also be important in avoiding, minimising or managing potential social impacts of the Project.

## Conclusion

During construction, the Project would have positive impacts for communities in the primary and secondary study area through the creation of employment and business opportunities. It is also expected that most negative social and economic impacts would be effectively managed with the implementation of environmental management measures and communication and engagement with communities and stakeholders. Demand for housing and accommodation by the non-local construction workforce has potential to reduce housing affordability and the availability of housing and accommodation for visitors, tourists and seasonal workers with possible flow on effects for tourism and agricultural industries. Increased demand for local workers also has potential to lead to worker shortages in other industries if workers move away from existing businesses and industry.

Operation of the Project would have long-term and wide-ranging benefits for communities across NSW through the support of renewable energy targets and increased energy security by contributing to a more diverse energy mix. Operation of the Project would also support benefits for communities in the primary and secondary study areas through contributions to a community benefit fund, local business opportunities, and regular lease payments and annual financial participation contributions to local landowners. Ongoing negative social and economic impacts of the Project's operation would mainly relate to the introduction of the WTGs and loss of agricultural land, and changes to landscape character and visual values.

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## Glossary and terms

Term	Definition
ABS	Australian Bureau of Statistics
BESS	Battery Energy Storage System
CSP	Community Strategic Plan
DAWE	Department of Agriculture, Water and the Environment
DPE	Department of Planning and Environment (NSW)
DPIE	Department of Planning, Industry and Environment (former)
EDS	Economic Development Strategy
EIS	Environmental Impact Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERP	Estimated Resident Population
FTE	Full Time Equivalent
LVIA	Landscape and Visual Impact Assessment
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NPWS	National Parks and Wildlife Service
OSOM	Over-sized, over-mass
RAMJO	Riverina and Murray Joint Organisation
RDA	Regional Development Australia
REZ	Renewable Energy Zone
SEIA	Socio-economic Impact Assessment
SSC	State Suburb
SSD	State Significant Development
UCL	Urban Centre and Localities
WTG	Wind Turbine Generator

## 1. Introduction

### 1.1 Background

Virya Energy is proposing to construct, operate and maintain the Yanco Delta Wind Farm (the Project). Approval is sought under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) and Part 9, Division 1 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Project would involve the construction, operation and maintenance of a wind farm with up to 208 wind turbine generators (WTGs), a battery energy storage system (BESS) and associated electrical infrastructure. The generating capacity of the wind farm is approximately 1,500 megawatts (MW). The Project would be located within the South-West Renewable Energy Zone (REZ), 10 kilometres north-west of the town of Jerilderie, within the Murrumbidgee Council and Edward River Council Local Government Areas (LGAs) (refer to **Figure 1-1**).

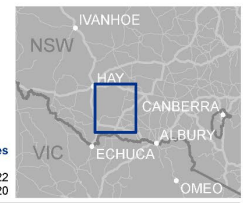
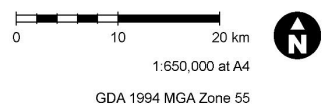
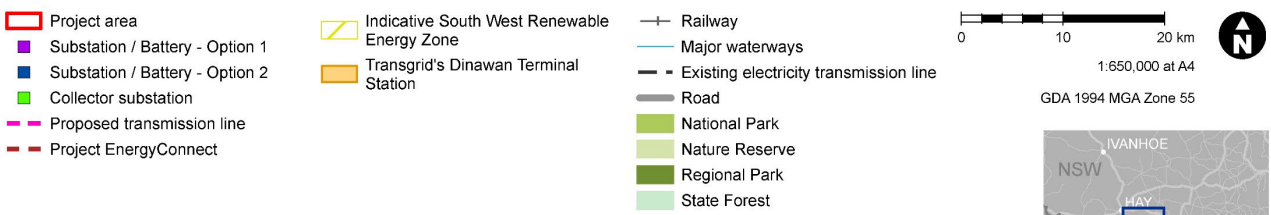
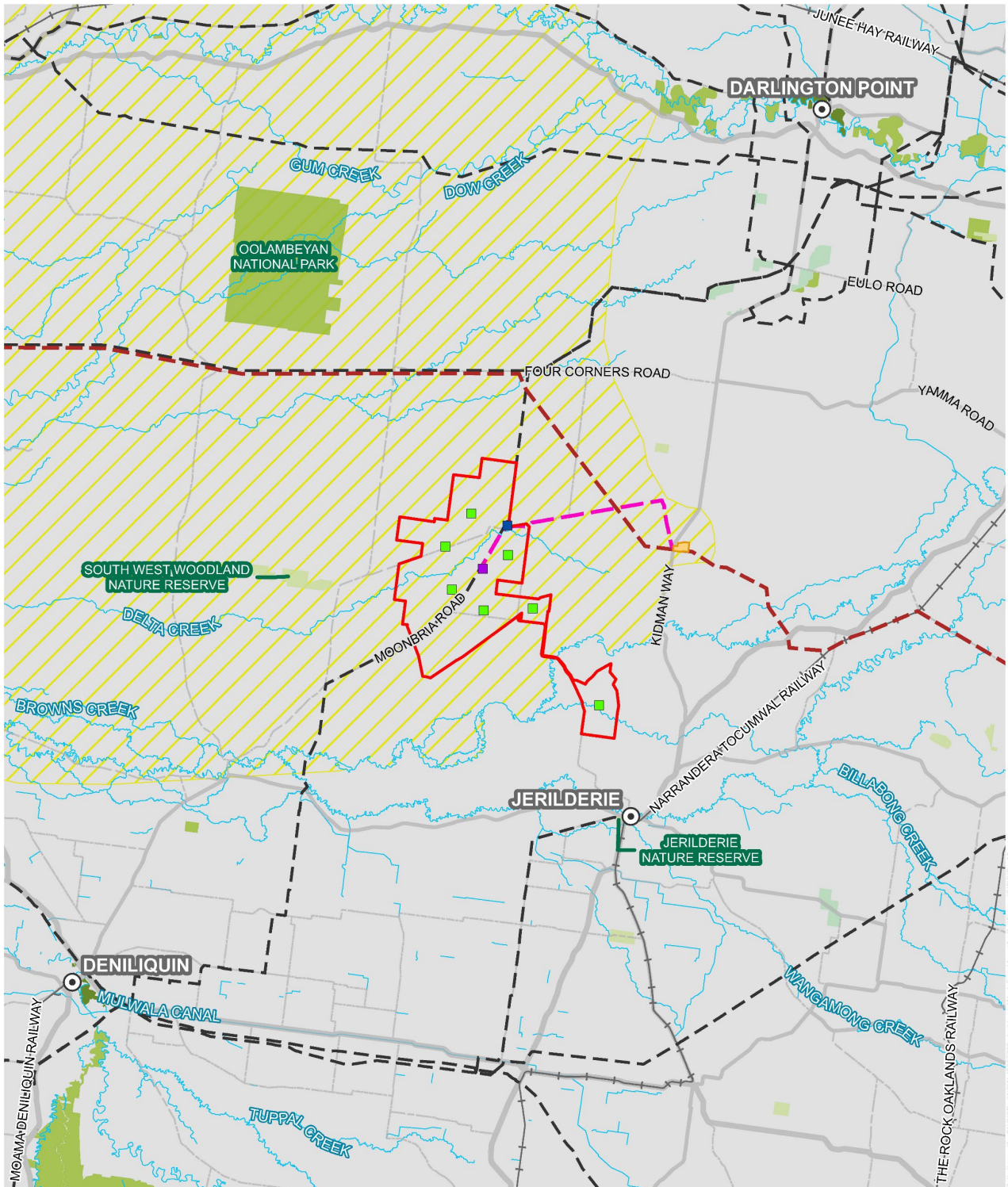
The Project area is defined as the property boundaries of Project landowners (i.e. landowners that have entered into agreements with Virya Energy to have WTGs or associated infrastructure on their properties).

### 1.2 Project description

The Project would include the following key features:

- Up to 208 WTGs to a maximum tip height of 270 metres
- Generating capacity of approximately 1500 MW
- BESS, approximately 800 MW/800 megawatt hours (MWh) (type yet to be determined)
- Permanent ancillary infrastructure, including operation and maintenance facility, internal roads, hardstands, underground and overhead cabling, wind monitoring masts, central primary substation and up to eight collector substations
- Temporary facilities, including site compounds, laydown areas, stockpiles, gravel borrow pit(s) and concrete batch plants.

An indicative Project layout is provided in **Figure 1-2**.



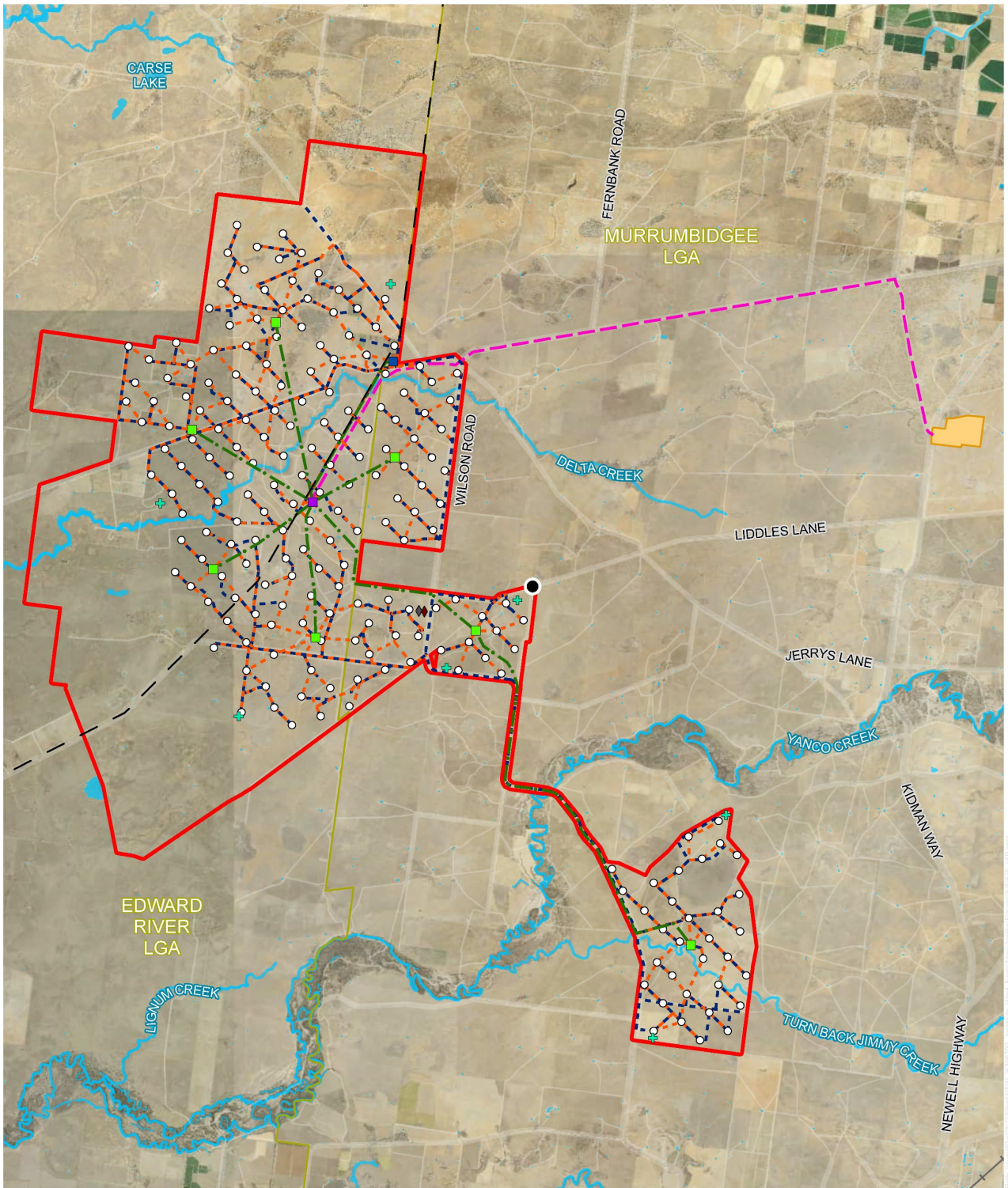
**Figure 1-1 Regional context of the Project**

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Data sources  
 Jacobs 2022  
 Department of Customer Service 2020

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- |   |   |  |
|---|---|--|
| <b>Indicative Project</b>   | <span style="color: green;">+</span> Permanent MET mast | <span style="border: 1px solid orange; display: inline-block; width: 15px; height: 10px;"></span> Transgrid's Dinawan Terminal Station |
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Project area | <b>Site facilities</b>                                  | <span style="border: 1px solid yellow; display: inline-block; width: 15px; height: 10px;"></span> Local Government Area                |
| ○ Turbine locations   | ◆ O&M facility  | ● Site access  |
| ■ Substation / Battery - Option 1   | ◆ Site compound   | — Railway  |
| ■ Substation / Battery - Option 2   |   | — Waterways  |
| ■ Collector substation  |   | — Existing 132kV transmission line   |
| — Access tracks   |   | — Road   |
| — Internal cabling  |   |  |
| — Overhead powerline  |   |  |
| — Proposed transmission line  |   |  |

0 2 4 km  
1:200,000 at A4  
GDA 1994 MGA Zone 55



**Figure 1-2 Indicative Project layout**

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Data sources  
Jacobs 2022  
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### 1.3 Secretary’s Environmental Assessment Requirements

This assessment forms part of the environmental impact statement (EIS) for the Project. The EIS has been prepared under Division 4.7 of the EP&A Act. This assessment has been prepared to address the Secretary’s Environmental Assessment Requirements (SEARs) (SSD-41743746) relating to socio-economic impacts and will assist the Minister for Planning to make a determination on whether or not to approve the Project.

Table 1-1 outlines the SEARs relevant to this assessment along with a reference to where these are addressed.

Table 1-1 SEARs relevant to socio-economic impacts

Secretary’s requirement	Where addressed in this report
<p><b>Social Impact</b> – including an assessment of the social impacts in accordance with the Social Impact Assessment Guideline (DPIE, November 2021a) and consideration of construction workforce accommodation.</p>	<p>The assessment methodology, consistent with the Social Impact Assessment Guideline, is outlined in <b>Chapter 3</b>.</p> <p>Discussion on construction workforce accommodation is provided in <b>Section 6.3</b>.</p>
<p><b>Economic</b> – including any benefits of the economic impacts or benefits of the project for the region and the State as a whole, including consideration of any increase in demand for community infrastructure services, and details of how the construction workforce will be managed to minimise local impacts, including a consideration of the construction workforce accommodation.</p>	<p>Economic impacts or benefits of the Project for the region and the State as a whole is provided in <b>Section 6.9</b> (construction) and <b>Section 7.9</b> (operation).</p> <p>Consideration of any increase in demand for community infrastructure service is provided in <b>Section 6.6</b> (construction) and <b>Section 7.6</b> (operation).</p> <p>Environmental management measures to minimise local impacts from construction workforce is provided in <b>Section 6.7.2</b> (community cohesion) and <b>Chapter 11</b>.</p> <p>Discussion on construction workforce accommodation is provided in <b>Section 6.3</b>.</p>

### 1.4 Structure of this report

An overview of the structure and content of this report is outlined in Table 1-2.

Table 1-2 Structure of this report

Chapter	Description
<p><b>Chapter 1</b> Introduction</p>	<p>Outlines key elements of the Project, SEARs and the structure of this report (this Chapter).</p>
<p><b>Chapter 2</b> Legislative and policy context</p>	<p>Provides an outline of applicable legislation, guidelines, plans and strategies relevant to this assessment.</p>
<p><b>Chapter 3</b> Assessment methodology</p>	<p>Provides a description of the assessment methodology for this assessment, including social locality and study area, assessment approach, data sources, and assumptions and limitations.</p>
<p><b>Chapter 4</b> Existing environment</p>	<p>Provides a description of the existing socio-economic conditions, characteristics, and values, which provides a baseline from which potential social and economic benefits and impacts of the Project were assessed and evaluated.</p>

Chapter	Description
<b>Chapter 5</b> Summary of community and stakeholder feedback	Provides an overview of outcomes of community and stakeholder consultation relevant to this assessment.
<b>Chapter 6</b> Potential construction impacts	Presents the outcomes of the assessment of socio-economic impacts relating to the construction phase of the Project.
<b>Chapter 7</b> Potential operational impacts	Presents the outcomes of the assessment of socio-economic impacts relating to the operations phase of the Project.
<b>Chapter 8</b> Potential decommissioning impacts	Presents an overview of potential socio-economic impacts relating to the decommissioning phase of the Project.
<b>Chapter 9</b> Evaluation of significance	Provides an evaluation of the significance of socio-economic impacts identified for construction and operation.
<b>Chapter 10</b> Cumulative impacts	Presents the assessment of potential cumulative impacts on social and economic values with other projects.
<b>Chapter 11</b> Environmental management measures	Presents the environmental management measures and strategies to avoid, manage or mitigate negative socio-economic impacts and enhance positive socio-economic impacts relating to the Project.
<b>Chapter 12</b> Conclusion	Summarises the findings of this report.
<b>References</b>	Presents details of information sources used in this assessment.
<b>Appendix A</b> Authorship and SIA declaration	Details of the key contributors to this assessment, including declaration by lead author that this SEIA contains all available information relevant to the SEIA for the project and does not contain information that is false or misleading.
<b>Appendix B</b> Socio-economic data	Overview of key socio-economic characteristics of towns and centres in the secondary study area.
<b>Appendix C</b> Social infrastructure in the secondary study area	Overview of social infrastructure in the secondary study area.

## 2. Legislative and policy context

This chapter provides an overview of the broader legislation, policies, and strategies relevant to this assessment and the socio-economic environment of the study areas.

### 2.1 Environmental Planning and Assessment Act 1979

The EP&A Act and Environmental Planning and Assessment Regulation 2021 establish the framework for development assessments in NSW. The EP&A Act and the Regulation include provisions to ensure that the potential environmental impacts of a development are considered in the decision-making process prior to proceeding to construction.

Part 4 of the EP&A Act establishes the framework for assessing development that is permissible with consent. The Project is State Significant Development (SSD) under Section 2.6(1) in conjunction with Section 20 of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021.

The Project is defined as electricity generating work and has a capital investment value (CIV) estimated to exceed one billion Australian dollars. Therefore, the Project is proceeding with an application for planning approval as an SSD. Under Section 4.12(8) of the EP&A Act, the application is to be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the Regulations.

This assessment forms part of the EIS in order to comply with the SEARs and assess socio-economic impacts of the Project in accordance with any relevant Government legislation, plans, policies and guidelines.

### 2.2 Social Impact Assessment Guideline for State Significant Projects

The Social Impact Assessment Guideline for State Significant Projects (the SIA Guideline) (DPIE, 2021a) provides guidance to proponents in preparing social impact assessments and includes details on how social impacts should be identified, evaluated, responded to, monitored and managed. From October 2021, all new SSD projects in NSW are required to prepare a social impact assessment. This assessment has been prepared in accordance with the SIA Guideline.

### 2.3 Riverina Murray Regional Plan 2036

The Riverina Murray Regional Plan 2036 (Regional Plan) (NSW Government, 2017) provides a 20-year blueprint for the Riverina Murray region. The vision for the Riverina Murray region is '*a diversified economy founded on Australia's food bowl, iconic waterways and a network of vibrant connected communities*'.

The regional plan includes the following four goals:

- A growing and diverse economy
- A healthy environment with pristine waterways
- Efficient transport and infrastructure networks
- Strong, connected and healthy communities.

To achieve these goals, key directions are identified, including Direction 11: Promote the diversification of energy supplies through renewable energy generation. Actions under this direction include to:

- Encourage renewable energy projects by identifying locations with renewable energy potential and ready access to connect with the electricity network
- Promote best practice community engagement and maximise community benefits from all utility-scale renewable energy projects
- Promote renewable energy projects using bioenergy, solar, wind, small-scale hydro, geothermal or other innovative storage technologies.

The Project would align with Direction 11 of the Regional Plan as this proposed renewable wind energy development would increase the renewable generation in the region and, through this Project, the community and environmental benefits would be maximised.

## 2.4 Edward River Council plans and strategies

### 2.4.1 Edward River 2050

Edward River 2050 is the Edward River Council Community Strategic Plan 2022-2050 (Edward River Council, 2022). Edward River 2050 identifies the community's main priorities and aspirations for the future and the strategies to achieve the shared vision – *'investing in our future'*.

The vision is underpinned by five strategic outcomes and accompanying targets for delivery. The strategic outcomes relevant to the Project include:

- Shaping the future – Protect and enhance both our natural and built environment as we grow
- Encouraging growth through partnerships – Invest in, promote and celebrate living, working and visiting the Edward River experience
- Delivering community assets and services – Develop and maintain public infrastructure that supports local businesses to grow and attract new investment.

The Edward River 2050 is developed through delivery program that outlines the actions to achieve the vision. Responsibly addressing Council's carbon footprint and support renewable energy initiatives is identified as an action for Outcome 1 – Shaping the Future. Actions identified for achieving Outcome 3 – Encouraging growth through partnerships, relate to collaborating with stakeholders and entrepreneurs to drive diverse, innovative and competitiveness in new markets, while providing sufficient infrastructure for the growth of towns and villages is identified as an action for Outcome 4 – Delivering community assets and services.

The Project would support economic growth and development in the Edward River LGA by supporting local business and industry to develop new markets supporting renewable energy. Ongoing contributions to a community development fund would also support Council in delivering infrastructure to support future growth of towns and villages in the LGA.

### 2.4.2 Edward River Council Economic Development Strategy

The Edward River Council Economic Development Strategy 2018-2021 (Economic Development Strategy) (Edward River Council, 2018) provides an economic framework to enhance the prosperity of Edward River. The Economic Development Strategy outlines a number of strategic themes that support future economic development. Strategic objectives supported by the Project include strategic theme one – attract new business investment, strategic theme two – support existing businesses to grow, and strategic theme three – infrastructure provision. Among other things, these include actions relating to actively attracting private and public investment, working with regional primary producers to explore diversification strategies, and exploring potential alternative energy sources to drive economic activity.

### 2.4.3 Edward River Council Local Strategic Planning Statement 2020

The Edward River Local Strategic Planning Statement February 2020 (Edward River LSPS) (Edward River Council, 2020) sets out the 20-year vision for land use planning in the Edward River LGA. The planning priorities for the Edward River LGA includes agriculture, industry, heritage, infrastructure, climate change and natural hazards, liveability and the environment. Specifically, Planning Priority 2 will investigate opportunities for new industrial precincts and encourage the co-location of complementary industry alongside agricultural enterprises that enhance the efficiency of agricultural land use.

The Project would contribute to energy infrastructure development and economic opportunities in the Edward River LGA.

## 2.5 Murrumbidgee Council plans and strategies

### 2.5.1 Murrumbidgee Council Community Strategic Plan 2017-2027

The Murrumbidgee Council Community Strategic Plan 2017-2027 (Murrumbidgee CSP) (Murrumbidgee Council, 2017) aims to prepare a shared vision for the communities over the 10 years to 2027.

The five key strategic themes of the Murrumbidgee CSP include the following specific strategies:

- Protecting existing regional natural environment for future generations
- Exploring and promoting alternative, sustainable energy sources and practices
- Maintaining a balance between growth, development and environmental protection
- Welcoming and supporting business and industries growth, diversity and productivity
- Promoting and supporting a regional economy and growth.

The Murrumbidgee CSP also includes strategic themes focused on the local infrastructure and economy, with aims to establish a community connected to well-planned built, social and community infrastructure, as well as to work with new and existing businesses and industries to proactively provide economic opportunity and growth.

The Project would be consistent with the strategies of the Murrumbidgee CSP, including proposed actions to continue investment into sustainable energy sources such as wind. The Project would support economic and industrial growth and diversification in the Murrumbidgee Council region and would seek to maximise environmental protection while developing new renewable energy generation.

### 2.5.2 Murrumbidgee Council Economic Development Strategy 2019

The Murrumbidgee Council Economic Development Strategy (Murrumbidgee EDS) (Murrumbidgee Council, 2019) aims to guide economic development in the Murrumbidgee Council area. Six strategic themes were identified to support the implementation of the Murrumbidgee EDS:

- Attract new business investment
- Support existing business to grow and diversify
- Education, training and skills development
- Grow the population
- Infrastructure
- Develop and promote tourism.

Through the strategic themes for economic development, the Murrumbidgee Council aims to create opportunities and work with new and existing industries to proactively provide regional economic opportunities, development, and tourism that can lead to stability and future growth (Murrumbidgee Council, 2019). Specifically, the outcomes from the Murrumbidgee EDS include:

- An affordable and attractive area to invest and conduct business
- A resilient business community offering a range of local employment opportunities
- An attractive and supportive environment for industry investment (less Government red tape)
- Increase 'new' industry investment and industry growth/diversification
- Provision of industrial land in Darlington Point
- Job creation.

The Murrumbidgee Council also recognises that the private sector is the major contributor to economic development.

The Project would bring new investment opportunities and facilitate the delivery of energy infrastructure to support development of electricity infrastructure in the Murrumbidgee LGA.

### 2.5.3 Murrumbidgee Council Local Strategic Planning Statement 2020

The strategic planning vision for the Murrumbidgee Council area is 'to experience land use and development outcomes in the future that both benefit the community and minimise environmental impacts'. (Murrumbidgee Council, 2020). This direction builds upon the Murrumbidgee Community Strategic Plan (CSP) and includes strategic agenda EG1: A diversified economy, which aims to 'future proof' the local economy and generate growth in employment in the local community. Strategic agenda EG14: Renewable energy projects, specifically outlines the ambition to support projects for renewable energy, while managing off-site impacts during both construction and operation.

The Project would align with strategic agendas EG1 and EG14 through the development of a large-scale wind farm, which would promote renewable energy generation, local and regional economic growth, and encourage travellers to stop at the wind farm which can become a landmark or visitor attraction.

## 2.6 A Guide to Community Benefit Sharing for Renewable Energy Projects

A Guide to Community Benefit Sharing for Renewable Energy Projects (Clean Energy Council, 2019) provides information on benefit sharing options for renewable energy projects, including case studies and strategies used on other projects. Benefit sharing recognises that the siting of large-scale renewable energy infrastructure results in changes to the landscape and community. It involves sharing the rewards of renewable energy development with local communities, helping to enhance the social and economic outcomes for the local community, and therefore making the change worthwhile. The guide identifies that effective benefit sharing is:

- Appropriate, i.e. it is tailored to local circumstances, culture and needs; proportionate to the scale of the project and level of change; and developed with guidance from the local community
- Flexible, i.e. it can respond to local context and can evolve with community needs over time
- Transparent, in that the strategy is transparently available to the community and provides a clear and understandable rationale for the various programs and who is eligible to participate
- Integrated, i.e. it builds links and relationships with the community and is integrated with the company's broader approach to community engagement and project development
- Mutually beneficial, i.e. it brings mutual benefit to local communities, the project and its owners and financiers
- Strategic, i.e. it creates a positive legacy in the local community and seeks to bring ongoing and lasting value to the local area; integrates with broader strategies; and are provided from the start of construction and throughout the operational phase (Clean Energy Council, 2019).

Some types of benefit sharing are identified in the guide and include neighbourhood benefit programs; sponsorship, grant and legacy initiatives; local jobs, training and procurement; employee volunteerism; innovative products; innovative financing and co-ownership; and beyond compliance level activities (i.e. going above and beyond the minimum obligations required to comply with development approvals to mitigate potential impacts, e.g. planting additional vegetation screening).

Virya Energy has offered a neighbour or participation agreement with owners of dwellings within eight kilometres of a WTG (Associated Landowners), which would include an annual financial participation contribution. Only three owners have not signed an agreement and are considered Non-associated with the Project.

Other initiatives to be implemented by the Project include a community benefit fund, which would support local initiatives including the development of new or upgraded community services and facilities, and local business opportunities. Virya Energy have also initiated several sponsorships of local sporting clubs and community initiatives such as the Monash-Kelly landmark statue.

### 3. Assessment methodology

This chapter provides an overview of the assessment methodology for this assessment, including the social locality relevant to the Project, methodology for this assessment, and key assumptions and limitations of the assessment.

#### 3.1 Social locality and study areas

##### 3.1.1 Social locality

The social locality considers those communities that may experience changes to daily living conditions or community well-being from the siting of the Project or construction, operation and decommissioning activities. The social locality extends beyond the Project area and acknowledges the potential for:

- Communities that are closest to the Project to experience impacts (both positive and negative) from construction, operation and decommissioning, due to such things as changes to the visual environment, amenity impacts due to noise and dust, construction traffic impacts, and presence of construction workers
- Communities in towns and centres further from the Project (i.e. about a one-hour commute) to experience positive and negative impacts due to such things as demand for worker housing and accommodation during construction and decommissioning, potential tourism related impacts, and employment and business opportunities with the Project.

It is also recognised that the Project would deliver renewable, low-cost energy to the national electricity market and support the growth of the renewable energy sector across NSW.

The social locality for this socio-economic impact assessment (SEIA) is shown in **Figure 3-1**. It includes those areas within about 50 kilometres of the Project area and towns and centres within commuting distance (i.e. about one hour) of the Project area.

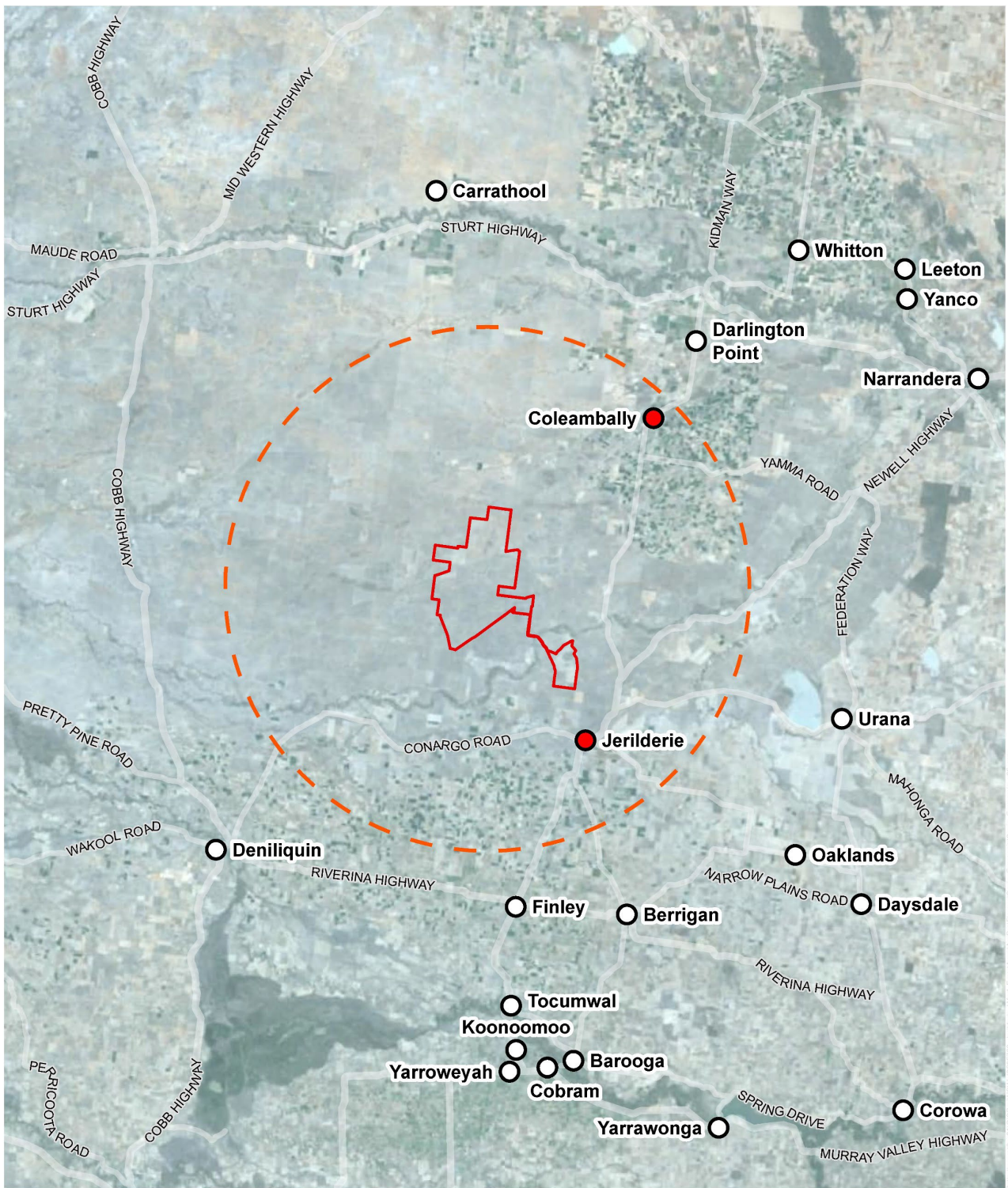
##### 3.1.2 Study areas

The primary and secondary study areas for the SEIA represent the social locality and recognises the extent for potential changes to the social environment due to the Project’s construction, operation and decommissioning. The study areas are described in **Table 3-1**.

**Table 3-1 Study areas**

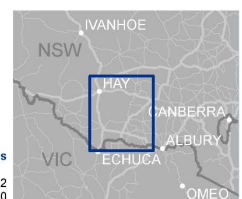
Study area	Description
Primary study area	<p>Communities within about 50 kilometres of the Project area, including in the towns of Jerilderie and Coleambally within the Murrumbidgee LGA. This includes residents that are likely to experience changes to the visual environment from the presence of the WTGs.</p> <p>People in the primary study area (<b>Figure 3-1</b>) are likely to interact more frequently with construction activities or the Project area (e.g. daily or weekly) due to the proximity of their properties to the Project or as they move around the area for work, education and leisure.</p>
Secondary study area	<p>The secondary study area comprises communities in towns and centres within commuting distance (i.e. about one hour) of the Project area. These are shown in <b>Figure 3-1</b> and include:</p> <ul style="list-style-type: none"> <li>• Darlington Point in the Murrumbidgee LGA</li> <li>• Deniliquin in the Edward River LGA</li> <li>• Finley, Berrigan, Tocumwal and Barooga in the Berrigan LGA</li> <li>• Koonoomoo, Cobram, Yarraweyah and Yarrawonga in the Moira LGA</li> <li>• Oaklands, Urana, Daysdale, and Corowa in the Federation LGA</li> <li>• Leeton, Whitton and Yanco in the Leeton LGA</li> <li>• Carrathool in the Carrathool LGA</li> <li>• Narrandera in the Narrandera LGA.</li> </ul>

Study area	Description
	People in the secondary study area are expected to interact with the Project less frequently as they move about the area for work, education and leisure, but may experience temporary impacts during the construction and decommissioning phases (both positive and negative) due to such things as an influx of non-local workers and demand for accommodation and services, construction-related employment, and business opportunities.



- Project area
- Primary study area
- Towns within the primary study area
- Towns within the secondary study area
- Road

0 10 20 km  
 1:1,000,000 at A4  
 GDA 1994 MGA Zone 55



**Figure 3-1 Social locality**

Jacobs | NSW Spatial | Buildings & Infrastructure | Eastern Asia Pacific | www.jacobs.com

Data sources  
 Jacobs 2022  
 © Department of Customer Service 2020

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## 3.2 Assessment approach

Social impact assessment includes ‘the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planning interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions’ (Vanclay et al, 2015).

‘Social impacts’ generally refer to the consequences that people experience when a new project brings change (DPIE, 2021a). Social impacts can be experienced or felt, either in a perceptual (cognitive) sense or corporeal (physical) sense. They can also be experienced at any level, including an individual, social unit (e.g. family, household, collectively), workplace, or by community or society generally (Vanclay et al, 2015).

This assessment has been developed in accordance with the NSW Social Impact Assessment (SIA) Guidelines (DPIE, 2021a) and to address the social and economic matters outlined in the SEARs (refer to **Section 1.3**). An overview of the methodology for this assessment is shown in **Figure 3-2** and details on each step of the assessment process is presented in **Section 3.2.1**.

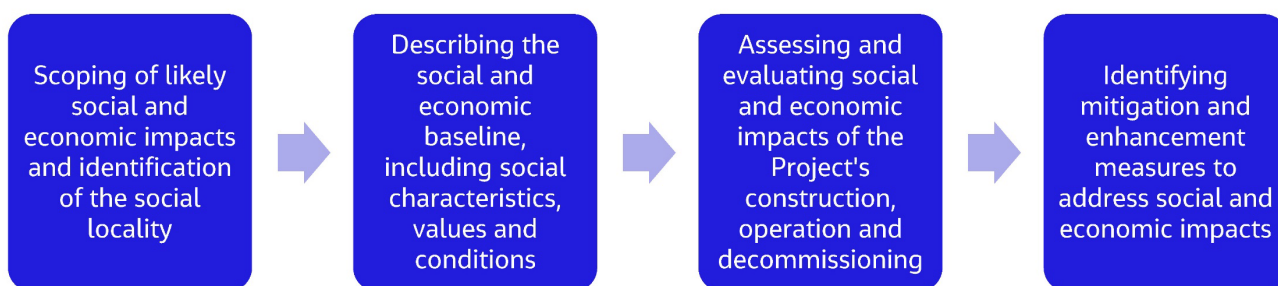


Figure 3-2 Social impact assessment process

### 3.2.1 Key steps in the assessment process

#### Scoping of socio-economic impacts

An initial review of the Project was conducted to scope the likely range of social impacts relevant to the Project's construction, operation and decommissioning and identify potentially affected communities and groups. The outcomes of the scoping phase informed the:

- Identification of the social locality and study areas for this assessment (refer to **Section 3.1**)
- Information to be gathered in the existing environment, including stakeholders to be consulted for the social impact assessment
- Level of assessment for each of the identified impacts.

The scoping phase involved:

- Review of existing Project information, including outcomes of consultation undertaken by Virya Energy prior to and during the preparation of the Yanco Delta Wind Farm Scoping Report (Jacobs, 2022a)
- Consideration of findings of other assessments undertaken for the Scoping Report, including the Preliminary Landscape and Visual Assessment (Green Bean Design, 2022a)
- High-level review of existing communities and socio-economic values
- Completion of the SIA Scoping Worksheet as part of the Yanco Delta Wind Farm Scoping Report (Jacobs, 2022a).

Several positive and negative socio-economic impacts were identified through the scoping phase for further investigation and consideration in the SEIA. These are detailed in the Yanco Delta Wind Farm Scoping Report (Jacobs, 2022a) and include:

- Positive impacts on livelihoods relating to non-farm income for landowners, business and employment opportunities
- Impacts on individuals' way of life due to visual and landscape changes from the Project, amenity impacts and demand for worker accommodation

- Impacts on surrounding communities due to landscape changes
- Health and wellbeing impacts relating to potential safety risks from the use of local roads by construction traffic
- Possible community impacts relating to the distribution of Project benefits and impacts, and injection of community funding.

Refinements were made to the Project area and siting of WTGs to avoid proximity to neighbouring dwellings to address social issues identified through the scoping phase and early consultation relating to changes to visual amenity from surrounding dwellings. Preliminary analysis of the existing social environment noted that communities in the study area are home to an ageing population. In response, engagement activities and tools for the EIS were designed to be highly accessible and user friendly to reflect the targeted audience, and included letter box drops of factsheets and in person community information.

## Existing socio-economic conditions

A description of the existing social and economic conditions, characteristics and values was prepared to provide a baseline from which potential social and economic benefits and impacts of the Project were assessed and evaluated.

The existing socio-economic conditions presents information on matters such as population and demography, housing and accommodation, social infrastructure, business and industry, community values and features important to local and regional communities. Key activities undertaken in preparing the existing socio-economic assessment include:

- Review of the SEARs for the Project
- Analysis of population, demographic and employment data for the primary and secondary study areas, including data and information from the Australian Bureau of Statistics (ABS) Census of Population and Housing for 2016 and 2021, related ABS publications (e.g. estimated resident population), and NSW and Australian Government agencies (e.g. employment and population projections)
- Review of local and state government policies and strategies relevant to the Project and the socio-economic environment of the study areas
- Audit of social infrastructure in towns and centres near the Project, including recreational uses, health and emergency services, education facilities, and community services and facilities
- Analysis of community values relating to such things as local amenity, character and identity; community cohesion; and community wellbeing and safety, based on the analysis of consultation outcomes, review of existing literature, and findings of other studies undertaken for the EIS.

The description of the existing socio-economic conditions is based on a range of information sources, including data from the Australian Bureau of Statistics (ABS), and NSW and Australian government agencies, Council and government policies and strategies, internet searches, review of existing literature and other studies undertaken for the EIS. The existing socio-economic conditions were also informed by outcomes from community and stakeholder engagement undertaken for the Project, including targeted interviews undertaken for this assessment. Further details on data sources used for this assessment is in **Section 3.3**, while details on community and stakeholder consultation is in **Section 3.2.4**.

## Impact assessment

The impact assessment involved the identification, analysis and evaluation of potential changes to existing socio-economic conditions from the Project's construction, operation and decommissioning, including positive and negative impacts, direct and indirect impacts and cumulative impacts with other projects. This involved:

- Review of issues identified in the initial scoping phase and identification of additional social impacts based on the outcomes of the existing conditions, consultation feedback, and changes to the Project design
- Analysis of potential socio-economic impacts, including benefits and impacts relating to property, housing and accommodation, employment, business, social infrastructure and community values
- Assessment of potential economic impacts, including input-output (I-O) analysis to quantify potential economic impacts such as employment (refer to **Section 3.2.2**)

- Evaluation of the likely significance of the identified impacts, using the evaluation matrix presented in **Section 3.2.3**, and identification of any residual socio-economic impacts.

The assessment of potential socio-economic impacts was informed by the outcomes of consultation, including targeted engagement undertaken for this SEIA, and other relevant technical studies prepared for the EIS.

It is noted that social impacts can affect individuals, communities and other stakeholder groups in different ways, and potential changes from a project may be experienced by individuals and communities as positive, neutral or negative depending on circumstances, vulnerabilities and attitudes to the particular change. For example, some individuals or groups within the community may experience a particular change as a benefit, while others may experience the same change as a negative impact. This assessment considers potential impacts of the Project on different stakeholder groups such as local and regional residents, visitors and tourists, and social infrastructure users.

This assessment also considers the potential for the Project to have cumulative impacts on social and economic values due to its interaction or overlap with impacts from other projects, either spatially (i.e. occurring within or near the study area) or temporally (i.e. occurring before, after or at the same time as the Project). Cumulative impacts can result in effects (positive or negative) on individuals, businesses or local communities that individually may be minor, but collectively could result in larger effects, or that individually may have positive social impacts, but collectively could result in negative social impacts. Cumulative socio-economic impacts have been assessed through a qualitative analysis, taking into account relevant projects as listed in the EIS.

The following types of private landowners are described in this assessment:

- **Host Landowners** – owners and occupiers of land within the Project area hosting host WTGs or related infrastructure, and of land required for access during construction and/or operation
- **Associated Landowners** – owners and occupiers of land not located within the Project Area or hosting infrastructure, however the Proponent has a negotiated agreement in place with the landowner regarding Project impacts, and are therefore associated with the Project
- **Non-associated Landowners** – landowners located outside the Project area and not associated with the Project.

## Management and mitigation measures

The final step in the assessment process involved the identification of management strategies to avoid, manage or mitigate negative socio-economic impacts from the Project or enhance positive socio-economic impacts. This included consideration of environmental management measures identified in other technical studies prepared for the Project that are relevant to the management of social-economic impacts, and measures identified through community and stakeholder consultation for the Project and this assessment.

### 3.2.2 Input-output analysis

The following provides an overview of the input-output methodology used to quantitatively assess contributions to gross value added (GVA) and employment. Impacts on incomes and climate change have been assessed quantitatively using other methods, while impacts on the community, NSW energy market and property values, have been assessed qualitatively.

The total economic impact of a project comprises direct and indirect economic impacts. The project expenditure also creates larger economic activity as it moves through the economic system. The following provides an overview of each of these impacts:

- Direct impacts are those that relate to the initial or immediate activity (e.g. employment generated during the construction and operational phases and expenditure on the construction materials)
- Indirect impacts (or production-induced impacts) are those resulting from the linkages between different parts of the economy (e.g. increases in output and employment from businesses supporting the direct suppliers to the Project)

- Induced impacts (or consumption-induced impacts) are those resulting from increased income to the employees and owners of the businesses directly supplying the Project. When this income is spent in the economy for personal consumption, it generates induced effects in the economy
- Total economic impacts are the sum of direct, indirect and induced impacts.

The I-O analysis provides an estimate of the total economic impact of Project expenditure, based on I-O tables that describe relationships between suppliers and buyers across industries and sectors within the economy. The I-O tables illustrate the interdependencies within the economy, with an output from one industry being an input to another. The detailed treatment of industry sectors in the tables allows the linkages between various economic agents in the economy to be examined and extrapolated to estimate the direct and indirect impacts of the investments being considered. Multipliers are used to represent these relationships. A multiplier is a percentage increase in final output or employment resulting from the initial effect – in this case the construction or operation of the Project.

The types of economic impacts that have been analysed in this assessment using I-O modelling are GVA and employment. Further information on each of these is provided in **Table 3-2**.

**Table 3-2 Impact types in the I-O model**

Impact type	Description
GVA	GVA is equal to economic output, less the costs of goods and services used by these industries in the production process (intermediate consumption) but before deducting consumption of fixed capital (depreciation). To avoid double counting, only the value added at each stage of production is included in GVA and not the total expenditure. This is the standard measure in Australia to represent the size of an economy.
Employment	A measure of employment levels (full time equivalents) required to service the demand for economic output per annum.

## Multipliers

ABS I-O multipliers adjusted by Jacobs in 2010-11 for the NSW regional economy, have been used to calculate the Project’s value added and employment impact on the economy. These multipliers have been estimated for all of Australia. It is recognised that these may not be directly applicable to the Murrumbidgee and Edward River LGAs, although these differences are not material.

## Distribution of expenditure

For the purpose of I-O modelling, capital and operating expenditure for the Project has been split by location as shown in **Table 3-3**. This is based on the Clean Energy Council report ‘Wind farm investment, employment and carbon abatement in Australia’ (Clean Energy Council, 2012). It should be noted that this source is from 2012 and the distribution of expenditure may have changed since then.

**Table 3-3 Expenditure by location, construction and operation phases**

Location	Percentage of total construction phase	Percentage of total operation phase
Overseas	38%	0%
National	20%	58%
State	27%	14%
Region	15%	28%
<b>Total</b>	<b>100%</b>	<b>100%</b>

### 3.2.3 Evaluation of significance

An evaluation matrix was used to evaluate the significance of identified socio-economic impacts associated with the Project. The evaluation matrix used for this SEIA is presented in **Table 3-4** and is based on the approach presented in the Technical Supplement to the SIA Guidelines (DPIE, 2021b). It includes consideration of:

- The magnitude of the change, considering the extent, duration, intensity or scale, sensitivity or importance, and level of concern/ interest
- Likelihood of the change occurring.

Each identified socio-economic impact, positive and negative, was assigned a level of significance using the evaluation criteria in **Table 3-5**. Considerations for determining the magnitude of the identified impact are described in **Table 3-6**.

**Table 3-4 Evaluation matrix**

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

Source: DPIE, 2021b

**Table 3-5 Evaluation criteria**

Level	Meaning
<b>Magnitude level</b>	
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
<b>Likelihood level</b>	<b>Meaning</b>
Almost certain	Definite or almost definitely expected (e.g. has happened on similar projects)
Likely	High probability
Possible	Medium probability
Unlikely	Low probability

Level	Meaning
Rare	Improbable or remote probability

Source: DPIE, 2021b

Table 3-6 Dimensions of social impact magnitude

Dimension	Details needed to enable assessment
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?
Intensity or scale	What is the likely scale or degree of change? (e.g. mild, moderate, severe)
Sensitivity 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.

Source: DPIE, 2021b

### 3.2.4 Community and stakeholder engagement

Community and stakeholder consultation, including with affected landowners, near neighbours, Councils, government agencies, local Aboriginal representatives, and local communities has been conducted by Virya Energy since November 2020 and is ongoing. Details of community and stakeholder consultation undertaken by Virya Energy for the Project is summarised in Chapter 5 of the EIS for the Project.

Consultation with communities was also carried out for the Landscape and Visual Impact Assessment in accordance with the NSW Wind Energy Visual Assessment Bulletin (DPE, 2016). This included a survey of the Jerilderie community undertaken in early 2022 to understand what community members valued about the area and their views on the Project. Findings of the survey were presented in the Yanco Delta Wind Farm Scoping Report (Jacobs, 2022a).

This SEIA has been informed by the outcomes of this consultation, including the identification of existing features and values important to communities, community concerns and interests, potential positive and negative impacts of the Project, and possible environmental management measures. In addition, targeted engagement has been carried out by Jacobs for this SEIA with Council officers police and community organisations. Details of stakeholders consulted, including date and topics discussed, is presented in **Table 3-7**.

A summary of key issues raised during community and stakeholder consultation for the Project and this assessment is presented in **Chapter 5**.

Table 3-7 Stakeholders engaged for the SEIA

Stakeholder	Date
Jerilderie Police	11 July 2022
Jerilderie Country Women’s Association (CWA)	15 July 2022

Stakeholder	Date
Murrumbidgee Council	1 September 2022

Contact was also made with several other stakeholders inviting them to discuss the Project and socio-economic assessment, including Edward River Council, accommodation providers, and business representatives, although no response was received.

### 3.3 Data sources

Key data sources used in the preparation of this assessment included:

- Population and demographic data and information, including from the ABS Census of Population and Housing 2021 and 2016, other ABS publications (e.g. estimated resident population, socio-economic indices for areas (SEIFA)), NSW DPE (e.g. population projections)
- Economic data, including employment data from the Australian government National Skills Commission
- Data on housing and accommodation from NSW Communities and Justice and Real Estate Institute of NSW (e.g. rental housing), and STR and Destination NSW (e.g. visitor accommodation)
- ABS I-O multipliers, adjusted by Jacobs in 2010-11 for the NSW regional economy
- Development and construction cost estimates provided by Muller Partnership – Capital Investment Value Report
- Website and literature reviews
- Murrumbidgee Council and Edward River Council strategies, reports, publications and websites
- Feedback from community and stakeholder consultation undertaken by Virya Energy and other technical specialists for the Project (refer to **Section 3.2.4**)
- Interviews with stakeholders and community representatives undertaken for this SEIA (refer to **Section 3.2.4**)
- Other relevant Project technical studies undertaken for the EIS, including Landscape and Visual Impact Assessment (LVIA) (Green Bean Design, 2022b), Traffic and transport technical report (Jacobs, 2022b), Noise and vibration technical report (Jacobs, 2022c) and Aboriginal Cultural Heritage Assessment Report (Jacobs, 2022d).

### 3.4 Assumptions and limitations

This section summarises the assumptions and limitations relevant to this assessment.

Population and demographic data presented in this report is from the 2021 ABS Census, where this is available. Data from the 2021 Census on employment, education and internal migration is due to be released in October 2022, with additional data on socio-economic indicators such as distance to work and SEIFA to be released in mid-2023. Where data from the 2021 Census is not available, data is presented from the 2016 ABS Census supplemented with more recent information from the ABS, NSW Government, Council and other relevant sources where this is available (refer to **Section 3.3**).

This assessment is based on the scope of the Project as defined by the Project Description (refer to Chapter 3 of the EIS). Additional assumptions relating to the Project description relevant to this assessment are outlined in **Table 3-8**.

**Table 3-8 Project description assumptions used in this SEIA**

Aspect	Assumptions
<b>Construction</b>	
Construction workforce	<ul style="list-style-type: none"> <li>• Up to 150 people per day outside of peak construction (in Year 1 and Year 2)</li> <li>• Up to 300 workers per day during peak construction (Year 2)</li> </ul>
Source and breakdown of construction workers	<ul style="list-style-type: none"> <li>• 'Local' workers include workers from towns and centres up to about a 1.5-hour commute from the Project area</li> </ul>

Aspect	Assumptions
(e.g. 'local' versus 'non-local' workers)	<ul style="list-style-type: none"> <li>For the purposes of this assessment, potential impacts relating to the influx of construction workers considers two scenarios relating to the breakdown of local and non-local workers:                             <ul style="list-style-type: none"> <li>- Scenario one – 50% local workers / 50% non-local workers</li> <li>- Scenario two – 80% local workers / 20% non-local workers.</li> </ul> </li> </ul>
Worker accommodation	<ul style="list-style-type: none"> <li>Non-local workers would either stay in private rental housing or visitor accommodation in surrounding towns and centres</li> </ul>
Development and construction costs*	<ul style="list-style-type: none"> <li>Total development and construction costs are \$3,450,688,168</li> <li>Development and construction costs include civil works, electrical works, external grid connection works, turbine supply and installation</li> </ul>
<b>Operations</b>	
Operational workforce	<ul style="list-style-type: none"> <li>Up to 30 workers</li> </ul>
Operation costs	<ul style="list-style-type: none"> <li>Total operational costs are \$936,500,000</li> <li>Yearly operational costs are \$31,350,000 for 30 years</li> </ul>

\*Estimates provided by Muller Partnership – Capital Investment Value Report

## 4. Existing environment

This chapter provides an overview of existing communities and social characteristics, conditions and values in the primary and secondary study area to provide a baseline against which the Project's impacts can be assessed.

### 4.1 Regional social context

The Project is located in both the Murrumbidgee and Edward River LGAs, within the Riverina Murray Region of NSW. The Riverina Murray Region is a large agricultural producer and is known for its biodiversity and environmental values such as the Murray River, Murrumbidgee River and Kosciusko National Park. The Riverina Murray Region has three regional centres, including Wagga Wagga, Albury and Griffith. Griffith is located approximately 100 kilometres north east the Project and is the closest regional centre to the Project. The nearest towns to the Project area include:

- Jerilderie – located along the Newell Highway approximately 30 kilometres south east of the Project, in the Murrumbidgee LGA
- Coleambally – located east of Kidman Way approximately 45 kilometres north east of the Project, also in the Murrumbidgee LGA
- Deniliquin – located approximately 70 kilometres south west of the Project, in the Edward River LGA.

Several other key towns and centres are located in the primary and secondary study areas that vary in size from about 100 to 200 people to about 8,000 people. They include:

- Townships and smaller towns such as Daysdale, Oaklands, Carrathool, Koonoomoo, Urana, Whitton, Yanco, Darington Point, Berrigan, and Yarroweyah (Victoria)
- Towns such as Barooga, Finley, Tocumwal and Narrandera
- Larger towns and centres such as Corowa, Leeton, Cobram (Victoria) and Yarrawonga (Victoria).

The estimated resident population of the Murrumbidgee LGA was 3,871 people at 30 June 2021 (ABS, 2021a). The population of the Murrumbidgee LGA was generally unchanged between 2011 and 2021, with the LGA recording a decline in population in more recent years. The Edward River LGA had an estimated resident population of about 9,158 people at 30 June 2021 (ABS, 2021b). The population of the LGA grew at about 0.3% annually over the 10 years to 2021, with population growth marginally higher since 2016.

The Riverina Murray Region is one of Australia's most productive and diverse agricultural regions. Primary production in the region includes beef and sheep grazing, broad-acre cropping, and irrigated cropping, including cotton, rice and horticulture. The Murrumbidgee River delivers water to major food producing areas of the Murrumbidgee Irrigation Area and Coleambally Irrigation Area. Combined, these irrigation areas provide over a quarter of fruit and vegetable production in NSW and are also one of Australia's largest export sources of bulk wines (Regional Development Australia, 2022).

Renewable energy generation is one of eight priority growth sectors identified for the Riverina Murray Region. Others in the Murrumbidgee and Edward River LGAs being agribusiness, tourism, and transport and logistics (NSW Government, 2017).

### 4.2 Socio-economic profile

This section presents data on population, housing, and socio-economic status of communities in the primary and secondary study area, including population and growth, age, cultural diversity, and socio-economic disadvantage.

Data presented for the primary study area is mapped at a Statistical Area Level 1 (SA1) geography. Most SA1s have a population of between 200 and 800 people. Information is also discussed for key towns and centres in the secondary study area, based on ABS:

- 'Urban Centre and Locality' (UCL) geographies, which represent areas of concentrated urban development with populations of 200 people or more
- State Suburbs (SSCs), which are ABS approximations of localities gazetted by each state or territory.

Data for key population and housing characteristics for the towns and centres in the secondary study area is provided in **Appendix B**. Information for NSW is also provided as a comparison.

#### 4.2.1 Socio-economic profile

The main towns in the primary study area (refer to **Figure 3-1**) are Jerilderie and Coleambally. The township of Conargo and rural localities also provide a focus for local communities.

Jerilderie is located approximately 10 kilometres from the southern extent of the Project area. The town had a population of about 922 people at the 2021 Census (ABS, 2021) and is a service centre for surrounding rural communities. The town provides access to health and social services, recreational facilities, and retail uses for residents of the town and surrounding area. The location of Jerilderie on the Newell Highway means that it experiences a constant flow of motorists travelling along the highway, which is the primary inland road linking Victoria, NSW and Queensland.

Coleambally is located approximately 30 kilometres north east from the Project area. At the 2021 Census, the town had a population of about 1,152 people (ABS, 2021). Established in 1968 to service the Coleambally Irrigation Area, the town offers a range of community services and facilities to support the local population and surrounding rural communities.

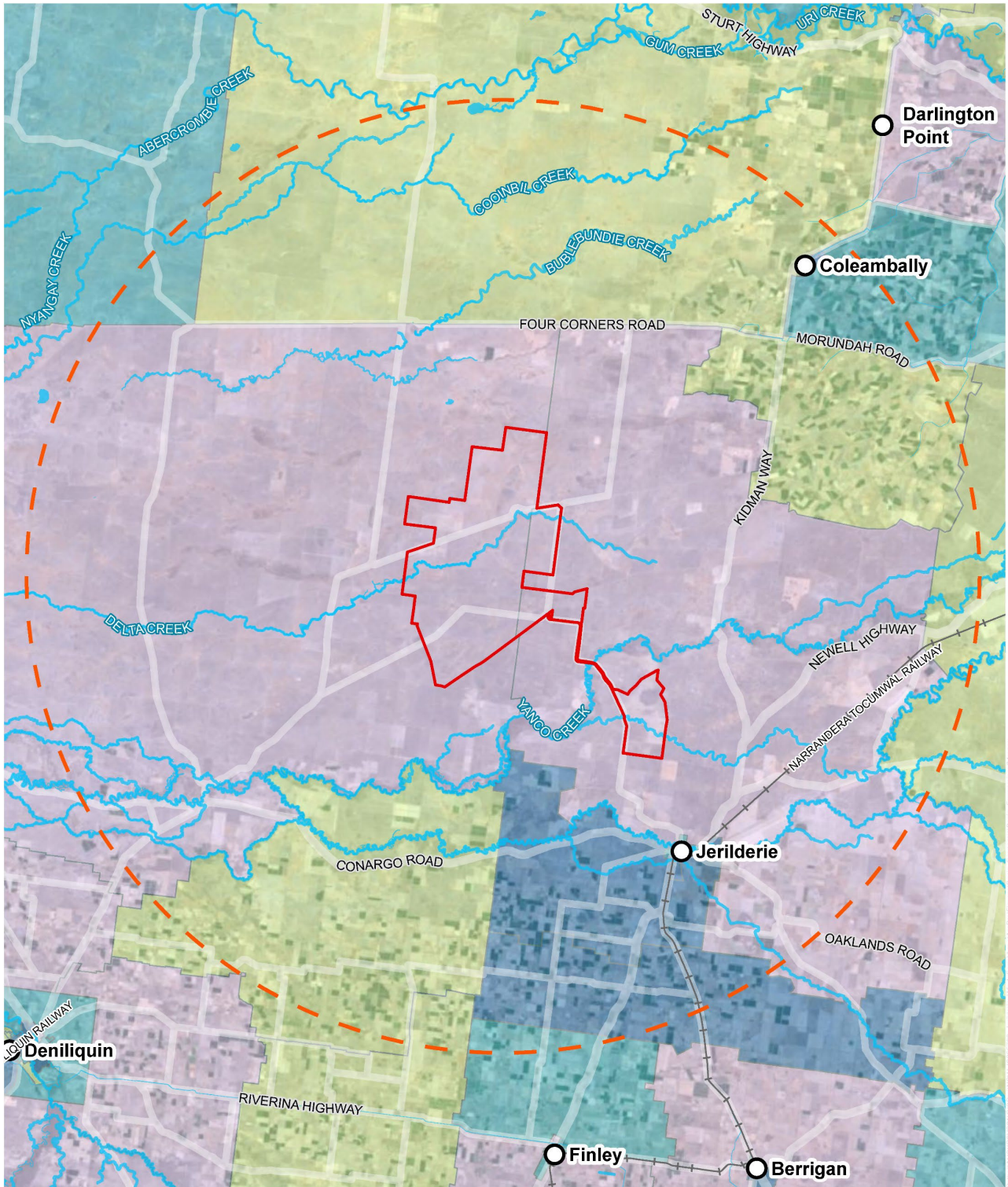
#### Population and age

There was approximately 4,494 people at the 2021 Census in the SA1 geographies covering the primary study area.

Communities in the study area closer to the Project area generally reported proportions of children above the NSW average at the 2021 Census, with the proportion of people aged 14 years or under ranging from 18.4% to 21.4%. Other localities with proportions of children above the average include communities surrounding the Coleambally township to the north and Hartwood, Lindifferon, Coree, Mayrung and Logie Brae to the south. At the 2021 Census, the towns of Jerilderie and Coleambally had relatively low proportions of children compared to NSW.

Rural communities west of the Project area generally recorded proportions of older people above the NSW at the 2021 Census, while communities to the north, south and east had proportions of people aged 65 years or over below the NSW average. The towns of Coleambally and Jerilderie recorded proportions of older people above the NSW average, with some SA1s comprising more than 30% of people aged 65 years or over, compared to 17.6% in NSW.

Information on the proportion of children aged 14 years or under and older people aged 65 years or over in the primary study area is presented in **Figure 4-1** and **Figure 4-2** respectively.



Project area  
 Primary study area

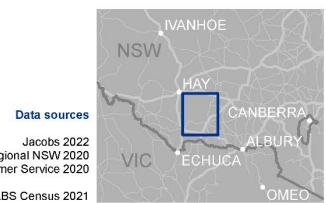
Proportion of children aged 14 years or under

	21.5% - 38.0%
	18.2% - 21.4%
	14.7% - 18.1%
	0.0% - 14.6%

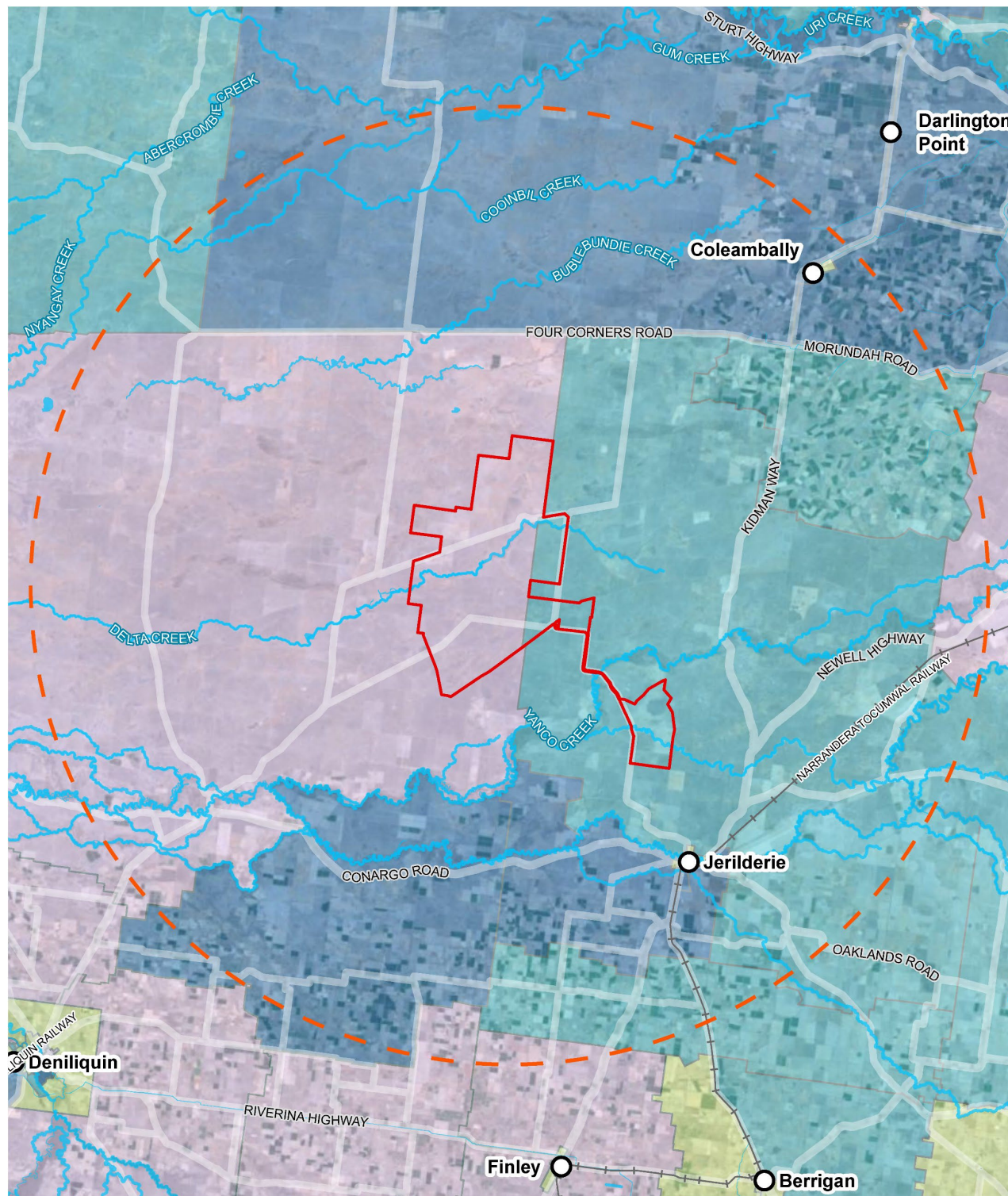
NSW average = 18.2%

Towns  
 Railway  
 Waterways  
 Road

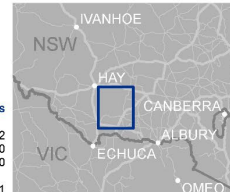
0 5 10 km  
 1:550,000 at A4  
 GDA 1994 MGA Zone 55



**Figure 4-1 Proportion of people aged 14 years or under, 2021**



Project area	Proportion of older people aged 65 years or over	Towns	
Primary study area	<ul style="list-style-type: none"> <li> 22.8% - 50.8%</li> <li> 17.6% - 22.7%</li> <li> 13.0% - 17.5%</li> <li> 0.0% - 12.9%</li> </ul>	Railway	
	NSW average = 17.6%	Waterways	1:550,000 at A4
		Road	GDA 1994 MGA Zone 55



**Figure 4-2 Proportion of people aged 65 years or over, 2021**

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Data sources  
 Jacobs 2022  
 Department of Regional NSW 2020  
 © Department of Customer Service 2020  
 Based on Jacobs analysis of the ABS Census 2021

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There were 2,651 working aged people (i.e. aged 15 years to 64 years) in the SA1s covering the primary study area at the 2021 Census. Rural communities near the Project area reported proportions of working aged people below the NSW average at the 2021 Census (refer to **Figure 4-3**). Localities with proportions of working aged people above the NSW average were generally located south of the Project area, including rural areas surrounding the town of Jerilderie, Finley, and Mairjimmy. The towns of Jerilderie and Coleambally within the primary study area generally reported proportions of working aged people similar to, or below the NSW average. At the 2021 Census, the SA1s in Jerilderie had 49.9% and 51.1% of people aged between 15 years and 64 years, while Coleambally recorded 55.0% and 64.4% of people in this age group. This is compared to 64.1% in NSW.

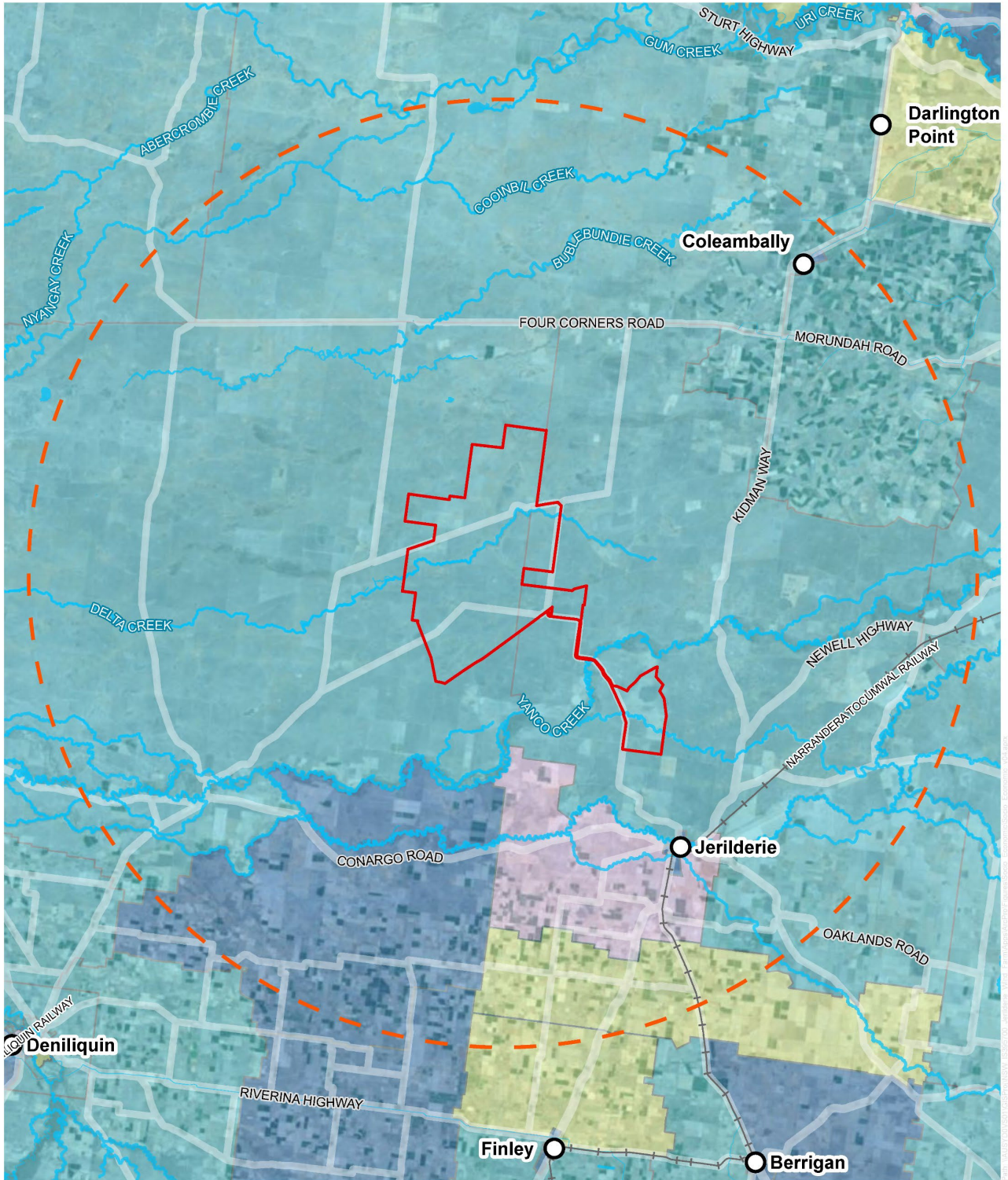
At the 2021 Census, towns within the secondary study area generally had older populations, with higher median ages, lower proportions of children and higher proportions of older people. The proportion of people aged 14 years or under in towns within the secondary study area were generally below the relevant State averages at the 2021 Census. The exceptions to this were Yanco, Whitton, Narrandera, Leeton, Cobram and Yarroweyah, which had proportions above the State averages. All towns, apart from Yanco and Whitton, had proportions of older people aged 65 years or over above the State averages. Tocumwal had the highest proportion of older people (at 40.2%), followed by Urana (at 34.3%), and Berrigan (34.2%).

All towns in the secondary study area, apart from Daysdale, Carrathool and Darlington Point, had proportions of working aged people aged between 15 years and 64 years below the State averages. Many of the towns in the secondary study area had relatively low proportions of working aged people, with seven towns (Finley, Corowa, Jerilderie, Berrigan, Tocumwal, Cobram and Yarrowongga) reporting proportions of working aged people less than 55%.

## Indigenous population

The proportion of Aboriginal and Torres Strait Islander people in the primary study area at the 2021 Census is shown in **Figure 4-4**. There were 154 Aboriginal people in the SA1s covering the study area at the 2021 Census. Compared to NSW, rural communities south and west of the Project area generally had lower proportions of people who reported being Aboriginal and/or Torres Strait Islander, while SA1s in the northern, west and south-western part of the primary study area had higher proportions of Aboriginal and/or Torres Strait Islander people.

Jerilderie reported proportions of Aboriginal and/or Torres Strait Islander people well above the NSW average (3.4%), with the SA1s covering the town recording 4.6% and 5.5% of Aboriginal and/or Torres Strait Islander people. The proportions of Aboriginal and/or Torres Strait Islander people in the SA1s that cover Coleambally was 8.2% and 2.7%. Towns in the secondary study area generally had proportions of Aboriginal and/or Torres Strait Islander people above the state averages. Darlington Point had the highest proportion of Aboriginal and Torres Strait Islander people 18.4%), followed by Narrandera (14.6%), and Whitton (11.1%).



- Project area
- Primary study area

Proportion of working aged people	
	67.8% - 116.7%
	64.1% - 67.7%
	58.0% - 64.0%
	0.0% - 57.9%
NSW average = 64.1%	

- Towns
- Railway
- Waterways
- Road

0 5 10 km

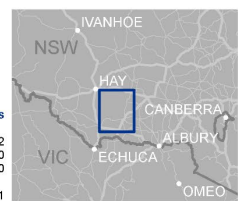
1:550,000 at A4

GDA 1994 MGA Zone 55

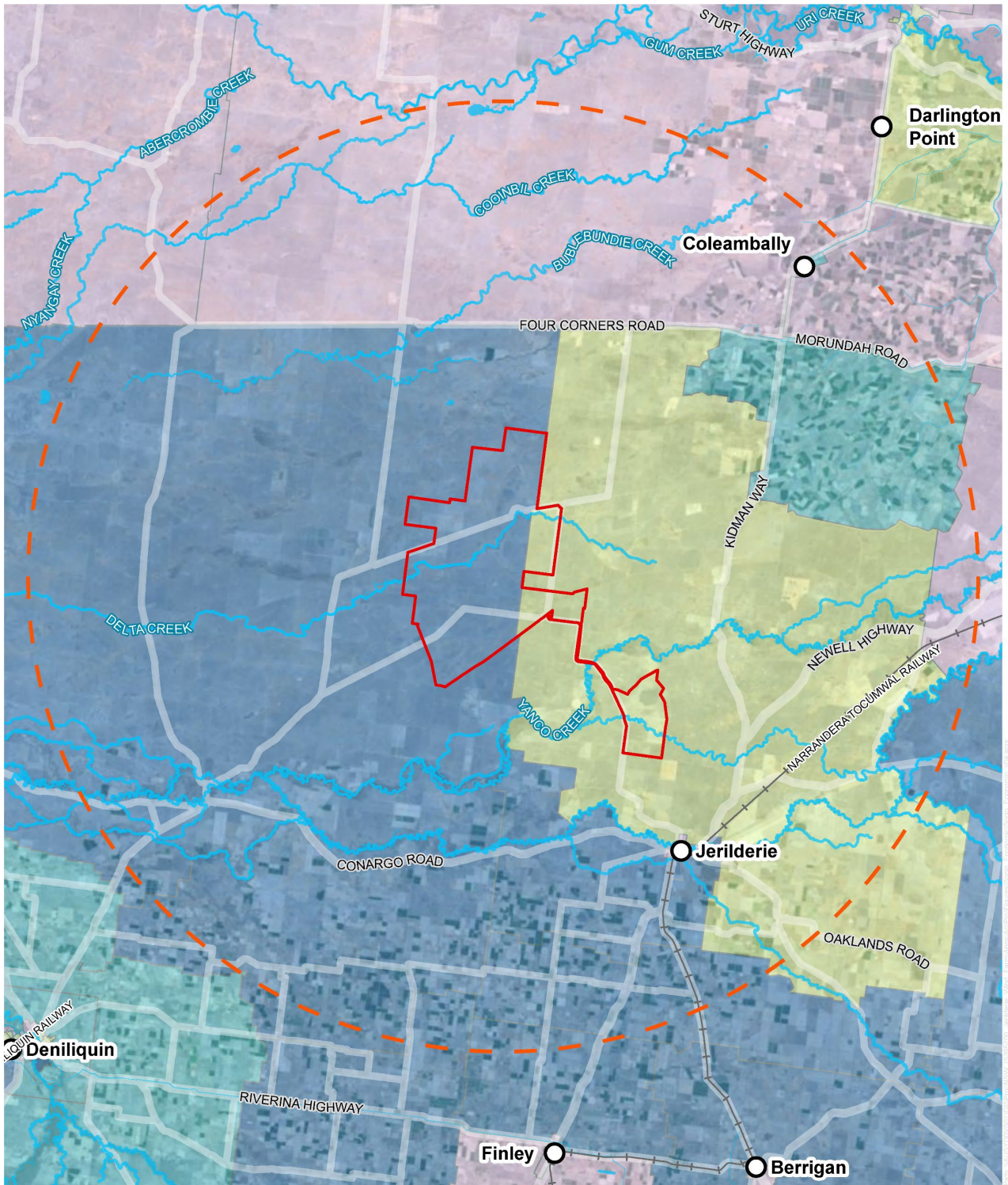
**Data sources**

Jacobs 2022  
 Department of Regional NSW 2020  
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Based on Jacobs analysis of the ABS Census 2021



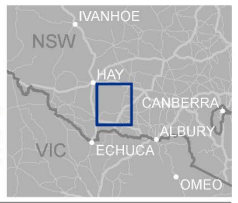
**Figure 4-3 Proportion of working aged people, 2021**



**Figure 4-4 Proportion of Aboriginal and Torres Strait Islander people, 2021**

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Data sources  
 Jacobs 2022  
 Department of Regional NSW 2020  
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 Based on Jacobs analysis of the ABS Census 2021



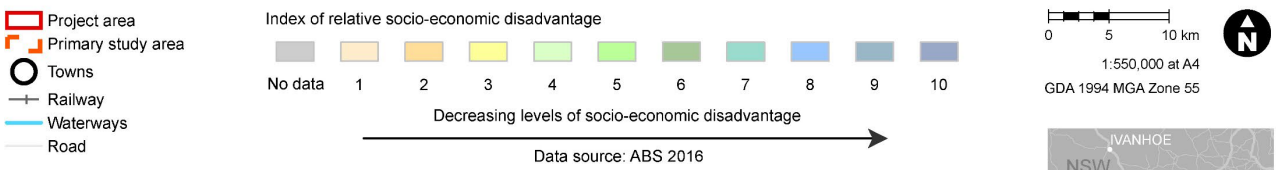
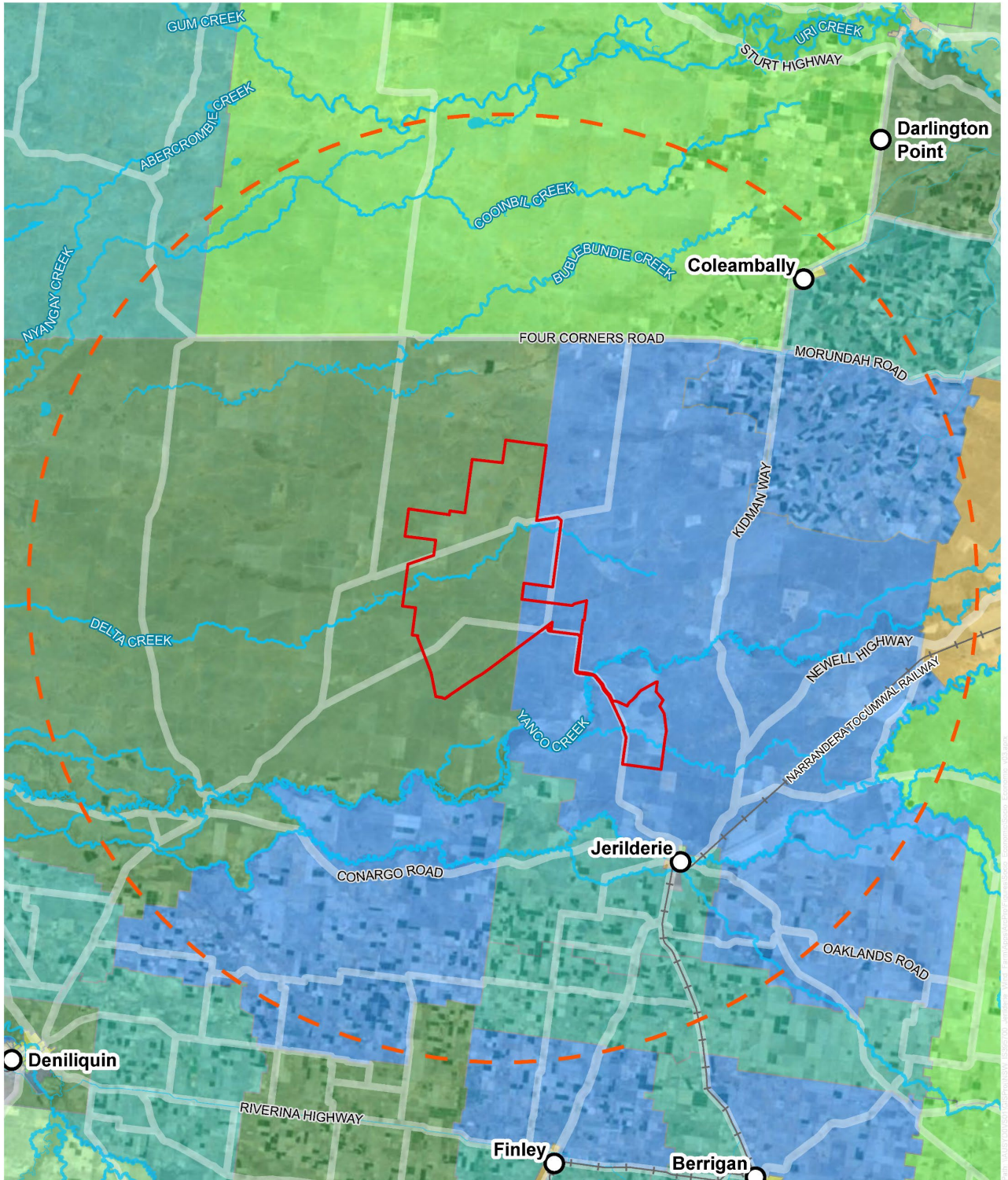
## Socio-economic disadvantage

The ABS produces socio-economic indexes for areas (SEIFA) that indicate relative levels of socio-economic advantage and disadvantage regarding people's access to material and social resources, and their ability to participate in society. The index of relative socio-economic disadvantage is derived from variables such as income, educational attainment, unemployment and vehicle ownership, while the index of economic resources summarises variables related to income and wealth.

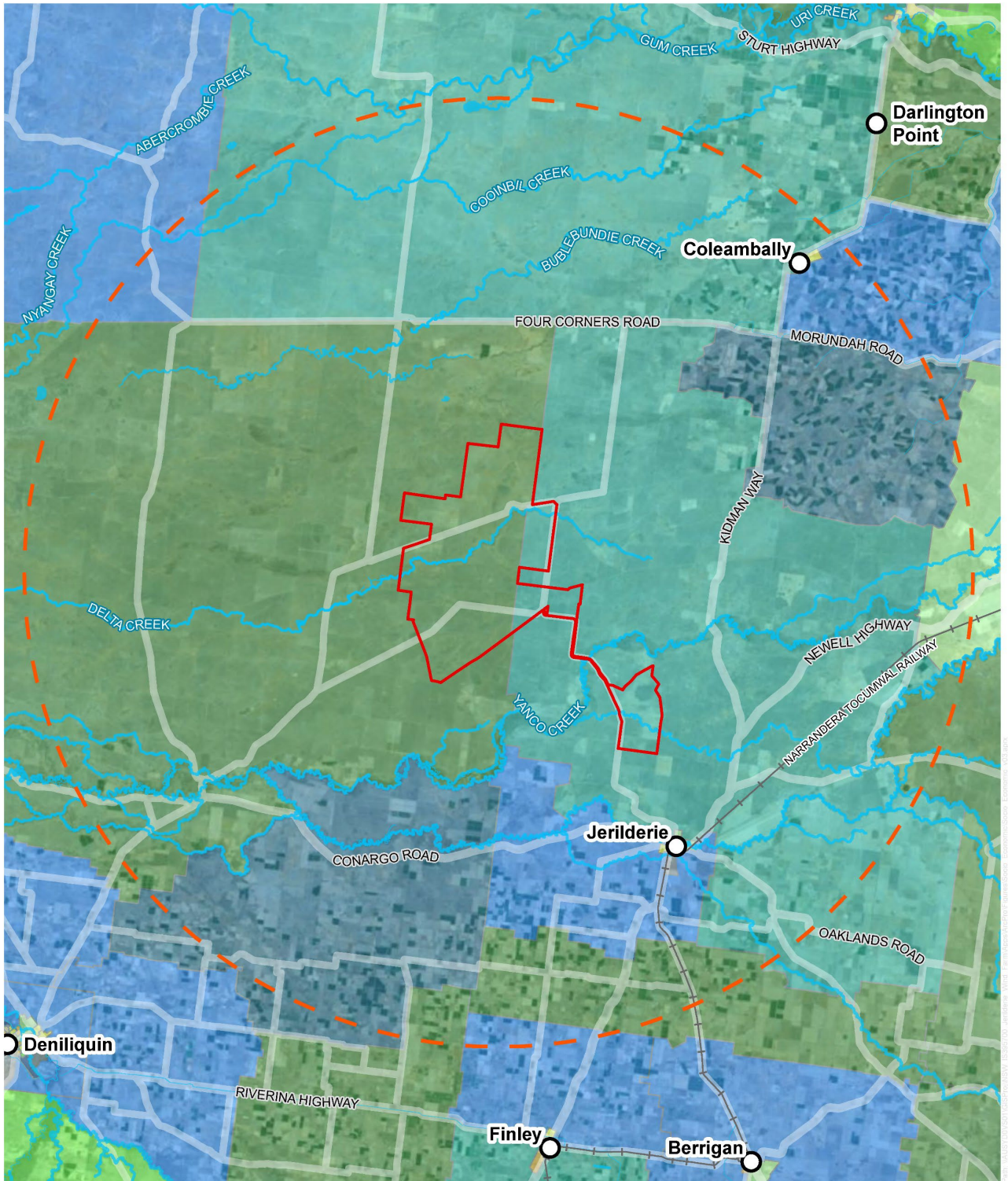
**Figure 4-5** and **Figure 4-6** show decile scores from the 2016 Census for the index of relative socio-economic disadvantage and index of economic resources respectively at a SA1 geography. The decile scores divide each SA1 area into 10 groups from lowest to highest SEIFA score. The lowest 10% of areas are given a decile number of 1, while the highest 10% of areas are given a decile number of 10. In relation to the index of relative socio-economic disadvantage, low decile values generally represent areas of higher relative disadvantage while high decile values generally represent areas of least disadvantage. For the index of economic resources, lower decile values generally indicate communities that are considered to have fewer financial resources.

The primary study area mainly includes communities with moderate levels of relative socio-economic disadvantage (i.e. decile scores ranging from five to seven). Localities such as Jerilderie, Bunure, Gala Vale and Argoon east of the Project area, and Mayrunga, Hartwood, Lindifferon and Finley south of the Project area displayed lower levels of relative disadvantage, with a decile score of eight.

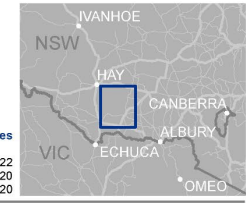
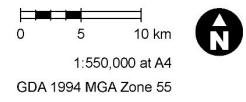
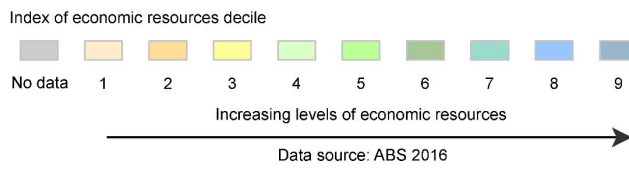
Rural areas in the primary study area generally displayed moderate to high levels of economic resources, which is consistent with many rural communities that often have households with substantial assets. SA1s in the primary study area that reported lower levels of economic resources are in local towns such as Coleambally and Jerilderie.



**Figure 4-5 Index of relative socio-economic disadvantage**



- Project area
- Primary study area
- Towns
- Railway
- Waterways
- Road



**Figure 4-6 Index of economic resources**

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Data sources  
 Jacobs 2022  
 Department of Regional NSW 2020  
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## Income

At the 2021 Census, communities in the primary study area generally had higher personal incomes and lower household incomes compared to NSW. Median household incomes for the SA1s in the primary study area ranged from \$766 to \$2,333 per week, with the average being \$1,559, compared to \$1,829 in NSW. Median personal incomes for the SA1s ranged from \$550 per week to \$1,187 per week, with the average of the SA1s being \$820. This is compared to a median personal income of \$813 in NSW.

Compared to NSW, the SA1s in Jerilderie and Coleambally reported lower median personal and household incomes.

## Employment

Employment information currently available at an SA1 level is from the 2016 Census. There was a total of 2,395 people in the SA1s in the primary study area who were working or looking for work at the 2016 Census, representing a labour force participation rate of 61.8%. Labour force participation rates across the primary study area were generally above the NSW average, with all but four of the SA1s in the primary study area reporting participation rates above NSW.

There were 69 people in the primary study area who were unemployed at the 2016 Census, representing an unemployment rate of 2.9%. Two SA1s in the primary study area had unemployment rates above the NSW average (at 6.5% and 7.8%). At the 2016 Census, there were 348 employed people who worked less than 15 hours a week. This represents 14.9% of employed people in the primary study area, which is above the NSW average (14%).

Agriculture, forestry and fishing was the main industry of employment in the primary study area at the 2016 Census, with this industry employing nearly 50% of workers aged 15 years or over. This reflects the agricultural land uses in the primary study area with key activities including sheep and cattle grazing and irrigated cropping. There were 117 people in the primary study area who were working in the construction industry at the 2016 Census, representing about 5.0% of working people. About 3.1% of workers were employed in the transport, postal and warehousing industry, and 0.6% in electricity, gas, water and waste services.

The towns of Jerilderie and Coleambally reported labour force participation rates below the NSW average, which may in part reflect the older population of these communities. Levels of unemployment for communities in these towns were generally below the NSW average, although one SA1 in Coleambally reported a rate of unemployment marginally above NSW. Key industries of employment for residents of SA1s in the towns of Jerilderie and Coleambally included:

- Agriculture, forestry and fishing, with this industry employing about one in five workers in Jerilderie and between 14.8% and 18% in Coleambally
- Retail trade in Jerilderie, with this industry employed 14% and 17.2% of residents in these SA1s
- Social services, including education and training in Coleambally, with about 14% of workers in each SA1 were employed in this industry, and health care and social assistance, which employed 9.5% and 13.3% of workers in the Jerilderie SA1s, and about 8.6% of workers in the Coleambally SA1s
- Construction, with this industry employing 7.1% or 8.4% of workers in the Jerilderie SA1s, and 17.2% and 8.1% in the Coleambally SA1s.

### 4.2.2 Housing

This section presents information on private housing in the primary and secondary study area, including housing tenure and private rental housing. Details on visitor accommodation available in the study areas is in **Section 4.3.3**.

## Dwellings

There were 1,939 private dwellings in the primary study area at the 2021 Census, of which 1,613 dwellings (about 83%) were occupied. Consistent with other rural and regional areas, single houses are the predominant dwelling type, with separate dwellings representing 96% of all occupied private dwellings.

The towns of Jerilderie and Coleambally had a total of 646 dwellings in 2021, of which about 84% were occupied on Census night.

At the 2021 Census, about 44% of occupied private dwellings were owned outright, while a further 25.6% were owned with a mortgage. There were 275 households that were renting at the 2021 Census, representing about 17% of occupied private dwellings. Approximately 51.3% of rental dwellings (141 dwellings) were rented from a person not in the same household such as a family member, with only 14.5% rented through a real estate agent. This is compared to 14.6% dwellings rented from a family member or other person and 69.1% rented through a real estate agent in NSW. Approximately 32.4% of rental dwellings in the primary study area were being rented through an 'other landlord type' such as a caravan park or employer, which was well above the NSW average (2.9%).

The town of Jerilderie had a relatively high proportion of owner-occupied dwellings (i.e. dwellings that were owned outright or owned with a mortgage) (76.1%) compared to NSW (64%) at the 2021 Census. At the same time, owner-occupied dwellings comprised approximately 67.2% of dwellings in Coleambally. There was a total of 137 rental dwellings in the towns of Jerilderie and Coleambally at the 2021 Census, which represented approximately 50% of rental dwellings in the primary study area. Coleambally had a very high proportion of dwellings that were rented from a family member or other person (at 53.8% of rental dwellings).

## Rental housing

More recent information on rental housing is available at an LGA level from the NSW Department of Communities and Justice. This includes information on median rents and rental bonds held by the Renting & Strata Services Branch (RSSB) of the NSW Office of Fair Trading. While it is noted that the total number of bonds held by the RSSB does not equal the total number of rental properties (i.e. some properties may be vacant or bonds may not be held by some rental properties such as those rented informally through a family member), the number of active bonds provides an indication of the total rental housing stock available in the LGA (i.e. the more active bonds, the larger the stock of rental housing). The number of new bonds lodged also provides an indication of the overall availability of rental housing in a specific period due to turnover of existing rental housing or additions to the stock of rental housing.

**Table 4-1** presents information on the total number of bonds held and bonds lodged for the December quarter between 2018 and 2021, along with information on the change in rental bonds from the previous year. In December 2021, there were 917 rental houses in the Murrumbidgee and Edward River LGAs, of which 81% are within the Edward River LGA. This is likely to reflect the location of Deniliquin in this LGA. The number of rental houses in these LGAs has remained stable over recent years, although there has been a decline in the number of new rental houses becoming available in the Edward River LGA in the December quarters of 2020 and 2021. It is likely that the total number of rental properties in the primary study area is likely to be higher, with 195 dwellings (or about 40% of rental dwellings) rented from a family member or other person for which a rental bond is unlikely to be lodged.

This may reflect the impact of the COVID-19 pandemic and shift of people to regional areas. A decline in the number of rental bonds held may be due to some people either choosing to live in their investment property rather than rent it out, or people renting to a family member for which a bond would not be paid.

More broadly, there were 5,096 rental houses in LGAs covering the secondary study area at the December quarter 2021, of which 2,254 houses (44%) were in the Griffith LGA. Federation and Leeton had the next largest number of rental houses at 934 houses and 839 houses respectively. Each of the LGAs apart from Griffith LGA and Carrathool recorded a decline in the number new rental bonds lodged between 2020 and 2021.

Information on median weekly rents from the RSSB is presented in **Table 4-2**. LGAs covering the primary and secondary study area had lower median rents compared to NSW between 2018 and 2021. Median weekly rents in Edward River and Murrumbidgee LGAs at the December quarter 2021 were \$225 and \$250 respectively, with these remaining relatively consistent over recent years. Median rents in the LGAs covering the secondary study area ranged from \$280 per week in the Berrigan, Leeton and Narrandera LGAs to \$375 per week in the Griffith LGA.

Table 4-1 Rental bonds held by RSSB, December quarter 2018-2021

LGA	December quarter 2018			December quarter 2019			December quarter 2020			December quarter 2021		
	Total bonds held	New bonds lodged	Annual change in new bonds lodged	Total bonds held	New bonds lodged	Annual change in new bonds lodged	Total bonds held	New bonds lodged	Annual change in new bonds lodged	Total bonds held	New bonds lodged	Annual change in new bonds lodged
<b>Primary study area</b>												
Edward River	699	82	-15.46%	732	84	2.44%	744	67	-20.24%	742	56	-16.42%
Murrumbidgee	159	30 or fewer	18.18%	177	30 or fewer	15.38%	174	10 or fewer	10 or fewer	175	30 or fewer	83.33%
<b>Secondary study area</b>												
Berrigan	541	65	-10.96%	518	56	-13.85%	547	51	-8.93%	565	49	-3.92
Carrathool	90	10 or fewer	75.00%	96	30 or fewer	10 or fewer	102	10 or fewer	10 or fewer	99	10 or fewer	10 or fewer
Federation	884	103	25.61%	885	85	-17.48%	936	78	-8.24%	934	65	-16.67
Griffith	2,162	181	-0.55%	2,127	151	-16.57%	2,258	144	-4.64%	2,254	179	24.31%
Leeton	819	82	-1.20%	816	81	-1.22%	823	66	-18.52%	839	55	-16.67%
Narrandera	381	39	30.00%	388	46	17.95%	405	35	-23.91%	405	30 or fewer	-14.29%
NSW	746,478	74,093	7.03%	772,647	76,552	3.32%	813,535	81,202	6.07%	827,004	77,414	-4.66%

 Source: ([Family and Community Services, 2022](#))

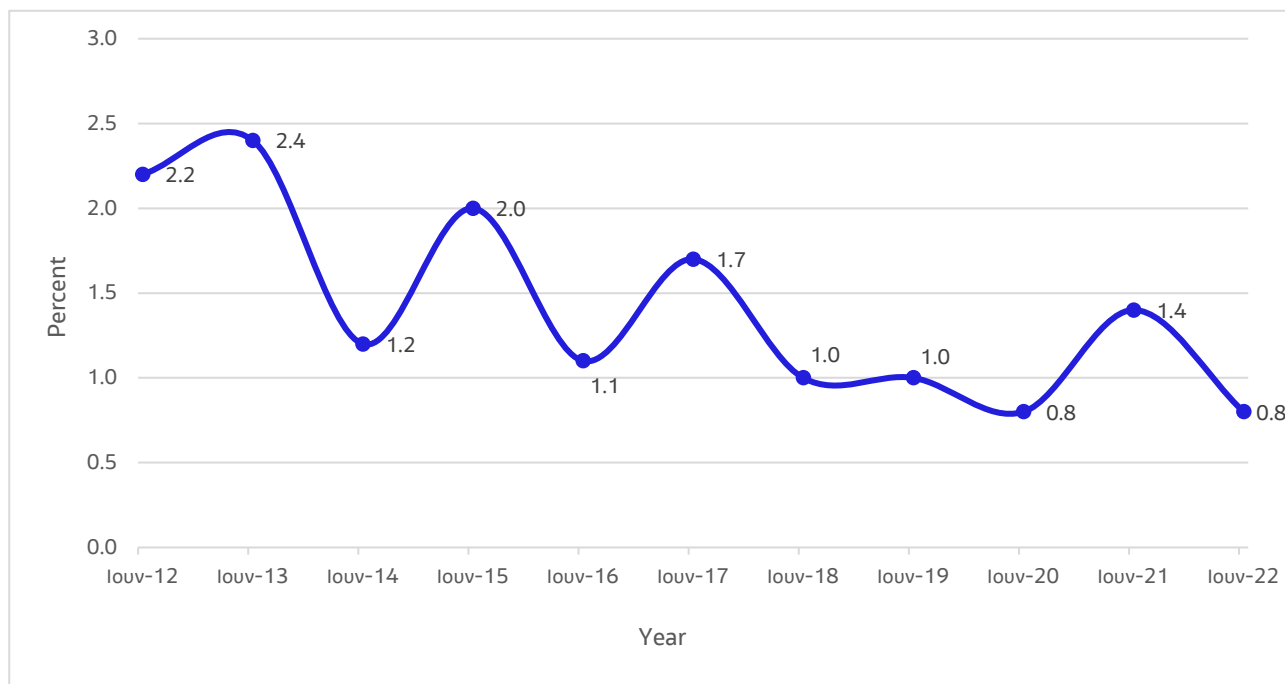
Table 4-2 Median weekly rent for new bonds, December quarter 2018-2021 (\$)

	December Quarter 2018	December Quarter 2019	December Quarter 2020	December Quarter 2021
<b>Primary study area</b>				
Edward River	200	230	230	225
Murrumbidgee	225	195	-	250
<b>Secondary study area</b>				
Berrigan	220	253	240	280
Carrathool	233	-	-	-
Federation	250	260	290	300
Griffith	330	330	360	375
Leeton	250	280	300	280
Narrandera	230	220	240	280
NSW	480	470	465	495

Source: ([Family and Community Services, 2022](#))

Feedback from consultation for this socio-economic impact assessment identified rental housing availability as a key issue for communities in the primary and secondary study areas, with communities reporting low levels of rental vacancies.

Figure 4-7 shows rental vacancy rates for the NSW Real Estate Institute Murrumbidgee division<sup>1</sup> over the 10 years to June 2022. In June 2022, rental vacancy rates in Murrumbidgee was less than 1%, decreasing from a high of 2.4% in June 2013. Apart from a small increase in vacancy rates in June 2021, rental vacancy rates in Murrumbidgee have remained at 1% or less since June 2018, and below 2% since June 2016.



Source: Based on information from REINSW

Figure 4-7 Rental vacancy rates, June 2012 -June 2022

## 4.3 Economy

### 4.3.1 Local business and industry

There was a total of 1,645 businesses in the Edward River and Murrumbidgee LGAs at 30 June 2020, with a further 7,317 businesses in the LGAs covering the secondary study area (ABS, 2022).

The main industries of business in the study areas reflect the importance of agriculture and tourism to local and regional communities. Agriculture, forestry and fishing related businesses comprised the largest proportion of businesses in each of the LGAs covering the primary and secondary study area, with other key business industries being:

- Rental, hiring and real estate services
- Construction
- Accommodation and food services
- Retail trade
- Transport, postal and warehousing (ABS, 2022).

<sup>1</sup> The Murrumbidgee division includes the towns and localities of Ariah Park, Borellan, Berrigan, Coleambally, Conargo, Corbie Hill, Deniliquin, Echuca, Finley, Griffith, Hay, Hillston, Jerilderie, Leeton, Mathoura, Moulamein, Narrandera, Rochester, Swan Hill, Tocumwal, Urana, Yanco

With the exception of agricultural related businesses, most businesses in the primary and secondary study areas are concentrated in towns and centres. In smaller towns, local businesses mainly provide goods and services to cater for the needs of local residents, visitors and surrounding agricultural industries such as supermarkets, hospitality related businesses (e.g. accommodation providers, cafes), and rural and trade supplies and services. Larger towns and centres in the study areas provide a wider range of goods and services to cater for the need of district communities and industries, including construction, transport, professional services related businesses.

The majority of businesses in the LGAs covering the primary and secondary study area comprise small businesses employing up to four people. These include ‘non-employing’ business such as sole traders or partnerships with no employees in addition to the business owners. Apart from the Carrathool LGA, non-employing businesses comprised between about 62% and 66% of businesses in each LGA, with businesses employing between one and four people comprising about a quarter of businesses in each LGA. In Carrathool, non-employing businesses comprised 53.8% of total businesses, while those with between one and four employees comprised about 35% of businesses. Larger businesses employing 20 or more people accounted for between 1% and 2.9% of businesses in the study areas LGAs. The LGAs with the highest proportions of larger businesses included Leeton (2.9%), Griffith (2.8%) and Edward River (2.8%) (ABS, 2022).

### 4.3.2 Tourism

Tourism data for the primary and secondary study area is presented at a tourism region level. The study areas fall into two tourism regions, being:

- Riverina, which includes the major towns of Griffith, Gundagai, Hay, Leeton, Temora, and Wagga Wagga
- The Murray, which includes the main centres of Albury, Corowa, Deniliquin, Moama, Balranald and Wentworth.

Over the 12 months ending December 2021, there were 1.87M domestic overnight and daytrip visitors to the Riverina region and 1.95M visitors to The Murray region (refer to **Table 4-3**). These numbers are likely to reflect domestic and international travel restrictions associated with the COVID-19 pandemic, with pre-pandemic visitor numbers in the order of 2.6M to 2.8M annually for each region. The majority of visitors to the tourism regions are domestic daytrip visitors, most of which come from other areas of NSW.

Visitors over the 12 months ending December 2021 spent a total of \$528 in the Riverina region and \$538M in The Murray region. This was down from the previous years, and is consistent with the decline in visitor numbers due to COVID-19 pandemic travel restrictions (Destination NSW, 2021).

The primary purposes of travel for domestic overnight visitors in 2021 was visiting friends and relatives, and holidays. The Riverina region also attracted a high number of business travellers, with this group making up about 29% of domestic overnight visitors for the 12 months to December 2021. The breakdown of the primary purposes of travel was similar prior to the COVID-19 pandemic, although The Murray region had a higher proportion of business travels and lower proportions of travellers visiting friends and family for the 12 months ending in December 2019 (Destination NSW, 2021).

**Table 4-3 Domestic and international visitors, 2017-2021**

Year ending December	Total visitors ('000)	International	Domestic overnight	Domestic (day trippers)
<b>Riverina region</b>				
2017	2,634	30	986	1,618
2018	2,914	23	1,255	1,636
2019	2,813	25	1,231	1,558
2020	2,189	6	811	1,372
2021*	1,871	No data	858	1,014

Year ending December	Total visitors ('000)	International	Domestic overnight	Domestic (day trippers)
<b>The Murray region</b>				
2017	2,627	25	1,211	1,390
2018	2,687	27	1,178	1,483
2019	2,829	33	1,361	1,435
2020	1,604	5	722	877
2021*	1,954	No data	874	1,080

Note: Total visitor numbers for 2021 exclude international visitors

Source: Destination NSW, 2020 and Destination NSW, 2021

### 4.3.3 Visitor accommodation

Data on visitor accommodation is available from the Australian Accommodation Monitor for tourism regions across NSW. The Australian Accommodation Monitor presents information on the number of accommodation establishments and rooms, occupancy rates and average daily room rates for visitor accommodation such as hotels, motels, serviced apartments and holiday parks with 10 or more rooms. While it does not include data on other accommodation types such as smaller hotels, caravan sites, holiday houses (i.e. rented through Airbnb), or bed and breakfast accommodation, it provides an indication of the likely availability in visitor accommodation across the primary and secondary study areas.

Between July 2020 and June 2021, there was a total of 187 accommodation establishments with 10 or more rooms, offering a combined total of 6,071 rooms (refer to Table 4-4). This included 117 establishments in The Murray tourism region and 70 establishments in the Riverina region. The total number of accommodation establishments increased by about six properties between 2017/2018 and 2020/2021. Over the same period, the number of rooms increased by 251 rooms (or 4.3%), which is compared to an increase of 5% in NSW as a whole.

The average room occupancy rates in 2020-2021 for the Riverina and The Murray tourism regions were 61.6% and 51.3% respectively, which was above the room occupancy rate for NSW. These occupancy rates are likely to be influenced by travel restrictions implemented over the COVID-19 pandemic, with pre-pandemic occupancy rates in the order of 67% for the Riverina region and up to 59% in The Murray region, compared to up to 79% in NSW (STR, 2020; STR, 2021a; STR, 2021b).

It is expected that the easing of travel restrictions related to COVID-19 may see room occupancy rates increase in 2021/2022 and beyond. This was reflected in feedback during consultation for this socio-economic impact assessment, with one visitor accommodation owner indicating that their accommodation had been 'pretty booked out' since the end of COVID-19 lockdowns.

**Table 4-4 Visitor accommodation, 2017-2018 to 2020-2021**

Year	Region	Number of properties	Number of rooms	Ave. room occupancy rate
July 2017 – June 2018	Riverina	68	2,226	67.4%
	The Murray	113	3,594	59.0%
	NSW	1,784	87,957	79.0%
July 2018 – June 2019	Riverina	70	2,260	67.9%
	The Murray	114	3,627	57.5%
	NSW	1,808	89,288	77.8%
July 2019 – June 2020	Riverina	70	2,259	59.1%
	The Murray	117	3,787	51.1%
	NSW	1,799	88,250	61.7%
July 2020 – June 2021	Riverina	70	2,259	61.6%
	The Murray	117	3,812	51.3%

Year	Region	Number of properties	Number of rooms	Ave. room occupancy rate
	NSW	1,859	92,378	47.4%

Source: STR, 2020; STR, 2021a; STR, 2021b

A search of Google undertaken in May 2022 identified a range of visitor accommodation establishments in the primary and secondary study area (refer to **Table 4-5**). There are about 62 visitor accommodation providers within towns up to about a one-hour drive from the Project area, offering various accommodation options including hotels, motels, motor inns and caravan parks with multiple rooms, B&Bs, and individual holiday houses and apartments. A further 154 accommodation providers are located in towns and centres between about a one hour and a 1.5-hour drive from the Project area. In addition, there are likely to be a range of other smaller accommodation types such as holiday houses and apartments rented through holiday rental sites such as Airbnb.

Towns and centres within about an hour of the Project area with the highest number of accommodation providers include Tocumwal, Deniliquin, Jerilderie and Finley. Further from the Project area, Yarrawonga and Corowa both offer a range of accommodation types, including hotel/ motel, caravan parks and holiday houses and apartments.

**Table 4-5 Visitor accommodation options in the study areas**

Town/ centre	Approximate distance from the Project area*		Visitor accommodation**			Comment
	Kilometre	Time	Hotel, motel, motor inn	Caravan, holiday park/ village	Other	
Jerilderie	35 km	26 mins	5	1	2	Motel and caravan park in one establishment. Other accommodation includes apartment and bed and breakfast (B&B)
Coleambally	56 km	38 mins	2	1		-
Finley	71 km	50 mins	6	1		-
Berrigan	71 km	50 mins	3			-
Darlington Point	74 km	48 mins	1	2		-
Deniliquin	80 km	54 mins	9	5	2	Other accommodation includes golf resort and B&B
Oaklands	88 km	62 mins	1			-
Urana	91 km	60 mins		1		-
Tocumwal	92 km	65 mins	10	4	6	Other accommodation includes golf resort, holiday apartments, and B&B
Koonoomoo (Victoria)	101 km	71 mins				No visitor accommodation
Barooga	103 km	70 mins	9		1	Other accommodation includes golf resort
Daysdale	107 km	73 mins				No visitor accommodation
Cobram (Victoria)	108 km	76 mins	4	2	2	-

Town/ centre	Approximate distance from the Project area*		Visitor accommodation**			Comment
	Kilometre	Time	Hotel, motel, motor inn	Caravan, holiday park/ village	Other	
Yarroweyah (Victoria)	109 km	77 mins				No visitor accommodation
Whitton	112 km	71 mins			1	Other accommodation includes holiday apartments
Corowa	112 km	77 mins	27	6	28	Other accommodation includes holiday apartments/ houses/ cottages and B&Bs
Carrathool	115 km	77 mins				No visitor accommodation
Yanco	126 km	78 mins	1			-
Narrandera	126 km	81 mins	11	2	2	Other accommodation includes holiday house and B&B
Yarrawonga (Victoria)	123 km	85 mins	20	10	18	Other accommodation includes golf resort, holiday house, and apartments
Leeton	132 km	85 mins	6	1	3	Other accommodation include holiday apartments

Notes: \*Distance measured using Google Maps from the junction of Moonbria Road and Wilson Road north of Yanco Creek.  
\*\*Based on Google hotel search undertaken on 30 May 2022

## 4.4 Social infrastructure

There is no social infrastructure in areas surrounding the Project area. Social infrastructure in the study area such as schools, recreation facilities, cultural facilities, and health and emergency services are mainly located in towns such as Jerilderie and Coleambally. Social infrastructure in Conargo is limited and includes a primary school and visitor information centre. Social infrastructure in towns within the primary study area are outlined in Table 4-6.

Table 4-6 Social infrastructure in the primary study area

Type of facility	Facilities	
<b>Jerilderie</b>		
Education facilities	<ul style="list-style-type: none"> <li>Jerilderie Early Learning Centre</li> <li>Jerilderie Public School</li> </ul>	<ul style="list-style-type: none"> <li>St Joseph's Primary School</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>Jerilderie Multi-Purpose Service / Jerilderie District Hospital</li> </ul>	<ul style="list-style-type: none"> <li>Jerilderie Medical Centre</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>Fire and Rescue NSW Jerilderie Fire Station</li> </ul>	<ul style="list-style-type: none"> <li>Jerilderie Police Station</li> </ul>

Type of facility	Facilities	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• Jerilderie Sports Club</li> <li>• Monash Park (football ground)</li> <li>• Jerilderie Golf Club</li> <li>• Jerilderie Swimming Pool and Sports Complex</li> <li>• Luke Park and Jerilderie Lake</li> </ul>	<ul style="list-style-type: none"> <li>• Brew Park</li> <li>• Elliott Park and Jerilderie Skate Park and Pump Track</li> <li>• Memorial Park</li> <li>• Jerilderie Nature Reserve</li> <li>• Jerilderie Racecourse</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Jerilderie Uniting Church</li> <li>• St Stephen's Anglican Church</li> </ul>	<ul style="list-style-type: none"> <li>• Jerilderie Library</li> <li>• Old Printery Museum</li> </ul>
Community organisations	<ul style="list-style-type: none"> <li>• Country Women's Association</li> <li>• Men's Shed</li> </ul>	
<b>Coleambally</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Coleambally Central School Careers</li> <li>• St Peter's Primary School</li> </ul>	<ul style="list-style-type: none"> <li>• Coleambally Central School</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>• Coleambally Medical Centre</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>• Coleambally Fire Station</li> <li>• Coleambally Rescue Squad – NSW Volunteer Rescue Association</li> </ul>	<ul style="list-style-type: none"> <li>• Coleambally Ambulance Station – NSW Ambulance</li> </ul>
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• Coleambally Sport and Recreation Complex</li> <li>• Coleambally Community Club</li> <li>• Coleambally Skatepark</li> <li>• Coleambally Equestrian Centre</li> <li>• Coleambally Golf Club</li> </ul>	<ul style="list-style-type: none"> <li>• Coleambally Squash Club</li> <li>• Apex Park</li> <li>• Coleambally Lions Park</li> <li>• Curlew Park</li> <li>• Coleambally Pistol Club</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Coleambally Community Hall</li> <li>• St Peters Catholic Church</li> </ul>	<ul style="list-style-type: none"> <li>• St Mark the Evangelist Anglican Church</li> </ul>
Community support facilities	<ul style="list-style-type: none"> <li>• Tirkandi Inaburra Cultural and Development Centre</li> </ul>	
<b>Conargo</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Conargo Public School</li> </ul>	
Cultural facilities	<ul style="list-style-type: none"> <li>• Conargo Church</li> </ul>	<ul style="list-style-type: none"> <li>• Conargo Tourist Information Centre</li> </ul>

Towns and centres in the secondary study area accommodate a range of local, district and regional level services and facilities. Larger centres such as Deniliquin, Tocumwal, Corowa and Yarrowong provide a broad range of services and facilities that cater for the needs of local and regional residents, visitors and workers.

Key community services and facilities in the secondary study area include:

- Secondary and tertiary education facilities (e.g. TAFE) - in Deniliquin and Corowa
- Hospital and health care facilities - including Deniliquin Hospital and Health Services, Berrigan Memorial Hospital, Urana Multi-purpose service, Tocumwal Hospital, Cobram Hospital and Corowa Hospital
- Sport and recreation facilities - including formal sporting facilities (e.g. sporting ovals, golf courses, swimming pools, racecourses) and informal recreation facilities such as parks, reserves, skateparks, botanic gardens
- Cultural facilities - including museums and art centres
- Community facilities - such as RSL clubs in Deniliquin, Oaklands, Tocumwal and Corowa; community halls in Deniliquin, Berrigan, Urana, Yarroweyah, and Corowa.

Further information on social infrastructure in towns and centres in the secondary study area is in **Appendix C**.

## 4.5 Community values

Community values relate to things that communities hold as important for quality of life and well-being. They include physical elements such as parks, landscapes and connectivity, and intangible quality such as sense of place and community cohesion. Social infrastructure and demographic characteristics and local features are also valued by local communities.

This section provides an overview of community values important to communities in the study area, including those relating to local amenity and character, community cohesion and community wellbeing and safety. It has been informed by the engagement undertaken by Virya Energy for the Project and review of existing literature.

Local amenity and character of the primary study area is influenced by the areas agricultural land uses, rural landscapes and lifestyles, natural features such as creeks and waterways, and heritage and history, including history associated with the activities of bushranger Ned Kelly and his gang, Sir John Monash, and the area's agricultural development. Jerilderie and Coleambally are the main towns within the primary study area, with these supporting agricultural pursuits of the surrounding area and providing a focus for community life.

Feedback from the LVIA survey undertaken for the Project identified the importance of the area's agriculture, local history, rural landscape and scenic beauty. The ecological heritage and biodiversity, and recreational opportunities were also identified as important attributes of the primary study area. Specifically, survey respondents identified that they valued:

- Waterways including creeks (e.g. Billabong Creek) and Lake Jerilderie (refer to **Figure 4-8**), with the lake and areas along the creeks identified as the best lookouts and public viewing locations for showcasing the local area
- Unique views, including sunrise and sunset views across the plains
- Unspoiled natural environment and landscape, including wild life conservation areas
- Clear and clean serenity
- Natural pastoral country, and country environment with open surrounding riverine plains
- The area's historic places.

Consultation for the socio-economic impact assessment also identified the openness and vastness of the landscape as being important to the character of the area along with the sense of freedom and safety of the community was also identified.



Figure 4-8 Lake Jerilderie

The importance of grazing was identified through consultation for the Project, with this forming a major source of income and employment in the primary study area. Communities in the primary study area and surrounding region are also important tourist destinations. In particular, the area's natural features, rural landscapes, and history and heritage key attractions for tourists and visitors, providing economic and employment benefits for residents and business owners.

The area immediately surrounding the Project comprises rural uses with few residents. Approximately 20 dwellings are located within 8 kilometres of the proposed WTGs, of which 11 are located on Host or

Associated properties. Locations within about 8 kilometres of the Project have potential to be most visually affected by the proposed WTGs. The importance of the natural vistas and uninterrupted views of the countryside was identified during consultation for this assessment, with concerns raised about potential for the Project to change the landscape and views from town.

Local communities in the primary study area display a strong sense of community and pride, with high levels of volunteerism, including around community events, sporting clubs (e.g. netball, football and swimming clubs) and community organisations (e.g. Country Women's Association, Tidy Towns, Church Op Shop), participation in community activities, and sense of caring about the community and people. At the 2021 Census, approximately 29% of people in the study area aged 15 years or over indicated that they undertook voluntary work for an organisation or group, with this increasing to more than one in three people (i.e. above 33%) for numerous rural communities. This is compared to a volunteer rate of about 13% in NSW (ABS, 2021).

Feedback from community members from the LVIA survey and consultation undertaken for the socio-economic impact assessment indicated that residents actively participate in community life and are passionate about their communities. In particular, survey respondents indicated that they valued the community and family associations of the area, and enjoyed participating in a range of community activities, including sport, community events, including the Jerilderie Working Dog Auction and events held at Lake Jerilderie, fundraising for community projects, and the town's history. Feedback from consultation for the socio-economic assessment also indicated that people feel a part of something and it was great to be part of the community, and that the community valued that people look after each other, and care about the community and growing it.

Communities in the primary and secondary study areas host a range of community events, including those that celebrate the region's agricultural produce, culture, heritage and history. These events attract visitors from across the wider region and NSW, as well as interstate and international visitors. Examples of some key events include:

- Deni Ute Muster in Deniliquin, held in September/October each year and attracting about 20,000 visitors
- Deni Fest in Deniliquin, which is an arts and cultural event held annually over the Easter weekend
- Griffith Spring Fest, held annually in October
- A Taste of Italy Griffith, held annually in August
- Australian Art Deco Festival in Leeton, held in July
- Taste Coleambally Food and Farm Festival (Taste Coly), held biannually in August
- Weekly or monthly markets, for example Leeton Farmers Market, Yanco Village Markets, Griffith Rotary Markets, and Riverina Producers Market.

The population profile and levels of home ownership indicate older and more stable communities in the primary study area. Feedback from the LVIA survey indicate that community members value the community and family associations along with the area's agriculture. While communities are likely to have a strong connection to farming and agricultural pursuits, survey respondents acknowledged the importance of the proposed wind farm in helping landowners to diversify their income, bring investment to the region, and deliver local economic opportunities such as jobs, business opportunities and tourism.

## 4.6 Local access

Communities in the study area are serviced by a range of transport infrastructure, including major roads, local roads and bus services.

Major roads in the study area provide access for residents, visitors, business and industry. They include:

- Kidman Way, a 644-kilometre sealed State road that provides north-south connectivity throughout the Riverina and Far West regions of NSW, providing access to Coleambally (via Pine Drive) and passing through Darlington Point in the secondary study area
- Newell Highway, a 1062-kilometre sealed State road that forms part of the National Land Transport Network, passing through Jerilderie, Finley and Tocumwal in the primary and secondary study areas (refer to **Figure 4-9**).
- Sturt Highway, a 950-kilometre sealed State road that functions as the major interstate corridor for freight and passenger movements between Adelaide to Sydney.



Figure 4-9 Newell Highway through Jerilderie near Murrumbidgee Council office (looking east)



Figure 4-10 Newell Highway through Jerilderie near Bolton Street (looking west)

Several local roads traverse the primary study area, with these providing access to towns, farming properties and other destinations. These include:

- Liddles Lane, a 19-kilometre unsealed road extending east-west between Kidman Way and Wilsons Road, that primarily provides access to rural properties
- Jerrys Lane, a 11-kilometre unsealed local road that extends east-west between Kidman Way and Liddles Lane, providing local access to rural properties.

There are no local public bus services in the vicinity of the Project, although two regional coach services operate on sections of Kidman Way and the Newell Highway. They include the Wagga Wagga to Echuca service (operated by NSW TrainLink) and the Griffith to Melbourne via Shepparton service (operated by V/Line).

A network of school buses also operate on roads within the primary study area that provide access to schools in the towns such as Coleambally. Walking and cycling facilities are mainly limited to towns and centres in the primary and secondary study area.

Further details on traffic and transport in the study areas is provided in the Traffic and transport technical report (Jacobs, 2022b).

## 5. Summary of community and stakeholder feedback

This section includes community feedback captured by Virya Energy's broader engagement program for the Project and consultation undertaken by Jacobs for this Socio-economic Impact Assessment.

**Table 5-1** provides a summary of key issues relevant to this socio-economic assessment raised through consultation undertaken by Virya Energy, including with near neighbours, local Councils, government agencies, and community members. **Table 5-2** summarises feedback from the landscape and visual impact assessment survey undertaken in April 2022 relevant to this assessment, while **Table 5-3** provides a summary of issues raised in consultation carried out of this assessment.

**Table 5-1 Summary of issues – Virya Energy community and stakeholder consultation**

Theme	Summary of feedback
Property impacts	<ul style="list-style-type: none"> <li>Concerned about the loss of productive land</li> <li>Need to offset from neighbouring residents</li> <li>Question whether grazing could continue during operation of the Project</li> </ul>
Community benefits	<ul style="list-style-type: none"> <li>Value of community benefit fund and how the fund could be split</li> <li>Economic opportunities</li> <li>Potential business opportunities</li> <li>Receptive to potential investment in the region</li> </ul>
Equity of impacts and benefits	<ul style="list-style-type: none"> <li>Question whether electricity generated by the Project supply power to Jerilderie</li> <li>Concerned that Project was creating renewable energy that would not be available to power local homes and businesses</li> </ul>
Community values	<ul style="list-style-type: none"> <li>Appreciate the vastness and emptiness of the landscape and uninterrupted views of the countryside</li> <li>Concerned about loss of vegetation, including removal of trees and scrub</li> <li>Impact of the wind turbines on the landscape and possibility of seeing the wind farm from town</li> <li>House is surrounded with trees and not concerned about seeing turbines</li> <li>Importance of grazing to the region, with this forming a major source of income and employment in the area</li> </ul>
Other energy infrastructure	<ul style="list-style-type: none"> <li>Concerned about disparity in payments to landowners hosting energy infrastructure for various projects (e.g. transmission lines, wind turbines, solar panels)</li> <li>Location of transmission lines related to other developments</li> </ul>
Other issues	<ul style="list-style-type: none"> <li>Concerned by the health impacts of wind farms</li> <li>Transport routes to be used by Project vehicles</li> </ul>

**Table 5-2 Summary of issues – Landscape and visual impact assessment survey**

Theme	Summary of feedback
Landscape, natural and built environment features and values	<ul style="list-style-type: none"> <li>Value agricultural way of life in unspoiled natural landscape</li> <li>Always enough water in creek and lake</li> <li>Clear and clean serenity</li> <li>Natural pastoral country</li> <li>Area is mostly unspoilt natural landscape</li> <li>Unspoiled natural environment, wildlife conservation area, scenic beauty</li> <li>Lake Jerilderie, Billabong Creek</li> <li>Unique views</li> <li>Historic places</li> <li>Pristine creek, country environment with open surrounding riverine plains</li> </ul>

Theme	Summary of feedback
	<ul style="list-style-type: none"> <li>• Lookout and viewing locations including creeks, lake, sunrise and sunset views across the plains</li> </ul>
Impacts on environmental values	<ul style="list-style-type: none"> <li>• Against noise levels wind farms generate which is very bad</li> <li>• Project will be close to Yanco Creek</li> </ul>
Economic benefits	<ul style="list-style-type: none"> <li>• Local economic opportunities</li> <li>• Job opportunities</li> <li>• Help landowners diversify their income</li> <li>• Good for town development</li> </ul>
Valued local or community activities	<ul style="list-style-type: none"> <li>• Sports</li> <li>• Fundraising community projects</li> <li>• Lake events and outdoor music concerts</li> <li>• Jerilderie Working Dog Auction</li> <li>• History of the town</li> <li>• Bushwalking</li> <li>• BBQs</li> </ul>
Community benefit fund opportunities	<ul style="list-style-type: none"> <li>• Sporting</li> <li>• Better education opportunities</li> <li>• Job opportunities</li> <li>• The John Monash and Ned Kelly statues to go into park</li> <li>• Don't think the Project is a benefit to the community</li> </ul>

Table 5-3 Summary of issues – Socio-economic assessment consultation

Theme	Summary of feedback
Property impacts	<ul style="list-style-type: none"> <li>• Access track will cut off the stock feeding areas, because of the loss of land.</li> <li>• Concerned about farmers who are getting transmission infrastructure and not being paid the same as those getting turbines.</li> </ul>
Employment and business	<ul style="list-style-type: none"> <li>• Project will be very positive for the town and businesses in the area</li> <li>• Project will mean jobs</li> <li>• Project would provide local business opportunities</li> <li>• Increase in people in town, money coming into town may provide opportunities</li> <li>• Businesses currently finding it difficult to get local workers <ul style="list-style-type: none"> <li>- Hard to get labourers</li> <li>- Low level of unemployment</li> <li>- Stop to international travel during COVID-19 saw drop in workers</li> </ul> </li> <li>• Opportunity to work with local high schools (i.e., on traineeships for youth)</li> </ul>
Community values	<ul style="list-style-type: none"> <li>• Appreciate the openness and vastness of the landscape</li> <li>• Low socio-economic issues facing some members of the community</li> <li>• Importance of public facilities like the swimming pool was noted – keeps kids out of the creek, which is dangerous and muddy. The pool was recently refurbished but further funding is needed</li> <li>• Concerns about equity of impacts versus long-term benefits <ul style="list-style-type: none"> <li>- Electricity prices are nearly double those in Sydney</li> <li>- Power from the Project will go to Sydney</li> <li>- Question the long-term community benefit due to the South East REZ – community understand why it is needed but need some long-term benefits for the community.</li> <li>- The highest impact of the South East REZ will be between Jerilderie and Coleambally.</li> </ul> </li> </ul>

Theme	Summary of feedback
Local character and community cohesion	<ul style="list-style-type: none"> <li>• Kids in Jerilderie are quite free and safe</li> <li>• Appreciate the community, pool and freedom</li> <li>• Community feels like they are a part of something – everyone looks after each other, care about the community and about growing it</li> <li>• Awesome place to live and it is great to be part of the community</li> <li>• Appreciate people who do things for the community</li> <li>• Community organisations and groups include Health Advisory Committee, Tidy Towns, Apex Club, Anglican Church Op-shop, Swimming Club</li> <li>• Netball and football are very big, golf is popular</li> <li>• Previously issues with labourers who would drink to much during free time and cause trouble</li> </ul>
Visual impacts	<ul style="list-style-type: none"> <li>• How far will the turbines be seen from town</li> <li>• Concerned that will see the turbines from property</li> <li>• Worried that the Project will change the landscape and the openness – perceived loss of natural vista which they have grown up with</li> </ul>
Concerns about natural hazards	<ul style="list-style-type: none"> <li>• Potential fire threat from wind farm – lot of grassland around the Project</li> <li>• Concerned about fire threat and wind storms – get tornadoes through here every couple of years. Worried about the potential damage that could be caused by the turbines during tornadoes and subsequent impact on the surround vegetation and people</li> <li>• Potential impact of the wind turbines on use of water bombers</li> </ul>
Environmental values and issues	<ul style="list-style-type: none"> <li>• Concerned about the noise</li> <li>• Worried about the Project's impacts on Eagles and Plains Wanderer</li> <li>• Concerned about potential impacts on vegetation such as the Swainson Pea</li> <li>• Community concerns about impacts on bird life</li> <li>• Impact of low frequency sound on animals</li> </ul>
Social infrastructure	<ul style="list-style-type: none"> <li>• Potential for high impact on health services – up to seven week wait to get to see a GP</li> <li>• Currently one full-time doctor in Jerilderie and part-time doctor (0.5 time) in each of Darlington Point and Coleambally</li> <li>• Local hospital has had trouble getting nurses requiring the accident and emergency department to close overnight for three months – emergency patients were taken to Finley</li> <li>• Council currently subsidise GPs with accommodation</li> </ul>
Housing and accommodation	<ul style="list-style-type: none"> <li>• Housing is the most important issue – Darlington Point has some places that accommodate short-term workers</li> <li>• Rental accommodation is at a premium, with the vacancy rate being 0.7% or less – high older age population and lot of people on fixed incomes</li> <li>• Not enough accommodation in town (Jerilderie)</li> <li>• Noted that B&amp;B had been 'pretty booked out' since end of COVID-19 lockdowns</li> <li>• Lot of people stopping in town on their way to Queensland, Melbourne or Adelaide</li> <li>• Busy periods at the caravan park when grey nomads head out of Victoria after Easter and then again in September when they head back.</li> <li>• Ability for the project to get positive results – if there is the ability for projects to build houses, would be able to sell at the end of construction</li> </ul>
Traffic impacts	<ul style="list-style-type: none"> <li>• Concerns about the roads – only one main road and a lot of the farmers use the same roads to get in and out. Concerns raised about increased traffic and damage this would have to already damaged road</li> <li>• Often contractors would not follow the road rules</li> </ul>

Theme	Summary of feedback
	<ul style="list-style-type: none"> <li>• Lot of trucks impact on local roads – with other large-scale developments, number of trucks increase once construction gets going</li> <li>• Issues with some roads during wet weather – some roads are not all weather roads and are closed or impassable at times (e.g., McLennans Bore Road)</li> <li>• Farmers have trucks going up and down the road during harvest</li> </ul>
Other energy infrastructure	<ul style="list-style-type: none"> <li>• Worried about the impact of solar panels on the landscape – given the landscape is vast and empty</li> <li>• Worried about the spread of box thorn via the bird presence that would be invited to use the solar panels. As birds are known to rest on the solar panels and naturally move box thorn around properties through their poo and then the spread of the box throne promotes rabbits, which is a significant problem</li> <li>• Some people not too happy about the power lines</li> </ul>

## 6. Potential construction impacts

This chapter describes potential impacts on socio-economic values and conditions during Project construction.

### 6.1 Property

Potential property impacts during construction would mainly be associated with the temporary use of land to support construction activities (e.g., temporary site compounds and establishment of access tracks for the transport of WTG components) and amenity impacts for occupants of host properties and surrounding rural properties due to construction noise, dust and traffic.

Construction activities for the Project would generally be contained within the properties that make up the Project area and temporary use of additional property would not be required.

During construction, landowner use of and access to areas used for construction activities and temporary construction facilities would be restricted. This may result in temporary disruptions to the use of land within the landowners' wider property for grazing, irrigated cropping or other agricultural activities, and subsequent effects on some agricultural enterprises. Temporary removal of some farming infrastructure such as fencing and gates may also be required to allow construction access, possibly requiring temporary changes to existing farming operations (e.g. temporary disruption to the use of some paddocks). Potential disruptions to agricultural operations and rural activities may also occur from the conduct of construction workers in relation to site access (e.g. leaving gates open) and accidental damage to farm infrastructure such as fencing.

The development and implementation of land access agreements and protocols for construction workers with Host Landowners would assist in managing potential impacts relating to property access during construction. Ongoing engagement with affected property owners about the timing and duration of construction activities would also be undertaken in accordance with the Community and Stakeholder Engagement Plan. This would help to manage potential disruptions for landowners from construction activities.

Following construction, areas affected by construction activities that are not required for ongoing operation of the Project would be rehabilitated in consultation with the landowner. Any farming infrastructure temporarily removed and not requiring permanent relocation for the Project would also be reinstated in consultation with the landholder. Further discussion about land use and property impacts is provided in the EIS.

Discussion about temporary disruptions from construction activities on the amenity of properties within and surrounding the Project area is provided in **Section 6.7.1**.

### 6.2 Population and demography

During construction, potential impacts on population and demography would mainly be associated with the temporary influx of non-local construction workers in towns and centres surrounding the Project. As indicated in **Section 3.4**, the Project is anticipated to require a workforce of about 300 people during the 12-month peak construction phase, and about 150 people during the other two years of construction.

Where possible, workers would be sourced from towns and centres up to about a 1.5-hour commute from the Project area (i.e. 'local workers'). However, it is expected that workers would be required outside of the primary and secondary study areas (i.e. 'non-local workers') where specialist skills are not readily available in the local labour force or insufficient unemployment labour is available for lower skilled positions. Further discussion about employment impacts, both positive and negative, is provided in **Section 6.4**.

As indicated in **Section 3.4**, this assessment considers two scenarios relating to the breakdown of local and non-local workers, being 50% local workforce and 80% local workforce. Assuming between 50% and 80% of workers would be able to be sourced locally, it is anticipated that the influx of non-local workers to towns and centres surrounding the Project area would range from:

- 60 people to 150 people during the peak construction period
- 30 people to 75 people during the non-peak construction periods.

Consistent with many other energy and resource projects elsewhere, it is anticipated that most non-local workers would work on a 'drive-in/ drive-out' basis from major centres in regional Victoria or NSW, or capital cities such as Melbourne or Sydney (i.e. weekly, fortnightly or monthly) rather than relocate to the primary or secondary study areas for the duration of construction. It is also expected that where possible, the non-local workforce would seek housing and accommodation in towns near to the Project area (i.e. towns such as Jerilderie, Coleambally, Darlington Point and Deniliquin in the Murrumbidgee and Edward River LGAs).

Based on the 2021 estimated resident population (refer to **Section 4.1**), this would result in a temporary population increase during the 12-month peak construction period of between 0.5% and 1.2% across the Murrumbidgee and Edward River LGAs collectively. During the non-peak construction phase, the population increase would be between 0.2% and 0.6%.

Since 2016, the combined population of the Murrumbidgee and Edward River LGAs grew at an average of 0.2% annually, ranging between -0.1% and 0.5%. The temporary population increase from the Project is expected to be similar to or above recent population growth. It is anticipated that the temporary population increase is likely to be skewed towards young males, given the nature of employment opportunities during construction, which may reinforce the existing gender distribution across these LGAs (e.g. 50.3% males to 49.7% females).

While these temporary changes in population and demography may be noticeable in smaller towns such as Jerilderie, Coleambally, and Darlington Point, it is unlikely to impact on population and demography in larger towns such as Deniliquin. Further, towns near the Project currently experience temporary fluctuations in population associated with seasonal tourism and major events such as the Deniliquin Ute Muster. As such, there is likely to be some capacity in local towns to respond to temporary changes in population and demography.

Construction related employment for the Project would increase local employment opportunities available to communities in the primary and secondary study areas. Towns and centres within the secondary study area generally have older populations with all towns apart from one, reporting proportions of older people above the NSW average (refer to **Appendix B**). Employment associated with the Project may provide opportunities for young people to remain in towns and centres near the Project and gain skills in the construction industry and renewable energy sector, as well as attract younger people from regional centres and cities. This is likely to impact positively on population and demography across the primary and secondary study area, with the retention and attraction of young people important for future growth and vitality of towns and centres.

### 6.3 Housing and accommodation

During construction, potential impacts on housing and accommodation would mainly result from increased demand from construction workers. As indicated in **Section 6.2**, workers would be sourced from existing towns and centres up to about a 1.5-hour commute where possible. This would help to minimise the Project's demand for housing and accommodation in the towns near the Project. However, it is anticipated that construction workers would also come from outside of the study areas, and would need housing and accommodation in towns near the Project.

Based on the assumptions regarding the breakdown of local and non-local workers, it is anticipated that up to 75 workers would require accommodation during non-peak construction periods, with this increasing to about 150 workers over the 12-month peak period. It is expected that the construction workforce would seek to use a mix of short-term visitor accommodation and private rental accommodation and that the non-local workforce would seek housing and accommodation in towns near to the Project area where possible (i.e. in towns such as Jerilderie, Coleambally, Darlington Point, and Deniliquin in the Murrumbidgee and Edward River LGAs).

Information on rental bonds held by the RSSB suggests that there were 917 rental houses in the Murrumbidgee and Edward River LGAs in the December quarter 2021. Up to 9.4% of rental houses (86 houses) were available to rent over the quarter. While the number of rental properties has remained stable over recent years, the number of properties available for rent declined from about 13% in 2018/2019. The lower turnover of rental properties in 2020/ 2021 is likely to be influenced by the COVID-19 pandemic. As indicated in **Section 4.2.2**, the rental housing stock is likely to be higher with about 141 dwellings in the primary study area rented from a family member or other person for which a rental bond is unlikely to be lodged.

While there appears to be some capacity in the availability of rental accommodation in the LGAs covering the primary study area, housing shortages are reported across regional NSW, including the Riverina region (Twyford, 2021), with vacancy rates in the primary and secondary study area at 0.8% in June 2022. Increased demand by construction workers for rental housing has potential to impact on the availability of rental housing for existing residents. Specifically, increased demand for housing may put pressure on rental prices to increase, possibly reducing the supply of affordable rental housing. This may increase the levels of housing stress for some vulnerable households on low or fixed incomes. Feedback from consultation for this assessment indicated that there was a high proportion of people on fixed incomes in the primary study area, with this partly due to the older population. Reduced housing affordability and increased housing stress may require some households to forego spending on other items in order to cover higher rental prices, or force some households out of the local private housing market, requiring them to move from the area in search of more affordable rental housing elsewhere.

Maximising the use of short-term accommodation such as motels, cabins, caravans and other 'guest' accommodation would help to ease demand for rental housing and help to reduce pressure on rental prices. As indicated in **Section 4.3.3**, internet searches identified 30 accommodation providers in towns near the Project (e.g. Jerilderie, Coleambally, Darlington Point, and Deniliquin). This includes 17 hotels/ motels/ motor inns, nine caravan/ holiday parks, and four other accommodation types (e.g. B&Bs, golf resort). Information on the number of rooms available at the accommodation establishments is not readily available, however it is conservatively estimated that there would be about 234 'rooms' based on the following average number of rooms per establishment:

- Hotels, motels and motor inns having an average 10 rooms each
- Caravan/ holiday parks having an average of 10 cabins or on-site caravan sites each
- 'Other accommodation' each having an average of one room, noting that some of these include golf resorts that have multiple rooms.

In addition to visitor accommodation in towns near the Project, a total of 62 visitor accommodation providers are located in towns up to about a one-hour drive from the Project area, offering various accommodation options including hotels, motels, motor inns and caravan parks with multiple rooms, B&Bs, and individual holiday houses and apartments. Based on the assumptions above, it is estimated that these would have a total of 530 rooms. A total of 216 accommodation providers were identified within about 1.5 hours from the Project area, with an estimated 1,800 rooms.

As described in **Section 4.3.3**, available tourism data indicates that average room occupancy rates for the Riverina and The Murray regions were 61.6% and 51.3% respectively in 2020-2021, with occupancy rates prior to the COVID-19 pandemic in the order of about 67% for the Riverina region and up to 59% in The Murray region. Feedback from consultation for this socio-economic impact assessment suggests that demand for accommodation bookings has increased following the end of COVID-19 lockdowns. As such, this assessment assumes that the easing of restrictions is likely to see occupancy rates for the Riverina and The Murray regions return to pre-pandemic levels. It is also assumed that the occupancy rates for the Riverina and The Murray regions also apply to visitor accommodation in the primary and secondary study areas. Based on the pre-pandemic vacancy rates it is estimated that between:

- 77 rooms and 95 rooms would be available in Jerilderie, Coleambally, Darlington Point, and Deniliquin
- 175 rooms and 217 rooms in towns up to a one-hour commute from the Project area, including those in Jerilderie, Coleambally, Darlington Point, and Deniliquin.

This suggests that there is capacity in short-term accommodation up to about one hour from the Project to accommodate the construction workforce during the peak and non-peak periods. As indicated in **Section 4.3.3**, there is also likely to be other accommodation types such as holiday houses and apartments rented through holiday rental sites such as Airbnb.

The use of available, under-utilised tourist accommodation for the construction workforce would have positive impacts for accommodation owners, by providing reliable and consistent business throughout the construction phase, particularly during the off-peak tourist periods. This would support increased income for individual accommodation providers, potentially providing opportunities for increased investment in business improvements.

During peak tourism periods such as holidays, long-weekends, and regional events that attract visitors from outside the region (e.g. Deniliquin Ute Muster) demand for visitor accommodation by construction workers

has potential to reduce the availability of some accommodation types for travellers and holiday makers. This may reduce the ability of the tourism sector to meet tourist demand and possibly discourage some people from visiting towns within the primary and secondary study areas during the construction phase. It is likely that some of these peak tourist periods may coincide with periods in which there is less construction activities (e.g. weekends, public holidays), helping to reduce potential impacts for tourists and other visitors.

Demand for housing and accommodation for construction workers, may also reduce the availability of temporary accommodation in the primary and secondary study areas for seasonal workers and working holiday makers that support agricultural producers. Increased housing and accommodation costs may also deter some seasonal workers or working holiday makers from taking up employment in the study areas. This may result in shortages of agricultural workers and affect the ability of farmers to harvest their produce if they are not able to source local workers. These effects are currently being experienced in the Riverina region, with shortages in seasonal workers also exacerbated by the COVID-19 pandemic (ABS, 2022).

Engagement with local accommodation providers, housing support agencies and other relevant stakeholders would be undertaken prior to, and during construction, to assist in managing potential impacts on housing and accommodation. Where possible, planning of construction activities should also consider the timing of major regional events, peak tourist periods and timing of high levels of seasonal workers.

A workforce accommodation strategy would be prepared prior to construction in consultation with Edward River and Murrumbidgee Councils and tourism representatives that outlines strategies to manage demand for accommodation during the construction phase.

## 6.4 Employment and training

During construction, the Project would impact positively on employment through the creation of direct employment opportunities. The Project is expected to create approximately 300 jobs during the 12-month peak of construction and up to 150 jobs during the other two years of construction. The Project is also expected to support additional indirect jobs during the construction phase related to such things as accommodation, trade supplies, transportation, food and drink; as well as through increased economic activity and spending on goods and services to support construction.

Job opportunities offered by the Project was raised as an important benefit of the Project by community members and stakeholders during consultation by Virya Energy and for this socio-economic impact assessment. Where possible, the Project would seek to maximise local employment and source workers from existing towns and centres up to about a 1.5-hour commute from the Project area, subject to the availability of the necessary skills in the local labour force and the level of unemployed labour available for lower skilled positions (e.g. such as traffic management or labourers).

The creation of employment opportunities during construction would support enhanced social outcomes by supporting improved incomes and skills development for individuals. The Project's construction phase is also expected to provide opportunities for apprenticeship, allowing people to gain skills in the construction industry and supporting skills development, income and enhanced opportunities for future employment on construction and energy projects.

Training opportunities and apprenticeships provided for the Project have potential to deliver benefits for groups such as young people, unemployed, women and Aboriginal people, providing people in these groups to gain the skills in the construction and energy industries.

The establishment of the South-West REZ would involve the development of other renewable energy projects in the primary and secondary study areas. Skills and experience gained through the Project would support individuals' employment on future energy and infrastructure projects. As indicated in **Section 4.2.1**, communities in the primary study area had proportions of Aboriginal people above the NSW average. Towns in the secondary study area such as Darlington Point, Whitton and Narrandera reporting very high proportions of Aboriginal people. Some communities in the primary and secondary study area also had proportions of working aged people below the State averages. The Project would provide opportunities to work with Aboriginal representatives and groups representing young people to deliver positive employment and training outcomes for individuals.

The development and implementation of a Local Workforce Strategy for construction would help to maximise social outcomes from project-related employment and training. This would outline such things as strategies

to maximise employment opportunities for residents in the study areas (e.g. communication of opportunities and worker requirements), strategies relating to training and apprenticeships for Aboriginal people, young people, and women, and engagement with local stakeholders about worker requirements.

## 6.5 Business and industry

During construction, the Project is expected to have positive impacts on businesses in the primary and secondary study areas that supply goods and services to support construction activities. Examples include equipment hire, construction materials and equipment, technical contractors, fencing and landscaping, and transport services. Construction expenditure of the Project would also have positive impacts for industries across the State including manufacturing, construction, and professional, scientific and technical services. Further details of state-wide benefits is provided in **Section 6.9**.

Increased trade and expenditure associated with purchases by construction workers is also expected to have positive impacts for businesses (e.g. increased business income, support opportunities to grow business) offering goods and services such as accommodation, retail, hospitality, recreation and personal services. These benefits are most likely to occur in towns in the primary study area closest to the Project area, such as Jerilderie, Coleambally, Deniliquin and Darlington Point, although would extend to towns further from the Project in the secondary study area. This was reflected in feedback from community and stakeholder consultation by Virya Energy and for this socio-economic impact assessment, with potential business opportunities and an increase in the number of people in town with the Project, identified as key benefits of the Project and positives for businesses in the area.

While specialist materials and equipment are expected to be sourced from elsewhere, maximising the use of local suppliers in the procurement of construction related goods and services, where possible, would support improved livelihoods for business owners and employees and business development. These benefits are also likely to help businesses respond to any adverse economic impacts that occurred as a result of the COVID-19 pandemic. The implementation of local procurement strategies such as register of local businesses, communication about business opportunities, and encouraging contractors to source local goods and services, where possible would help to maximise local socio-economic benefits of the Project.

As indicated in **Section 6.3**, increased demand for visitor accommodation by construction workers has the potential to impact on the availability of some accommodation types for travellers and holiday makers and reduce the ability of the tourism sector to meet peak tourist demand. This may have temporary effects for some businesses that cater for tourists and holiday makers, if visitors are discouraged from visiting the study area during the construction phase due to challenges in securing accommodation.

During construction, demand for Project workers has the potential to increase competition for local workers in the primary and secondary study area. This could result in some workers moving away from their job with existing businesses and industries to work on the Project or in businesses that supply goods and services to the Project. This has potential to negatively impact local business and industry, and affect service provision for communities in the primary and secondary study areas. This could either increase the cost of services or the ability to provide these services. As indicated in **Section 6.3**, use of temporary accommodation by construction workers for the Project has the potential to reduce the availability of housing and accommodation for seasonal workers, impacting on the ability of farmers to attract seasonal workers during peak harvest seasons.

Adverse changes in business amenity may also occur for some business during construction due to temporary increases in road traffic noise on roads such as Jerilderie Street, Newell Highway and Kidman Way. Potential amenity impacts may occur for businesses that front these roads, including within towns in the primary and secondary study area such as Jerilderie, Coleambally, Finley, and Tocumwal. Potential amenity changes are most likely to impact on businesses such as visitor accommodation providers that rely on a quieter business environment. Several visitor accommodation uses such as hotels, motels, and caravan parks are located adjacent to Jerilderie Street, Newell Highway and Kidman Way in Coleambally, Jerilderie and Finley. While these uses currently experience relatively high traffic noise levels, use of these roads by construction traffic are likely to result in noticeable changes to noise levels, including during early evening and night-time hours. Noise impacts are likely to be transient due to the nature of construction traffic movements, however it may cause a nuisance or disruption for some visitors, particularly in rooms closer to the roads, adversely affecting their enjoyment of the business and influencing some peoples' choice about staying. Environmental

management measures to assist in managing potential impacts of road traffic noise are described in the Noise and vibration technical report (Jacobs, 2022c).

## 6.6 Social infrastructure

There are no community services or facilities located near the Project area that have potential to be affected by construction activities. During construction, potential impacts on social infrastructure would mainly be associated with an influx of construction workers in towns and centres in the primary and secondary study area resulting in increased demand by construction workers for some community services and facilities.

As indicated in **Section 4.4**, social infrastructure in the primary study area such as recreation facilities, cultural facilities and health and emergency services are mainly located in towns such as Jerilderie and Coleambally. These mainly cater for the needs of residents and visitors of these towns and the surrounding district, with larger centres in the secondary study area such as Deniliquin, Tocumwal, Corowa and Yarrowonga providing a broad range of services and facilities that cater for the needs of local and regional residents, visitors and workers.

The temporary influx of working aged people during Project construction may have a positive impact on some facilities, such as recreation facilities, sporting and community clubs. Specifically, these facilities would provide recreation and entertainment options for the construction workforce and would benefit through increased participation and membership of construction workers.

Increased demand by non-local construction workers for essential services such as general health and medical has potential to increase the pressure on existing facilities. The greatest risk of impacts on services is likely to be during the 12-month peak construction period, which is likely to see an influx of up to about 150 non-local workers in the primary and secondary study areas. Increased demand for services by construction workers has potential to result in short-term challenges for some residents accessing these services when required. Feedback for this assessment indicated that there are currently long wait times of up to seven weeks for people to see a GP. Increased demand for services by Project workers has potential to further increase the 'wait times' for these services or the need for people to travel further to access these services elsewhere.

A workforce health and safety plan would be prepared for the Project that outlines measures for responding to health, medical and safety incidents during the construction phase. Consultation and communication with local communities about the timing of peak construction work and potential influx of non-local workers should be undertaken prior to, and during construction, to assist with managing potential impacts associated with increased demand for services by construction workers.

The construction phase also has potential to increase demand on emergency services in the primary study area in response to possible construction related safety events, particularly in the event of major incidents. There is a potential risk that demand for emergency services to respond to safety incidents associated with the Project may impact on the availability of emergency services to respond to other local incidents that occur at the same time.

Consultation with emergency service providers (e.g. NSW Police, NSW Fire and Rescue Services, NSW Ambulance) prior to construction and during the preparation of emergency response procedures would assist in managing potential impacts. This should include site familiarisation visits by emergency services to ensure that they are aware of the site layout and access arrangements. Potential impacts on fire services from bushfire risks of construction are discussed in the Bush fire risk technical report (Jacobs, 2022e).

## 6.7 Community values

### 6.7.1 Local amenity and character

During construction, potential impacts on local amenity and character would mainly be associated with:

- Clearing of vegetation, resulting in changes to landscape, environmental and visual amenity values and impacting on community values relating to the environment
- Changes in local amenity for residential uses closest to the Project, due to noise and dust from construction activities, and noise from construction traffic

- Presence of construction infrastructure, resulting in changes to the landscape and visual character for occupants of nearby rural properties.

Vegetation clearing, predominantly comprised of grassland, would be required for temporary infrastructure such as construction laydown areas, and permanent infrastructure such as WTGs, collector and substations, BESS, cabling, the transmission line and access tracks. The Project has been designed to minimise the clearing of native vegetation where possible, through the location of access tracks and WTGs on previously cleared and cropped land. As indicated in **Section 4.5**, ecological heritage and biodiversity, and natural environment are valued by communities in the primary study area and the removal of native vegetation for the Project is likely to be a concern for community members.

As indicated in **Section 4.5**, the area immediately surrounding the Project comprises rural uses with few residents and a small number of dwellings. Noise and dust from construction activities have potential to result in temporary impacts on rural amenity for occupants of residential uses near the Project. This may affect some peoples' use and enjoyment of their property and appreciation of their surroundings. The dwellings most likely to be affected by noise impacts are located on properties hosting WTGs, although it is anticipated that some dwellings on non-host properties would also experience noise impacts during activities such as road construction and electrical installation. Virya Energy has entered into neighbour or participation agreements with Associated Landowners of 14 dwellings within eight kilometres of a WTG, with a further three Non-associated Landowners within eight kilometres of a WTG choosing not to enter into a neighbouring agreements.

Increased traffic noise from construction vehicles accessing the Project area may also temporarily impact on amenity of residential properties adjacent to haulage routes, including regional roads such as Kidman Way, Jerilderie Street, and Newell Highway and local roads such as Liddles Lane and Jerrys Lane.

Dwellings along Jerilderie Street and Newell Highway are mainly located within towns such as Jerilderie, Finley, and Tocumwal (refer to **Figure 6-1** showing residential uses along the Newell Highway at Jerilderie). There are no dwellings in the Coleambally township that have a frontage to Kidman Way, with the nearest dwellings generally located at Sandpiper Street about 130 metres from Kidman Way. Dwellings on rural properties also have a frontage to Kidman Way and Newell Highway are scattered along these roads, although these are generally set back from the road. Adverse changes to residential amenity associated with construction traffic noise for the Project have potential to diminish peoples' enjoyment of their property. It is recognised that any impacts are likely to be transient due to the nature of construction traffic movements, however for some people the disruptions caused by construction traffic noise may affect their use of outdoor areas or some areas of their dwelling fronting the road.



**Figure 6-1 Residential uses along Newell Highway through Jerilderie**

Two dwellings are located along Liddles Lane between Kidman Way and the Project area. One of these dwellings is also located about 870 metres from Jerrys Lane. While the change in road traffic noise may be noticeable for these residents, haulage activities, apart from the haulage of WTGs, would mainly occur during daytime hours and any impacts are likely to cause a temporary nuisance, rather than any ongoing disruption to the use or enjoyment of their dwelling. Where haulage activities are required to be undertaken at night, there is potential to result in short-term impact on the night-time amenity when construction vehicles pass due to the existing lower night-time noise levels in this location, although sleep disturbances are not expected due to the distance of dwellings from these roads. Environmental management measures to assist in managing potential impacts of road traffic noise are described in the Noise and vibration technical report (Jacobs, 2022c).

Potential changes to community perceptions of road safety due to the use of Liddles Lane and other roads in the primary and secondary study areas are discussed in **Section 6.8**.

The implementation of environmental management measures during construction would assist in managing potential impacts on amenity for surrounding property owners. This would include consultation and communication with nearby residents and occupants of properties about construction activities, potential impacts and proposed management measures.

### **6.7.2 Community cohesion**

Potential impacts on community cohesion during construction would mainly relate to the influx of construction workers in towns and centres near the Project. As indicated in **Section 4.5**, communities in the primary study area display a strong sense of community and actively participate in community life through volunteering and participation in community events and activities. The temporary influx of non-local workers from outside of the study areas may cause some community members to be concerned about possible disparities in levels of community participation between residents and non-local workers; potential for residents' access (either perceived or actual) to services and facilities, including housing to be affected; or increased incidences of anti-social behaviour, possibly affecting their sense of cohesion, trust and community safety amongst community members. Consultation for this socio-economic impact assessment indicated that

issues of anti-social behaviour had previously occurred on other projects, due to labourers drinking too much during free time and causing trouble.

It is anticipated that up to 150 people would temporarily relocate to towns in the primary and secondary study area during the peak construction period, with up to 75 people during the non-peak period. The potential for these workers to affect levels of community cohesion would be dependent on where they choose to live, with effects more likely to be experienced in towns with smaller populations (e.g. Jerilderie and Coleambally) rather than larger towns such as Deniliquin.

The implementation of protocols relating to worker conduct in local communities and ongoing engagement with local communities during the construction phase would assist in managing any potential adverse changes in community cohesion associated with the Project.

### 6.7.3 Community wellbeing and safety

During construction, potential impacts on community wellbeing and safety would mainly result from the use of local and regional roads for construction traffic, and potential road safety risks, either actual or perceived, for road users.

There is potential that some haulage activities (e.g. delivery of WTGs) would need to be carried out outside of standard daytime construction hours due to requirements of NSW Police or other authorities. Noise from night-time construction traffic has potential to disrupt sleeping patterns for occupants of dwellings along some haulage roads. As indicated in **Section 6.7.1**, use of Liddles Lane and Jerrys Lane are not expected to result in sleep disturbances due to the distance of dwellings from these roads. In relation to regional roads, noise from construction traffic may cause disrupted sleeping patterns for occupants of dwellings near to Kidman Way. Sleep disturbances occurring over extended periods may cause increased fatigue for some people, possibly leading to reduced mental, physical and emotional health and wellbeing of some individuals. Environmental management measures to manage road traffic noise are described in the Noise and vibration technical report (Jacobs, 2022c).

Discussion about impacts associated with potential road safety risks is provided in **Section 6.8**.

## 6.8 Access and connectivity

Construction of the Project would generate construction traffic associated with the haulage of plant, materials and equipment, and transport of construction workers.

Access to the Project would be from Liddles Lane, four kilometres east of Wilson Road with major roads used for construction access expected to be Kidman Way and the Newell Highway. Turbine components and other specialist equipment, including over-sized, over-mass (OSOM) deliveries, would be transported from the Port of Geelong to the Project area via the regional road network.

Where required local road upgrades would be undertaken for construction, which would help to improve the quality of the local road network and maintain or improve road safety on roads used by the Project.

Increased use of local and regional roads, including by heavy vehicles and for OSOM deliveries, may cause concerns for local communities due to temporary disruptions and possible road safety risks for road users, potentially impacting local communities, tourists and commercial and freight operators. Consultation for this assessment also indicated that the roads are used by a large number of truckers supporting farming activities during harvesting. The traffic assessment undertaken for the Project determined that construction of the Project would not have a significant impact on road safety.

The movement of OSOM heavy vehicles and increased construction traffic from the workforce and construction activities have potential to damage roads, resulting in potential road safety impacts and increased maintenance and repair costs for local Councils. Concerns about increased construction traffic and potential damage to roads that are already damaged was identified during consultation for this socio-economic impact assessment. Local road upgrades would be undertaken prior to construction, which would help to improve the quality of the local road network and maintain or improve road safety on roads used by the Project.

Traffic management measures will be detailed in a Traffic Management Plan to maintain access and road safety and minimise disruptions for road users, including local communities, tourists, commercial and freight operators, and farmers. This would include engagement and communication with Council, local communities and road users about construction traffic impacts, including haulage routes, potential for disruptions and proposed management measures.

Further details about potential construction traffic impacts and traffic management measures is detailed in the Traffic and transport technical report (Jacobs, 2022b).

## 6.9 Economic impacts

This section provides an overview of potential economic impacts of the construction phase based on the I-O analysis methodology described in **Section 3.2.2**.

### 6.9.1 Gross Value Added

As indicated in **Section 3.4**, total construction costs for the Project are estimated to be \$3.4504B.<sup>2</sup> This total fee includes an escalation percentage of 5% per annum from 2024 totalling \$332M, however this is not included in the estimated construction costs below as this fee does not create added value or generate employment in itself, and thus cannot economic benefits cannot be attributed to it.

**Table 6-1** presents a breakdown of the estimated construction costs.

**Table 6-1** Estimated development and construction spend

Category	Percentage	Estimated cost
Civil works	6%	\$183,089,721
Electrical works	18%	\$554,053,962
External grid connection works	3%	\$107,150,820
Turbine supply & installation	73%	\$2,274,635,999
<b>Total</b>	<b>100%</b>	<b>\$3,118,930,502</b>

Source: Estimates provided by Muller Partnership – Capital Investment Value Report

**Table 6-2** presents outcomes of the I-O analysis for the construction phase. Assigning the categories of construction costs to relevant ABS industries, the Project is expected to generate a total GVA increase of \$1.095.53B to NSW during the construction period. This is primarily attributed to the manufacturing, construction, and professional, scientific & technical services industries.

**Table 6-2** Total NSW GVA (construction) (\$M)

ABS industry	Direct effect	Indirect effect	Induced effect	Total
Manufacturing	228.81	252.11	146.62	627.54
Construction	120.09	170.90	86.41	377.39
Professional, scientific and technical services	40.47	28.49	21.64	90.59
<b>Total</b>	<b>389.37</b>	<b>451.49</b>	<b>254.67</b>	<b>1,095.53</b>

**Table 6-3** presents an overview of the distribution of the total GVA between the region and rest of the State based on the Clean Energy Council (2012) estimate of distribution of expenditure. Construction of the Project is expected to generate a GVA increase of \$391.26M for the Project region and \$704.27M for the rest of the State.

<sup>2</sup> The estimate of construction costs specifically excludes property acquisition, finance costs, escalation, planning & authority fees and charges.

Table 6-3 GVA (construction) – region and rest of the State (\$M)

ABS Industry	Direct effect	Indirect effect	Induced effect	Total
<b>Region</b>				
Manufacturing	81.72	90.04	52.36	224.12
Construction	42.89	61.03	30.86	134.78
Professional, scientific and technical services	14.45	10.17	7.73	32.35
<b>Total (Region)</b>	<b>139.06</b>	<b>161.25</b>	<b>90.95</b>	<b>391.26</b>
<b>Rest of the State</b>				
Manufacturing	147.09	162.07	94.26	403.42
Construction	77.20	109.86	55.55	242.61
Professional, Scientific and Technical Services	<b>26.02</b>	<b>18.31</b>	<b>13.91</b>	<b>58.24</b>
<b>Total (Rest of State)</b>	<b>250.31</b>	<b>290.25</b>	<b>163.72</b>	<b>704.27</b>

## 6.9.2 Employment creation

As indicated in **Section 6.4**, the construction phase is anticipated to support direct employment for up to 300 people during the peak construction phase, and about 150 people during non-peak periods.

In addition, the GVA generated through Project expenditure will create jobs as it circulates through the economy, in the form of supply chain impacts. **Table 6-4** shows that the expected total impact on employment from Project expenditure is estimated to reach up to 22,892 full time equivalent (FTE) person-years of employment during the construction phase.

Table 6-4 Total State employment (FTE person-years) from Project expenditure (construction)

ABS Industry	Direct effect	Indirect effect	Induced effect	Total
Manufacturing	6,548	4,985	1,602	13,135
Construction	4,945	3,086	944	8,975
Professional, scientific and technical services	274	272	236	782
<b>Total</b>	<b>11,767</b>	<b>8,343</b>	<b>2,782</b>	<b>22,892</b>

**Table 6-4** provides an overview of the distribution of employment creation between the region and rest of the State based on the Clean Energy Council (2012) estimate of distribution of expenditure. Of the 22,892 FTE person-years of employment during construction, 8,176 FTE person-years are expected to be created regionally, with 14,716 created in the rest of the State.

Table 6-5 Employment (FTE person-years) from Project investment (construction) – region and rest of State

ABS Industry	Direct effect	Indirect effect	Induced effect	Total
<b>Region</b>				
Manufacturing	2,338	1,780	572	4,691
Construction	1,766	1,102	337	3,205

<b>ABS Industry</b>	<b>Direct effect</b>	<b>Indirect effect</b>	<b>Induced effect</b>	<b>Total</b>
Professional, scientific and technical services	98	97	84	279
<b>Total (Region)</b>	<b>4,202</b>	<b>2,980</b>	<b>994</b>	<b>8,176</b>
<b>Rest of the State</b>				
Manufacturing	4,209	3,205	1,030	8,444
Construction	3,179	1,984	607	5,770
Professional, scientific and technical services	176	175	152	503
<b>Total (Rest of State)</b>	<b>7,564</b>	<b>5,363</b>	<b>1,789</b>	<b>14,716</b>

## 7. Potential operational impacts

### 7.1 Property

Potential property impacts during the Project operations phase would mainly be associated with direct property impacts from with the siting of Project infrastructure such as WTGs, BESS, access roads and ancillary infrastructure (e.g. operation and maintenance facility, hardstands, underground and overhead cabling, substation and collector substations).

As described in **Section 6.1**, the Project area would be located across eight properties, which are currently used for sheep and cattle grazing, irrigated cropping and groundwater extraction. During operation, land within the Project area, outside of that used for the WTGs, access roads, the BESS and associated infrastructure, could continue to be used for agricultural activities such as grazing.

Regular lease payments would be provided to Host Landowners for the use of land by the Project. In addition, Associated Landowners would receive an annual financial participation contribution. This would have beneficial impacts for landowners by providing an additional income stream over the life of the Project.

Potential impacts may occur for owners and occupants of properties near the Project due to the introduction of the WTGs and individuals' perceptions on local amenity. This may impact on the use and enjoyment of nearby properties for some people. As indicated in **Section 6.1**, Virya Energy has signed a neighbour or participation agreement with owners of 14 dwellings within eight kilometres of a WTG (Associated Landowners), with owners of three dwellings choosing not to enter into a neighbouring agreement (Non-associated Landowner). Further discussion about potential amenity impacts is in **Section 7.7.1**.

### 7.2 Population and demography

Operation of the Project is expected to generate employment for about 20 to 30 people, including both on-site staff and remote workers. It is anticipated that many workers for the on-site roles would be sourced from existing residents of communities in the primary and secondary study areas. However, is expected that some jobs would require specialist skills that are not available locally.

Non-local workers from outside the study areas are expected to relocate permanently to towns in the study areas, and that many of these workers would relocate with their families. Assuming that up to 50% of operational workers would be non-local workers, and that the majority (i.e. 90%) would relocate with their family, it is estimated that the population of the primary and secondary study areas could increase by up to 37 people (based on the NSW average household size of 2.6 people per household).

The location of where workers and their families would live would be dependent on the circumstances and needs of individual families, however it is expected that most would relocate to towns up to about a one-hour commute from the Project (e.g. Jerilderie, Coleambally, Finley, Berrigan, Darlington Point, Deniliquin, Oaklands, Urana and Tocumwal). This would represent a negligible increase in the population of these towns as a whole. If these workers were to relocate to communities in the primary study area only, this would represent an increase of less than 1% in the primary study area's population (based on the 2016 population indicated in **Section 4.2.1**).

The Project has potential to support the retention of existing residents in the primary study area, by providing local employment opportunities for the operations phase, and regular payments to Host Landowners and neighbouring property owners. In addition to direct employment opportunities, the GVA generated through Project expenditure is expected to create up to 333 FTE person-years of employment per annum (refer to **Section 7.9.2**). This is likely to have a positive impact on population and demography and future growth and vitality of the study areas, by providing opportunities for people to remain in the study areas and gain skills across the services, construction and energy industries. Payments provided to Host Landowners and Associated Landowners within eight kilometres of a WTG would also provide an additional non-farm income for these property owners, supporting enhanced financial wellbeing. This may allow landowners that are seeking to retire or scale back their farming operations to remain in the community if they choose, rather than selling their properties to access their wealth.

### 7.3 Housing and accommodation

As indicated in **Section 7.2**, about 20 to 30 people would be employed during operation. Assuming that up to 50% of workers would be non-local workers, this would result in demand for between 10 and 15 houses in the primary and secondary study areas.

It is expected that non-local workers who relocate permanently to towns in the study areas would either rent or buy housing. An increase in the demand for private rental housing has potential to put upward pressure on rental prices. At the 2016 Census, households in the Edward River and Murrumbidgee LGAs recorded relatively low levels of housing stress, with 8.8% and 6.0% of households in the Edward River and Murrumbidgee LGAs respectively paying 30% or more of household income on rental payments. This is compared to 12.9% in NSW. An increase in rental prices has potential to reduce housing affordability and increase housing stress for some households on low or fixed incomes.

As indicated in **Section 4.2.2**, information on rental bonds indicates that there were about 900 rental houses in the Edward River and Murrumbidgee LGAs in the December quarter 2021, of which about 80 houses were new rentals. More broadly, there were about 5,000 bonds held for rental properties in LGAs in the secondary study area, of which about 350 bonds were for new rentals. Given the relatively minor demand for houses from the operational workforce (i.e. 10 to 15 houses), it is expected that demand for housing from the Project would be met by current housing supply in the primary and secondary study areas with minimal social impacts.

### 7.4 Employment and training

Local employment provided by the Project would have positive impacts for individuals employed and provide opportunities for enhanced social and economic outcomes over the long-term through ongoing incomes for individuals and skills development.

Further discussion about employment associated with the GVA generated through Project expenditure is presented in **Section 7.9.2**.

### 7.5 Business and industry

During operation, the Project would provide opportunities for local contractors, suppliers and businesses in the primary and secondary study areas that support the ongoing operation and maintenance of the Project. This would have positive impacts on these businesses by supporting improved incomes and business development.

Land within the Project area that would not be affected by permanent infrastructure such as WTGs, access roads and electrical substations could continue to be used for agricultural purposes such as grazing. This would help to minimise potential impacts on agricultural businesses.

Regular lease payments would be provided to Host Landowners with WTGs for the life of the Project. This would help to off-set any potential loss of income associated with the reduction in land available for agricultural activities or any changes to farming operations. Regular lease payments would also provide a stable passive income for the landowners. In addition, Associated Landowners would receive an annual financial participation contribution. This would have beneficial impacts for owners of agricultural businesses by allowing landowners to diversify and expand their income streams, and support the ongoing viability of some agricultural businesses.

Further discussion about potential economic impacts associated with the GVA generated through Project expenditure is presented in **Section 7.9.1**. Discussion about potential impacts on aerial operations is provided in the *Yanco Delta Wind Farm – Aeronautical Impact Assessment* (Landrum and Brown, 2022).

### 7.6 Social infrastructure

The Project would be located away from social infrastructure such as recreational or community facilities, and is not expected to impact on the use or operation of facilities during the operation phase. As indicated in **Section 7.2**, operation of the Project is expected to result in a minimal increase in population associated with the permanent relocation of workers and their families to the study areas. It is likely that these workers would

live in several towns within the primary and secondary study areas and impacts on social infrastructure due to increased demand are not expected.

The implementation of the community benefit fund during operation would support local initiatives, including the development of new or upgraded community services and facilities in the study areas. This would have positive impacts for communities and visitors in the primary and secondary study area, supporting improved social outcomes such as increased community cohesion, health and wellbeing.

## 7.7 Community values

### 7.7.1 Local character and amenity

As indicated in **Section 4.5**, the local character and amenity of the primary study area is influenced by rural and farming land uses and agricultural pursuits, and natural features such as Yanco Creek. Changes to agricultural activities due to the introduction of WTGs and associated Project infrastructure may be a concern for some people and cause them to feel a sense of loss relating to the rural landscape and traditional agricultural uses. This was identified through the LVIA survey undertaken for the Project, with two respondents identifying concerns about effects of the Project on land use. Concerns about the loss of productive land was also raised in stakeholder consultation undertaken by Virya Energy for the Project. This impact is likely to be exacerbated by loss of agricultural land from other proposed renewable energy projects in the South-West REZ (refer to **Chapter 10** for discussion on potential cumulative impacts).

The introduction of WTGs and ancillary infrastructure would also present a significant change to the locality and rural landscape of the Project area and surrounds, resulting in changes to views and visual outlook from some public spaces and residential dwellings within about eight kilometres of the Project area. Feedback from the LVIA survey undertaken for the Project included concerns from some respondents about the 'visual pollution', 'skyline changes', changes to landscape character, and visual effects of the Project. Visual and landscape changes from the Project have potential to impact on amenity for residents and occupants of rural properties, potentially affecting some peoples' use and enjoyment of their property, particularly from areas of the property that provide views of the WTGs. It is noted that the extent of this impact would be dependent on individual perceptions, with some near neighbours indicating that they were not concerned about seeing the WTGs during consultation undertaken by Virya Energy for the Project.

Changes to the landscape character and visual environment from the introduction of Project infrastructure may also diminish the attractiveness of the area, and sense of 'unspoiled natural environment' and 'scenic beauty' for some people travelling through or visiting the area. While this has potential to detract from the enjoyment or experience of the primary study area for some individuals, on balance it is unlikely that this would stop people visiting the primary study area. Further discussion about potential impacts on visual and landscape amenity is provided in the LVIA chapter of the EIS.

Operation of wind farms have potential to result in shadow flicker effects (moving or changing shadows) for nearby residential uses, which may cause annoyance and disrupt the use and enjoyment of properties for some residents. Surrounding dwellings near the Project are located more than two kilometres from the WTGs, which is outside of the Project's potential zone of influence and impacts on residential uses from shadow flicker are not expected.

Concerns about potential impacts of night-time obstacle lighting were identified by respondents to the LVIA survey undertaken for the Project. Aviation hazard lighting would be required on some WTGs. Night-time obstacle lighting would be visible to motorists using local roads and sections of highways, although the duration of visibility would very short and partially screened by vegetation and any impacts are likely to be negligible. Night-time obstacle lighting also has potential to be visible from several dwellings surrounding the wind farm. Existing vegetation and planting around dwellings is likely to screen or partially obscure views of the lighting, although lighting is likely to be noticeable from some dwellings resulting in possible changes to the night-time amenity for residents. Views of obstacle lighting are most likely to be noticeable from outdoor areas of dwellings (e.g., gardens, yards, verandahs, etc), with views from internal rooms expected to be obscured by reflection from internal lighting or window furnishings (e.g., curtains or blinds). Views of night-time obstacle lighting may cause a nuisance for some people using outdoor areas of their dwellings and adversely affect their enjoyment of these areas, although planting would provide screening or filtering of views and changes to the use of outdoor areas are likely to be minor. Potential impacts associated with night-

time hazard lighting would also be mitigated by installing a radar activated lighting system in accordance with DPE and the Civil Aviation Safety Authority (CASA) recommendations (Green Bean Design, 2022b).

Potential noise from the operation of the WTGs, including individuals' perceptions about potential noise impacts, may also impact on the amenity of dwellings and rural properties closest to the wind farm. Noise was identified as a key concern by one respondent to the LVIA survey undertaken for the Project, with these concerns based on previous experiences of wind farms elsewhere. Operation of the WTGs are not expected to result in noise impacts for Non-associated receivers, although there is potential for noise impacts at two host receivers. Noise from the operation of the WTGs has potential to negatively affect residents' use of their dwellings and detract from their enjoyment of their property. Engagement with landowners and/or residents of these properties would be undertaken about potential impacts and proposed management measures. Operation of the substations is not expected to result in noise impacts at sensitive receivers. Further discussion about potential operational noise impacts is in the Noise and vibration technical report (Jacobs, 2022c).

### **7.7.2 Community cohesion**

Potential impacts of the Project's operation on community cohesion would mainly be associated with the unequal distribution of Project impacts and benefits, including the distribution of financial benefits and impacts of infrastructure development (e.g. reduced landscape and visual amenity).

In relation to the distribution of financial benefits, Host Landowners of WTGs would directly benefit from lease payments received for the life of the Project. Neighbour participation agreements would also allow benefits of the Project to be shared more equitably with property owners surrounding the wind farm who have potential to experience impacts of the Project (e.g. adverse changes to local amenity). The Project would also make annual contributions to a community benefit fund that would support community projects and local initiatives across the Murrumbidgee and Edward River LGAs. This would have positive social impacts and enhance social outcomes for communities, clubs and organisations in the primary study area and ensure that communities that are likely to experience changes from the Project (e.g. on landscape and visual amenity) directly benefit from the presence of the Project in their community.

### **7.7.3 Community wellbeing and safety**

During operation, potential impacts on community wellbeing and safety would mainly be associated with community perceptions about possible effects on the health of individuals from such things as low frequency noise and electromagnetic fields (EMF) from associated electrical infrastructure. Operation of the WTGs are not expected to result in any low frequency or tonal noise impacts. The predicted EMF levels from the operation of the WTGs and underground cables would be below the levels specified in the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines. EMF levels from the proposed overhead transmission line and substations are also expected to be below the levels specified in the ICNIRP guidelines at surrounding sensitive receptors, with the closest dwelling located about five kilometres from the proposed transmission line and two kilometres from the nearest substation. Further discussion about potential noise impacts are outlined in the Noise and vibration technical report (Jacobs, 2022c) and potential EMF impacts are described in the Electromagnetic interference assessment technical report (Jacobs, 2022f).

Community concerns were also raised during consultation for the Project undertaken by Virya Energy about potential for the Project to impact fire services and the use of water bombers, with feedback during consultation for this socio-economic impact assessment also identifying community concerns about the potential fire threat of wind farms. Wind farms can act as direct obstacles for aerial firefighting operations, due to moving blades and wake turbulence, presence of such things as transmission infrastructure and meteorological towers, and interference with radio transmissions. The Project would include a range of bushfire protection measures to minimise potential risk to firefighting operations.

## **7.8 Access and connectivity**

Operational activities that would generate traffic would predominantly come from operational workforce travelling within, to and from the Project area in light vehicles, and carrying out maintenance activities at WTGs. These activities are not expected to have any day-to-day impacts on local access and connectivity, including community perceptions of road safety.

New or upgraded access tracks provided by the Project would support all-weather access and improved road conditions for local roads in the Project area, impacting positively on local access for landowners and local road users.

## 7.9 Economic impacts

This section provides an overview of potential economic impacts of the operation phase based on the I-O analysis methodology described in Section 3.2.2.

### 7.9.1 Gross value added

As indicated in Section 3.4, the total operating costs over the 30-year life of the Project are estimated to be \$936M. Table 7-1 provides outcomes of the I-O analysis for the operation phase. The Project is expected to generate a total GVA increase of \$467.16M to NSW over the 30-year operating period (i.e. \$15.57M per annum). This is primarily attributed to the electricity, gas, water and waste, construction, and other services industries.

Table 7-1 Total State GVA per annum (operations) (\$M)

ABS industry	Direct effect	Indirect effect	Induced effect	Total
Other services	7.70	1.68	3.51	12.89
Construction	0.67	0.95	0.48	2.09
Electricity, gas, water and waste	0.27	0.20	0.12	0.59
<b>Total</b>	<b>\$8.64</b>	<b>\$2.83</b>	<b>\$4.10</b>	<b>\$15.57</b>

Table 7-2 provides an overview of the distribution of the total GVA between the region and rest of the State based on the Clean Energy Council estimate of distribution of expenditure. Operation of the Project is expected to generate a GVA increase of \$10.38M per annum for the Project region and \$5.19M per annum for the rest of the State.

Table 7-2 Distribution of GVA per annum (operations) – region and rest of State (\$M)

ABS industry	Direct effect	Indirect effect	Induced effect	Total
<b>Region</b>				
Other services	5.13	1.12	2.34	8.59
Construction	0.44	0.63	0.32	1.39
Electricity, gas, water and waste	0.18	0.13	0.08	0.40
<b>Total (Region)</b>	<b>\$5.76</b>	<b>\$1.89</b>	<b>\$2.74</b>	<b>\$10.38</b>
<b>Rest of the State</b>				
Other services	2.57	0.56	1.17	4.30
Construction	0.22	0.32	0.16	0.70
Electricity, gas, water and waste	0.09	0.07	0.04	0.20
<b>Total (Rest of State)</b>	<b>\$2.88</b>	<b>\$0.94</b>	<b>\$1.37</b>	<b>\$5.19</b>

## 7.9.2 Employment creation

As indicated in **Section 7.4**, operation and maintenance of the Project would support direct employment for 20 to 30 staff.

In addition, the GVA generated through Project expenditure will create jobs as it circulates through the economy, in the form of supply chain impacts. As indicated in **Table 7-3**, the expected total impact of Project expenditure on employment is estimated to reach up to 500 FTE person-years of employment per annum during the operating phase.

**Table 7-3 State employment (FTE person-years of employment per annum) from Project expenditure (operations)**

ABS industry	Direct effect	Indirect effect	Induced effect	Total
Other services	388	19	38	445
Construction	27	17	5	50
Electricity, gas, water and waste	2	2	1	6
<b>Total</b>	<b>417</b>	<b>38</b>	<b>45</b>	<b>500</b>

**Table 7-4** provides an overview of the distribution of employment creation between the region and rest of the State based on the Clean Energy Council (2012) estimate of distribution of expenditure. Of the 500 FTE person-years of employment per annum, 333 FTE person-years are expected to be created regionally, with 167 created in the rest of the State.

**Table 7-4 Distribution of employment (FTE person-years of employment per annum) from Project investment (operations) – region and rest of State**

ABS Industry	Direct effect	Indirect effect	Induced effect	Total
<b>Region</b>				
Other services	258	12	26	296
Construction	18	11	3	33
Electricity, gas, water and waste	2	1	1	4
<b>Total (Region)</b>	<b>278</b>	<b>25</b>	<b>30</b>	<b>333</b>
<b>Rest of the State</b>				
Other services	129	6	13	148
Construction	9	6	2	17
Electricity, gas, water and waste	1	1	0	2
<b>Total (Rest of State)</b>	<b>139</b>	<b>13</b>	<b>15</b>	<b>167</b>

## 8. Potential decommissioning impacts

The life of the Project is anticipated to be in the order of 30 years. Once the design life of the Project comes to an end, there may be opportunities for the Project to be repowered or the site would be decommissioned and the land rehabilitated.

During the decommissioning phase, potential socio-economic impacts would be similar to those of construction, and would mainly be associated with:

- Impacts on local employment and business, including opportunities for individuals and businesses to support decommissioning activities
- Influx of workers for decommissioning activities to towns and centres near the Project, potentially resulting in temporary changes to local population and demography, and increasing demand for housing and accommodation, and on local services and facilities
- Impacts on community values due to amenity impacts for nearby properties from decommissioning activities
- Increased traffic and truck movements associated with the removal of Project infrastructure and decommissioning activities.

The decommissioning phase would involve the removal of Project infrastructure and rehabilitation of the affected land. It is assumed that the Project area would be reinstated for rural land uses, consistent with the existing land uses. The removal of Project infrastructure such as WTGs, and the rehabilitation of the affected land would change the landscape and visual environment of the Project area and surrounding area from that during the operational phase.

A detailed assessment of potential impacts of decommissioning activities on socio-economic conditions and values in the primary and secondary study area would be undertaken prior to the commencement of decommissioning activities. This would include the identification of strategies to manage potential negative impacts and enhance potential positive impacts.

## 9. Evaluation of significance

**Table 9-1** presents a summary of the identified socio-economic impacts of the Project's construction and operation, along with an evaluation of the likely level of significance. The evaluation of significance is based on the evaluation framework outlined in **Section 3.2.3**. The level of significance of decommissioning impacts would be similar to those for construction.

A level of significance is presented for the identified socio-economic impacts both without mitigation and with the implementation of the proposed environmental management measures outlined in **Chapter 11**.

Table 9-1 Significance of identified impacts

Impact	Nature	Without mitigation			Mitigation measure	With mitigation			
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance	
<b>Construction phase impacts</b>									
Property	Temporary disruptions to the use of land within landowners wider property due to restrictions on access to areas used for construction	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Minimise area of land affected by temporary construction activities</li> <li>Consider wider property operations in siting of temporary construction facilities</li> </ul>	Possible	Minimal	Low
	Temporary changes to existing farming operations due to temporary removal of farm infrastructure	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Consultation with Host Landowners prior to removal of farm infrastructure about any temporary arrangements</li> <li>Reinstate farm infrastructure affected following construction in consultation with the landowner</li> </ul>	Possible	Minimal	Low
	Disruptions to agricultural operations and rural activities due to conduct of construction workers (e.g. leaving gates open)	Negative	Likely	Minor	Medium	<ul style="list-style-type: none"> <li>Develop and implement land access agreements and protocols for workers</li> <li>Ongoing engagement with Host Landowners about timing and duration of construction activities</li> </ul>	Unlikely	Minor	Low

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Population and demography	Temporary changes to population and demography due to influx of non-local construction workers	Neutral	Likely	Minimal	Low	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy to maximise number of local construction workers and minimise influx of non-local construction workers</li> </ul>	Likely	Minimal	Low
	Retention and attraction of young people due to local employment opportunities	Positive	Possible	Minimal	Low	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy to maximise employment opportunities for residents in the study areas</li> </ul>	Possible	Minor	Medium
Housing and accommodation	Reduced availability of affordable housing impacting low or fixed income households (e.g. increased housing stress or movement out of local private housing market)	Negative	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Develop and implement workforce accommodation strategy prior to construction</li> <li>Maximise use of short-term accommodation</li> <li>Engagement with local accommodation providers, housing support agencies and other relevant stakeholders</li> </ul>	Possible	Minor	Medium

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Increased income for accommodation providers due to use of available, under-utilised tourist accommodation for construction workers	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Maximise use of short-term accommodation</li> </ul>	Likely	Moderate	High
Reduced availability of visitor accommodation for travellers and holiday makers, reducing ability to meet tourism demand during peak periods	Negative	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Develop and implement workforce accommodation strategy prior to construction</li> <li>Engagement with local accommodation providers</li> <li>Consideration of timing of major regional events and peak tourist periods in construction planning</li> </ul>	Possible	Minor	Medium
Potential to deter seasonal workers due to increased housing and accommodation costs	Negative	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Develop and implement workforce accommodation strategy prior to construction</li> <li>Engagement with local accommodation providers</li> <li>Consideration periods of seasonal employment in construction planning</li> </ul>	Possible	Minor	Medium

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Employment and training	Improved incomes and skills developments for individuals due to creation of local employment on the Project	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy to maximise employment opportunities for residents in the study areas</li> </ul>	Almost certain	Moderate	High
	Skills development relating to training and apprenticeship opportunities on the Project	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy, which includes strategies relating to training and apprenticeships for Aboriginal people, young people, and women</li> <li>Work with local contractors and relevant stakeholders (e.g. Aboriginal groups, youth and women organisations) to identify and develop training and education opportunities.</li> </ul>	Almost certain	Moderate	High
Business and industry	Use of local suppliers and businesses leading to improved business income and livelihoods for business owners and employees, and opportunities for	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Maximise local business opportunities in Project procurement practices, including encouraging contractors to source local goods and services, where possible</li> </ul>	Almost certain	Moderate	High

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
business growth and development					<ul style="list-style-type: none"> <li>Establish a register of local businesses for upcoming work and communicate to local communities prior to and during construction opportunities and requirements for work on the construction phase</li> <li>Engagement with local Councils and business groups about local business requirements and necessary skills to improve preparedness of local business</li> </ul>			
Reduced availability of visitor accommodation for travellers and holiday makers, reducing ability to meet tourism demand during peak periods	Negative	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Develop and implement workforce accommodation strategy prior to construction</li> <li>Engagement with local accommodation providers</li> <li>Consideration of timing of major regional events and peak tourist periods in construction planning</li> </ul>	Possible	Minor	Medium

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Increased competition for local workers leading to workers moving away from existing business and industry leading to increased cost of services or ability to provide services	Negative	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy, which includes strategies to minimise potential for movement of workers away from existing industries</li> <li>Implementation of training to increase local skills and availability of labour</li> </ul>	Unlikely	Moderate	Medium
Reduced business amenity due to increased road traffic noise on regional roads, including during evening and night-time.	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Where possible, restrict haulage activities during night-time hours (noting, WTGs are required to be transported at night)</li> <li>Communication with businesses in Jerilderie, Coleambally, Finley, and Tocumwal about the timing and duration of major haulage activities</li> <li>Implement environmental management measures outlined in Noise and Vibration Assessment</li> </ul>	Unlikely	Minor	Low

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Social infrastructure	Increased participation in recreation, sporting and community clubs due to influx of construction workers	Positive	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Possible	Minor	Medium
	Impact on residents accessing community services due to increased demand for social infrastructure from non-local workers	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implement worker health and safety measures on site</li> <li>Engagement with managers of community facilities in towns closest to the Project about timing of potential influx of non-local workers</li> </ul>	Unlikely	Minor	Low
	Increased demand for emergency services affecting ability to respond to incidents elsewhere	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Engagement with local emergency service providers in the preparation and planning of emergency response procedures</li> </ul>	Unlikely	Minimal	Low
Community values	Impact on community values relating to the environment due to clearing of native vegetation	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Minimise extent of native vegetation clearing, where possible</li> </ul>	Unlikely	Minor	Low

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
	Adverse amenity impacts due to noise and dust from construction activities	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures (e.g. noise attenuation, dust suppression)</li> <li>Early and ongoing communication with local residents closest to construction activities</li> <li>Restricting works to daylight hours where possible</li> </ul>	Unlikely	Minor	Low
	Temporary amenity impacts for residents at Liddles Lane due to increased traffic noise	Negative	Unlikely	Minimal	Low	<ul style="list-style-type: none"> <li>Early and ongoing communication with local residents at Liddles Lane</li> <li>Where possible, restrict haulage activities during night-time hours (noting, WTGs are required to be transported at night)</li> </ul>	Unlikely	Minimal	Low

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Temporary amenity impact for residents along regional roads (e.g. Jerilderie Street, Kidman Way, Newell Highway) due to increased traffic noise	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Where possible, restrict haulage activities during night-time hours (noting, WTGs are required to be transported at night)</li> <li>Communication with residents in Jerilderie, Coleambally, Finley, and Tocumwal about the timing and duration of major haulage activities</li> <li>Implement environmental management measures outlined in Noise and Vibration Assessment</li> </ul>	Unlikely	Minor	Low
Impacts on community cohesion due to influx of non-local construction workers (e.g., due to disparities in community participation, impact on residents' access to services, possible anti-social behaviour)	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Develop and implement protocols relating to worker conduct</li> <li>Early and ongoing engagement and communication about the Project with communities in the primary and secondary study areas</li> </ul>	Unlikely	Minimal	Low

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
					<ul style="list-style-type: none"> <li>Encourage community ownership of the Project by maximising local employment and business opportunities.</li> <li>Encourage contractors and workers to participate in community organisations and community life.</li> <li>Implementation of Community Benefit Fund at commencement of construction that provides support to community groups and facilities</li> </ul>			
Health and wellbeing effects due to sleep disturbances associated with increased road traffic noise	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Where possible, restrict haulage activities during night-time hours (noting, WTGs are required to be transported at night)</li> <li>Communication with communities in Jerilderie, Coleambally, Finley, and Tocumwal about the timing and duration of major haulage activities</li> </ul>	Unlikely	Minor	Low

Impact	Nature	Without mitigation			Mitigation measure	With mitigation			
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance	
					<ul style="list-style-type: none"> <li>Where possible, minimise the number of continuous nights that night-time haulage activities occur</li> <li>Implement environmental management measures outlined in Noise and Vibration Assessment</li> </ul>				
Access and connectivity	Temporary traffic disruptions and road safety risks from use of local and regional roads by construction traffic	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of traffic management measures</li> <li>Early and ongoing engagement and communication with communities and road users in the primary and secondary study areas about potential construction traffic impacts</li> <li>Implementation of local road and intersection upgrades used for construction access</li> </ul>	Unlikely	Minor	Low
Economic impacts	Regional and State GVA and employment impacts due to Project expenditure	Positive	Almost certain	Major	Very high	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Almost certain	Major	Very high

Impact	Nature	Without mitigation			Mitigation measure	With mitigation			
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance	
<b>Operational phase impacts</b>									
Property	Economic benefits for Host Landowners and Associated landowners (e.g. additional income stream) due to regular lease payments and annual financial participation contribution	Positive	Almost certain	Moderate	High	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Almost certain	Moderate	High
Population and demography	Population increase due to permanent relocation of non-local workers and their families to towns in the primary study area for the Project	Neutral	Unlikely	Minimal	Low	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Unlikely	Minimal	Low
	Retention of existing residents due to regular payments to Host Landowners and Associated Landowners and employment opportunities	Positive	Possible	Minimal	Low	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Possible	Minimal	Low

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Housing and accommodation	Reduced housing affordability and increased housing stress for low and fixed income households due to increased demand for housing by non-local operational workers	Negative	Unlikely	Minor	Low	<ul style="list-style-type: none"> <li>Encourage non-local operational workers to look at housing in towns across the study areas to minimise housing demand in one town only</li> </ul>	Unlikely	Minimal	Low
Employment and training	Local employment on the Project leading to enhanced incomes and skills development for individuals	Positive	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Develop and implement local workforce strategy to maximise employment opportunities</li> <li>Work with relevant stakeholders to implement training and education relevant to the Project operation</li> </ul>	Possible	Moderate	Medium
Business and industry	Opportunities for participation of local businesses supporting improved incomes and opportunities for business development	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>Development and implement local procurement strategy</li> <li>Establish register of local businesses for upcoming work</li> <li>Engagement with local Councils and business groups about local business requirements and necessary</li> </ul>	Almost certain	Moderate	High

Impact	Nature	Without mitigation			Mitigation measure	With mitigation			
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance	
					skills to improve preparedness of local businesses				
	Regular payments and contributions to Host Landowners and Associated Landowners, allowing them to diversify and expand income streams and support viability of agricultural businesses	Positive	Almost certain	Moderate	High	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Almost certain	Moderate	High
Social infrastructure	Implementation of community benefit fund, supporting local initiatives (e.g. development of new or upgraded facilities)	Positive	Almost certain	Moderate	Very high	<ul style="list-style-type: none"> <li>Engagement with local Council, community organisations and other relevant stakeholders to identify community needs to allow targeted investment</li> </ul>	Almost certain	Major	Very high

Impact	Nature	Without mitigation			Mitigation measure	With mitigation			
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance	
Community values	Changes to agricultural activities and sense of loss of rural landscape and traditional agriculture due to introduction of WTGs	Negative	Likely	Major	High	<ul style="list-style-type: none"> <li>Minimise loss of productive agricultural land in the siting of the WTGs and associated infrastructure</li> </ul>	Likely	Moderate	High
	Changes to landscape character and visual environment impacting on residential amenity and people’s use and enjoyment of their properties	Negative	Possible	Moderate	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures outlined in the LVIA</li> </ul>	Possible	Minor	Medium
	Changes to landscape character and visual environment detracting from the enjoyment or experience of the primary study area for some individuals and deterring them from visiting the area	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures outlined in the LVIA</li> </ul>	Possible	Minor	Medium

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Potential for shadow flicker for nearby residential uses	Negative	Rare	Minimal	Low	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Rare	Minimal	Low
Changes to night-time amenity for motorists using local roads and highways from night-time obstacle lighting.	Negative	Unlikely	Minimal	Low	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Unlikely	Minimal	Low
Potential disruptions to night-time amenity and use and enjoyment of outdoor areas due to night-time obstacle lighting	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of measures outlined in the LVIA</li> </ul>	Unlikely	Minor	Low
Noise from operation of the WTGs (perceived or actual) impacting amenity for occupants of dwellings and rural properties closest to the wind farm	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures outlined in the Noise and Vibration Assessment</li> </ul>	Possible	Minimal	Low

Impact	Nature	Without mitigation			Mitigation measure	With mitigation		
		Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Perceptions about unequal distribution of Project impacts and benefits leading to adverse impacts on community cohesion	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Provide regular conditions to community benefit fund to support community initiatives and activities</li> </ul>	Unlikely	Minor	Low
Implementation of community benefit fund supporting social outcomes for communities, clubs and organisations	Positive	Almost certain	Moderate	Very high	<ul style="list-style-type: none"> <li>Engagement with local Council, community organisations and other relevant stakeholders to identify community needs to allow targeted investment</li> </ul>	Almost certain	Major	Very high
Community perceptions about possible effects on health of individuals (i.e. from EMF, low frequency noise)	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures outlined in the Noise and Vibration Assessment and EMF assessment</li> </ul>	Unlikely	Minor	Low
Potential disruption to aerial fire services due to presence of WTGs	Negative	Possible	Minor	Medium	<ul style="list-style-type: none"> <li>Implementation of environmental management measures outlined in the Bushfire Assessment</li> </ul>	Possible	Minimal	Low

Impact		Nature	Without mitigation			Mitigation measure	With mitigation		
			Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Access and connectivity	Generation of traffic associated with operation and maintenance activities	Negative	Rare	Minimal	Low	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Rare	Minimal	Low
	Improvements in access and connectivity due to improved road conditions from new or upgrade access tracks	Positive	Likely	Moderate	High	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Likely	Moderate	High
Economic impacts	Regional and State GVA and employment impacts due to Project expenditure	Positive	Almost certain	Major	Very high	<ul style="list-style-type: none"> <li>No mitigation measures required</li> </ul>	Almost certain	Major	Very high

## 10. Cumulative impacts

Cumulative impacts comprise the successive, incremental or combined effects of an activity when added other past, present or reasonably foreseeable future activities. In particular, cumulative impacts can occur when impacts from the Project interact or overlap with impacts of other projects either due to their temporal relationship (i.e. occurring before, after or at the same time as the Project) or spatial relationship (i.e. occurring near to the Project). Cumulative impacts can result in actions that, individually may be minor, but collectively could result in considerable changes to the social environment, or that individually may have a positive social impact, but collectively could result in negative social impacts.

There are several Projects within the primary and secondary study areas that due to their timing or location, have potential to result in cumulative impacts with the Project. These include:

- Bullawah Wind Farm (Announced)
- Baldon Wind Farm (Planning)
- Keri Keri Solar Farm (Planning)
- Keri Keri Wind Farm (Planning)
- Project EnergyConnect (Eastern) (Approved)
- Coleambally BESS, Coleambally (Planning)
- Woodland BESS, Darlington Point (Planning)
- Micro Solar Farm, Coleambally (Approved)
- Riverina and Darlington Point BESS, Darlington Point (Approved)
- Dinawan Energy Hub (Announced)
- Victoria to NSW Interconnector West (VNI West) (Announced).

During the construction phase, potential cumulative impacts of the Project with other projects in the study area would mainly be associated with:

- Demand for accommodation by construction workforces of multiple projects, potentially resulting in:
  - Additional positive impacts for accommodation providers such as increased income, due to the uptake of under-utilised accommodation by construction workers
  - Potential to further reduce the availability of some visitor accommodation types (e.g. hotels, motels and caravan park cabins) for tourists and visitors, resulting in potential flow-on effects to tourism related businesses in the primary and secondary study areas
  - Decreased availability of housing for seasonal workers, affecting the ability of existing agricultural industries to meet their need for workers to harvest produce
  - Potential to further increase demand for rental housing and increasing upward pressure on rental prices in towns in the primary and secondary study areas, exacerbating potential impacts on rental housing affordability and possible housing stress for vulnerable households.
- Use of local and regional roads in the primary study area by multiple projects for the transport of workers, materials, plant and equipment, potentially:
  - Increasing road safety risks, including community perceptions about possible risks, for communities in the primary and secondary study area
  - Further diminishing amenity for residents and businesses located on regional roads used for haulage activities (e.g. Kidman Way, Jerilderie Street and Newell Highway) and subsequent effects on the use of properties.
- Demand for local construction workers from communities in the primary and secondary study area, resulting in:
  - Reduced availability of local workers for the Project, increasing the need for construction workers to be sourced from areas outside of the primary and secondary study areas and demand for visitor accommodation and rental housing to accommodate construction workers and subsequent effects on tourist accommodation and affordable rental housing
  - Increased potential for workers from existing industries to be attracted to work on the Project, resulting in possible worker shortages for local businesses and industries, and increasing costs and availability of some construction-related services.

- Increase in the number of non-local workers temporarily moving to towns and centres in the primary and secondary study area, exacerbating potential impacts on community cohesion and demand for social infrastructure in the primary and secondary study areas, increasing the possibility that some community members will feel resentment to non-local workers and the Project.

Where construction timeframes of projects occur sequentially, there is potential for social impacts to occur over an extended period, possibly resulting in construction fatigue for some community members.

During operation, potential cumulative impacts of the Project with other projects and developments in the study area would mainly be associated with changes to landscape and visual amenity values and potential for the use rural land and agricultural properties to further diminish the rural character and amenity valued by residents and visitors in the primary study area.

Concerns were also raised during community consultation by Virya Energy for the Project about the disparity in payments between landowners hosting transmission easements for TransGrid and those hosting wind and solar farms with other companies. This has potential to affect existing relationships between landowners involved with different projects, negatively affected community cohesion amongst communities in the primary and secondary study area.

## 11. Environmental management measures

**Table 11-1** outlines recommended environmental management measures to avoid, mitigate or manage identified negative socio-economic impacts of the Project’s construction, operation and decommissioning, and maximise or enhance positive impacts. Socio-economic impacts of the Project would also be managed by the implementation of environmental management measures for other technical studies, such as:

- Traffic and transport
- Noise and vibration
- Air quality
- Landscape and visual amenity
- Biodiversity.

Consultation and communication with communities and stakeholders through the planning, construction, operation and decommissioning phases will also be important in avoiding, minimising or managing potential social impacts of the Project.

**Table 11-1 Socio-economic environmental management measures**

Impacts	Reference	Mitigation measure	Timing
General	SE1	<p>A Community and Stakeholder Engagement Plan (CSEP) will be prepared as part of the CEMP and implemented to help provide timely and accurate information to the community during construction. The plan will include but not be limited to:</p> <ul style="list-style-type: none"> <li>• Mechanisms to provide details and timing of proposed activities, potential impacts and mitigation measures to nearby residents and communities, visitors and motorists (e.g. haulage activities, high noise generating activities, etc)</li> <li>• Processes for engaging with affected residents and stakeholders about potential impacts and proposed management measures</li> <li>• Process for receiving and responding to queries and complaints regarding the Project’s construction.</li> </ul>	Prior to construction
Property	SE2	<p>To minimise potential impacts to property, the Project will:</p> <ul style="list-style-type: none"> <li>• Minimise area of land affected by temporary construction activities and consider wider property operations in the siting of temporary construction facilities</li> <li>• Consult with Host Landowners prior to removal of farm infrastructure about any temporary arrangements, and reinstate affected farm infrastructure following construction in consultation with the landowners</li> <li>• Ongoing engagement with Host Landowners, in accordance with the CSEP about timing and duration of construction activities.</li> </ul>	Prior to construction, construction, operation

Impacts	Reference	Mitigation measure	Timing
Housing and accommodation	SE3	<p>A Workforce Accommodation Strategy will be prepared for the Project, in consultation with relevant stakeholders, to manage demand for housing and accommodation from the construction workforce during the construction phase, which includes but not be limited to:</p> <ul style="list-style-type: none"> <li>• Strategies to maximise the use of short-term accommodation, while also managing potential effects on tourists and holiday makers during peak tourist periods and major regional events, and seasonal workers</li> <li>• Processes for engaging with local accommodation providers, housing support agencies and other relevant stakeholders about anticipated demand for housing and accommodation by the construction workforce.</li> <li>• Mechanisms to encourage non-local operational workers to look at housing in towns across the study areas to minimise housing demand in one town only.</li> </ul>	Prior to construction, construction, operation
Employment and training	S4	<p>A Local Workforce Strategy will be prepared for the Project, in consultation with local Councils and relevant stakeholders, that includes, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Strategies to maximise employment opportunities for residents in the study areas, including strategies to communicate to local communities (prior to and during construction) opportunities and requirements for work on the Project</li> <li>• Strategies relating to training and apprenticeships for Aboriginal people, young people, and women, including consultation with local contractors and relevant stakeholders (e.g. Aboriginal groups, youth and women organisations) to identify and develop training and education opportunities</li> <li>• Engagement with local Councils in the primary and secondary study areas in accordance with the CSEP about construction and operational workforce numbers and timing.</li> <li>• Strategies to minimise potential for movement of workers away from existing industries.</li> </ul>	Prior to construction, construction, operation
Business and industry	S5	<p>To minimise potential impacts and maximise opportunities for business and industry, the Project will:</p> <ul style="list-style-type: none"> <li>• Commit to considering local business opportunities in Project procurement practices, including encouraging contractors to source local goods and services, where possible</li> <li>• Establish a register of local businesses for upcoming work and communicate to local communities prior to and during construction opportunities and requirements for work on the construction phase</li> </ul>	Prior to construction, construction, operation

Impacts	Reference	Mitigation measure	Timing
		<ul style="list-style-type: none"> <li>Engage with Edward River and Murrumbidgee Councils and business groups in accordance with the CSEP about local business requirements and necessary skills to improve preparedness of local business</li> <li>Implement training to increase local skills and availability of labour.</li> </ul>	
Social infrastructure	S6	<p>To minimise potential impacts on social infrastructure, the Project will:</p> <ul style="list-style-type: none"> <li>Implement worker health and safety measures on site, including preparation and implementation of Workforce Health and Safety Plan that includes measures for responding to health, medical and safety incidents during the construction phase</li> <li>Engagement with local emergency service providers in the preparation and planning of emergency response procedures</li> <li>Engage with managers of community facilities in towns closest to the Project in accordance with the CSEP about timing and duration of a potential influx of non-local workers.</li> </ul>	Prior to construction, construction
Community values	S7	<p>To minimise potential impacts on community values, the Project will:</p> <ul style="list-style-type: none"> <li>Carry out early and ongoing communication with local residents closest to construction activities and along Liddles Lane about the timing, duration and potential impacts on construction and haulage activities</li> <li>Communicate with communities in Jerilderie, Coleambally, Finley and Tocumwal about the timing and duration of major haulage activities</li> <li>Where possible, restrict haulage activities during night-time hours (noting that WTGs are required to be transported at night)</li> <li>Where possible, minimise the number of continuous nights that night-time haulage activities occur</li> <li>Develop and implement protocols relating to worker conduct</li> <li>Encourage contractors and workers to participate in community organisations and community life.</li> <li>Carry out early and ongoing engagement and communication about the Project with communities in the primary and secondary study areas</li> <li>Implement Community Benefit Fund at commencement of construction that provides support to community groups and facilities</li> <li>Continue engagement with local Council, community organisations and other relevant stakeholders to identify community needs to allow targeted investment.</li> </ul>	Prior to construction, construction

Impacts	Reference	Mitigation measure	Timing
Access and connectivity	S8	Early and ongoing engagement and communication will be carried out with communities and road users in the primary and secondary study areas about potential construction traffic impacts.	Prior to construction, construction
Decommissioning	S9	A detailed assessment will be undertaken of potential impacts of decommissioning activities on socio-economic conditions and values in the primary and secondary study area prior to the commencement of decommissioning activities, including identification strategies to manage potential negative impacts and enhance potential positive impacts.	Prior to decommissioning

## 12. Conclusion

This report presents the assessment of potential social and economic impacts associated with the construction, operation and decommissioning of the Project. The Project would be located in both the Murrumbidgee and Edward River LGAs, within the Riverina Murray Region of NSW. The area immediately surrounding the Project comprises rural uses with few residents. The main towns in the primary study area are Jerilderie and Coleambally, with the township of Conargo and rural localities also providing a focus for local communities.

Jerilderie is located approximately 10 kilometres from the southern extent of the Project area. It had a population of about 922 people at the 2021 Census (ABS, 2021) and is a service centre for surrounding rural communities. Coleambally is located approximately 30 kilometres north east from the Project area. At the 2021 Census, the town had a population of about 1,152 people (ABS, 2021). Established in 1968 to service the Coleambally Irrigation Area, the town offers a range of community services and facilities to support the local population and surrounding rural communities.

Several other key towns and centres are located in the primary and secondary study areas that vary in size from about 100 to 200 people to about 9,000 people. They include:

- Townships and smaller towns such as Daysdale, Oaklands, Carrathool, Koonoomoo, Urana, Whitton, Yanco, Darington Point, Berrigan, and Yarraweyah (Victoria)
- Towns such as Barooga, Finley, Tocumwal and Narrandera
- Larger towns and centres such as Corowa, Leeton, Cobram (Victoria) and Yarrawonga (Victoria).

During construction, the Project would have positive impacts for communities in the primary and secondary study areas associated with:

- Creation of local employment and training opportunities on the Project, including:
  - Population and demography benefits by supporting the retention and attraction of young people,
  - Improved incomes and skills development for individuals relating to employment, training and apprenticeship opportunities with the Project.
- Opportunities for local businesses to support construction activities and the needs of the construction workforce, including:
  - Use of local suppliers and businesses leading to improved business income and livelihoods for business owners and employees, and opportunities for business growth and development
  - Accommodation providers, resulting in increased income due to the use of available, under-utilised tourist accommodation for construction workers.
- Increased participation in recreation, sporting and community clubs due to influx of construction workers.

The Project is also expected to generate a total GVA increase of \$1.095.53B during the construction period, including a GVA increase of \$391.26M for the Project region and \$704.27M for the rest of the State. These benefits would primarily attribute to the manufacturing, construction, and professional, scientific & technical services industries. Construction expenditure on the Project is also expected to create jobs as it circulates through the economy, estimated to reach up to 22,892 FTE person-years of employment during the construction phase.

Potential impacts of the construction phase on communities in the primary and secondary study area would mainly relate to:

- Temporary property impacts associated with the establishment of temporary construction sites and accesses
- Influx of up to 150 non-local construction workers and associated demand for housing, accommodation and essential community services, and potential impacts on community cohesion due to such things as disparities in community participation, impact on residents' access to services, possible anti-social behaviour

- Noise and dust from construction and haulage activities, potentially impacting amenity for residential uses closest to the Project
- Increased use of roads by construction traffic, resulting in temporary disruptions and potential road safety risks.

It is expected that most construction impacts would be effectively managed with the implementation of environmental management measures, including communication and engagement with communities and stakeholders.

Operation of the Project would have long-term and wide-ranging benefits for communities across NSW through the support of renewable energy targets and increased energy security by contributing to a more diverse energy mix.

Operation of the Project would provide positive impacts for local businesses that support maintenance and operations of the Project, while contributions to the community benefit fund would have benefits for local communities through investment in local facilities and community initiatives. Regular lease payments to Host Landowners and annual financial participation contributions to Associated Landowners would provide a stable passive income allowing landowners to diversify and expand their income streams, and support the ongoing viability of some agricultural businesses.

Locally, potential operational impacts for communities in the primary and secondary study areas would mainly be associated with impacts on community values due to a loss of agricultural land and landscape and visual impacts of the Project.

The life of the Project is anticipated to be in the order of about 30 years. Potential impacts of the decommissioning phase would be similar to those of construction and would mainly relate to local employment and business opportunities, influx of workers for decommissioning activities, and increased traffic and truck movements.

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## Appendix A. Authorship and SIA declaration

Details of the authors of this SEIA are provided in **Table A-1**. The SEIA contributors hold appropriate qualifications and have the relevant experience to carry out the SEIA for this project.

I, Nicole Sommerville, declare that this SEIA contains all available information relevant to the SEIA for the project and does not contain information that is false or misleading. Date: 19 October 2022

**Table A-1 SEIA authors**

Name and role	Qualifications	Professional memberships	Relevant experience
Nicole Sommerville, SEIA Lead	Bachelor of Planning (Hons 1), University of South Australia, 1997 Associate Diploma in Built Environment (Architecture), University of South Australia, 1996 Graduate Certificate in Legal Studies, Northern Territory University, 2001	Member, Planning Institute of Australia	Nicole has 25 years' experience in urban planning, community and stakeholder engagement, social planning, social impact assessment and environmental assessment. Nicole has managed the preparation of SEIAs for energy, resources, transport, health care, urban development, and water infrastructure projects in Australia and overseas.
Eoin Richardson, Economics Assessment	BA (Hons) Economics, Trinity College Dublin, 2010 MSc Economic History, London School of Economics and Political Science, 2012	Economic Society of Australia, Victorian Branch	Eoin has nine years' experience in infrastructure economics for public and private projects. Eoin has led business and economic impact assessments for many Australian projects in the road, rail, wind and water infrastructure sectors.
Ada Zeng, SEIA Support	Bachelor of Science (Environmental Studies), University of Sydney, 2019 Bachelor of Arts (Socio-Legal Studies), University of Sydney, 2019	Associate Member, Environmental Institute of Australia and New Zealand (EIANZ)	Ada has two years' experience in environmental approvals for infrastructure projects in the energy, transport and water sectors. Ada has delivered EIS and SIA reports under the EP&A Act in NSW.

## Appendix B. Date: Socio-economic data

Table B-1 Socio-economic overview of key towns and centres

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
NSW	8,072,163	39	18.2%	64.1%	17.6%	3.4%	\$1,486	59.2%	6.3%	32.6%	<ul style="list-style-type: none"> <li>Hospitals (except psychiatric hospitals)</li> <li>Cafes and restaurants</li> <li>Supermarket and grocery stores</li> <li>Aged care residential services</li> <li>Primary education</li> </ul>
Jerilderie SAL	922	51	17.1%	53.3%	29.2%	5.3%	\$1,166	48.8%	5.2%	19.3%	<ul style="list-style-type: none"> <li>Local government administration</li> <li>Supermarket and grocery stores</li> <li>Other grain growing</li> <li>Fuel retailing</li> <li>Sheep farming (specialised)</li> </ul>
Coleambally SAL	1,152	43	18.1%	62.3%	20.2%	4.3%	\$1,555	58.9%	4.6%	24.6%	<ul style="list-style-type: none"> <li>Other grain growing</li> <li>Combined primary and secondary education</li> <li>Primary education</li> <li>Poultry processing</li> <li>Pubs, taverns and bars</li> </ul>

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Finley SAL	2,455	51	16.0%	54.0%	30.1%	4.9%	\$1,066	46.7%	5.8%	21.8%	<ul style="list-style-type: none"> <li>• Aged care residential services</li> <li>• Secondary education</li> <li>• Road freight transport</li> <li>• Primary education</li> <li>• Supermarket and grocery stores</li> </ul>
Berrigan SAL	1,264	55	13.4%	51.3%	34.2%	2.8%	\$980	42.9%	7.8%	20.5%	<ul style="list-style-type: none"> <li>• Local government administration</li> <li>• Aged care residential services</li> <li>• Supermarket and grocery stores</li> <li>• Site preparation services</li> <li>• Primary education</li> </ul>
Darlington Point SAL	1,030	44	15.0%	66.2%	18.6%	18.4%	\$1,312	54.1%	6.9%	27.3%	<ul style="list-style-type: none"> <li>• Poultry processing</li> <li>• Local government administration</li> <li>• Other social assistance services</li> <li>• Grain mill product manufacturing</li> <li>• Wine and other alcoholic beverage manufacturing</li> </ul>

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Deniliquin SAL	7,432	47	16.6%	57.2%	26.0%	5.3%	\$1,221	52.1%	5.9%	25.9%	<ul style="list-style-type: none"> <li>• Other social assistance services</li> <li>• Supermarket and grocery stores</li> <li>• Meat processing</li> <li>• Primary education</li> <li>• Hospitals (except psychiatric hospitals)</li> </ul>
Oaklands SAL	304	50	17.1%	58.6%	24.3%	1.6%	\$1,053	54.5%	6.1%	14.1%	<ul style="list-style-type: none"> <li>• Road freight transport</li> <li>• Other grain growing</li> <li>• Local government administration</li> <li>• Toy and sporting goods wholesaling</li> <li>• Grain storage services</li> </ul>
Urana SAL	329	58	7.6%	56.8%	34.3%	4.3%	\$933	35.4%	5.2%	15.4%	<ul style="list-style-type: none"> <li>• Local government administration</li> <li>• Primary education</li> <li>• Combined primary and secondary education</li> <li>• Sheep farming (specialised)</li> <li>• Sheep-beef cattle farming</li> </ul>

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Tocumwal SAL	2,862	59	14.1%	45.9%	40.2%	2.1%	\$1,067	43.4%	5.1%	16.3%	<ul style="list-style-type: none"> <li>Accommodation</li> <li>Supermarket and grocery stores</li> <li>Aged care residential services</li> <li>Hospitals (except psychiatric hospitals)</li> <li>Cheese and other dairy product manufacturing</li> </ul>
Koonoomoo SAL	305	51	12.8%	60.3%	24.9%	2.0%	\$1,408	50.4%	5.5%	6.8%	<ul style="list-style-type: none"> <li>Road freight transport</li> <li>Cheese and other dairy product manufacturing</li> <li>Dairy cattle farming</li> <li>Other agriculture and fishing support services</li> <li>Accommodation</li> </ul>
Barooga SAL	1,888	46	15.8%	57.7%	26.0%	2.5%	\$1,375	54.0%	5.0%	21.3%	<ul style="list-style-type: none"> <li>Cheese and other dairy product manufacturing</li> <li>Clubs (hospitality)</li> <li>Supermarket and grocery stores</li> <li>Site preparation services</li> <li>Hospitals (except psychiatric hospitals)</li> </ul>
Daysdale SAL	83	56	7.2%	68.7%	19.3%	4.8%	\$1,281	48.8%	-	15.4%	-

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Whitton SAL	523	41	23.5%	62.9%	14.7%	11.1%	\$1,243	45.5%	10.1%	16.9%	<ul style="list-style-type: none"> <li>• Grain mill product manufacturing</li> <li>• Poultry processing</li> <li>• Clubs (hospitality)</li> <li>• Road freight transport</li> <li>• Supermarket and grocery stores</li> </ul>
Corowa SAL	5,595	52	14.6%	53.9%	31.5%	2.4%	\$1,130	51.3%	5.9%	23.9%	<ul style="list-style-type: none"> <li>• Pig farming</li> <li>• Supermarket and grocery stores</li> <li>• Hospitals (except psychiatric hospitals)</li> <li>• Aged care residential services</li> <li>• Meat processing</li> </ul>
Carrathool SAL	200	42	17.5%	68.5%	19.0%	4.5%	\$1,531	65.3%	4.8%	22.2%	<ul style="list-style-type: none"> <li>• Cotton growing</li> <li>• Sheep farming (specialised)</li> <li>• Other grain growing</li> <li>• Cotton ginning</li> <li>• Primary education</li> </ul>

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Yanco SAL	744	25	24.5%	60.3%	15.2%	6.3%	\$1,256	51.2%	7.1%	14.6%	<ul style="list-style-type: none"> <li>• Meat processing</li> <li>• Grain mill product manufacturing</li> <li>• Secondary education</li> <li>• Road freight transport</li> <li>• Building and other industrial cleaning services</li> </ul>
Narrandera SAL	4,369	44	19.9%	56.1%	23.9%	14.6%	\$1,113	48.0%	7.6%	27.1%	<ul style="list-style-type: none"> <li>• Aged care residential services</li> <li>• Meat processing</li> <li>• Local government administration</li> <li>• Supermarket and grocery stores</li> <li>• Primary education</li> </ul>
Leeton SAL	9,170	38	20.6%	61.0%	18.5%	7.2%	\$1,425	55.5%	5.6%	30.5%	<ul style="list-style-type: none"> <li>• Grain mill product manufacturing</li> <li>• Secondary education</li> <li>• Meat processing</li> <li>• Supermarket and grocery stores</li> <li>• Primary education</li> </ul>

Town/ locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
<b>Victoria</b>	6,503,491	38	18.0%	65.2%	16.8%	1.0%	1,759		6.6%	28.5%	<ul style="list-style-type: none"> <li>Hospitals (except psychiatric hospitals)</li> <li>Cafes and restaurants</li> <li>Supermarket and grocery stores</li> <li>Primary education</li> <li>Aged care residential services</li> </ul>
Cobram SAL (Victoria)	6,148	48	15.8%	53.8%	30.3%	2.2%	\$1,026	47.1%	6.2%	28.2%	<ul style="list-style-type: none"> <li>Cheese and other dairy product manufacturing</li> <li>Supermarket and grocery stores</li> <li>Aged care residential services</li> <li>Local government administration</li> <li>Dairy cattle farming</li> </ul>
Yarroweyah SAL (Victoria)	551	45	20.1%	60.3%	19.6%	1.8%	\$1,321	61.4%	4.2%	8.8%	<ul style="list-style-type: none"> <li>Dairy cattle farming</li> <li>Cheese and other dairy product manufacturing</li> <li>Beef cattle farming (specialised)</li> <li>Accommodation</li> <li>Meat processing</li> </ul>

Town/locality	Population*	Median age (years)*	Children aged 14 years or under*	Working aged people aged 15-64 years*	Older people aged 65 years and over*	Aboriginal people*	Median weekly household income*	Labour force participation**	Unemployed**	Rented dwellings*	Key industries of employment**
Yarrawonga (VIC) SAL	8,661	52	15.6%	50.6%	33.9%	1.2%	\$1,149	45.7%	5.4%	23.2%	<ul style="list-style-type: none"> <li>Explosive manufacturing</li> <li>Clubs (hospitality)</li> <li>Supermarket and grocery stores</li> <li>Accommodation</li> <li>Aged care residential services</li> </ul>

Source: \*Based on 2021 ABS Census, \*\*Based on 2016 ABS Census

Table B-2 Overview of businesses in the study area LGAs, 30 June, 2020

LGA	Number of businesses	Key industries	Non-employed businesses	1-4 employees	5-19 employees	20 or more employees
<b>Primary study area</b>						
Edward River	970	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (31.1%)</li> <li>• Construction (11.8%)</li> <li>• Financial and insurance services (9.7%)</li> <li>• Rental, hiring and real estate services (7.1%)</li> <li>• Transport, postal and warehousing (6.1%)</li> </ul>	62.1%	25.6%	9.6%	2.8%
Murrumbidgee	675	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (57.9%)</li> <li>• Rental, hiring and real estate services (8.0%)</li> <li>• Construction (7.3%)</li> <li>• Financial and insurance services (5.0%)</li> <li>• Transport, postal and warehousing (4.3%)</li> </ul>	66.1%	24.1%	8.9%	1.8%
<b>Secondary study area</b>						
Berrigan	852	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (37.0%)</li> <li>• Construction (14.0%)</li> <li>• Rental, hiring and real estate services (7.4%)</li> <li>• Transport, postal and warehousing (6.3%)</li> <li>• Professional, scientific and technical services (4.8%)</li> </ul>	62.6%	25.5%	8.3%	2.5%
Carrathool	420	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (60.0%)</li> <li>• Construction (7.4%)</li> <li>• Rental, hiring and real estate services (5.7%)</li> <li>• Accommodation and food services (4.8%)</li> <li>• Transport, postal and warehousing (4.5%)</li> </ul>	53.8%	35.2%	11.7%	1.0%
Federation	1,302	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (31.2%)</li> <li>• Construction (12.7%)</li> <li>• Rental, hiring and real estate services (12.4%)</li> <li>• Transport, postal and warehousing (7.3%)</li> <li>• Accommodation and food services (5.7%)</li> </ul>	63.9%	23.3%	9.8%	2.4%

LGA	Number of businesses	Key industries	Non-employed businesses	1-4 employees	5-19 employees	20 or more employees
Griffith	3,234	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (29.1%)</li> <li>• Construction (13.5%)</li> <li>• Rental, hiring and real estate services (11.6%)</li> <li>• Financial and insurance services (7.1%)</li> <li>• Retail trade (5.5%)</li> </ul>	64.1%	23.3%	9.7%	2.8%
Leeton	968	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (31.8%)</li> <li>• Construction (15.6%)</li> <li>• Rental, hiring and real estate services (5.7%)</li> <li>• Retail trade (5.4%)</li> <li>• Other services (5.2%)</li> </ul>	63.6%	23.3%	10.1%	2.9%
Narrandera	541	<ul style="list-style-type: none"> <li>• Agriculture, forestry and fishing (39.9%)</li> <li>• Construction (9.6%)</li> <li>• Transport, postal and warehousing (7.0%)</li> <li>• Rental, hiring and real estate services (5.7%)</li> <li>• Retail trade (5.4%)</li> </ul>	66.0%	21.8%	10.5%	1.1%

## Appendix C. Social infrastructure in the secondary study area

Table C-1 Social infrastructure in towns and centres in the secondary study area

Facility type	Facility	
<b>Deniliquin</b>		
Education facilities	<ul style="list-style-type: none"> <li>Deniliquin Christian School</li> <li>Deniliquin High School</li> <li>Deniliquin North Public School</li> <li>Deniliquin South Public School</li> </ul>	<ul style="list-style-type: none"> <li>Edward Public School</li> <li>Mayrunga Public School</li> <li>St Michael's Parish School</li> <li>Deniliquin TAFE NSW</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>Deniliquin Hospital and Health Services</li> <li>Ochre Medical Centre Deniliquin</li> </ul>	<ul style="list-style-type: none"> <li>Deniliquin Clinic</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>Fire and Rescue NSW Deniliquin</li> <li>NSW Ambulance Service</li> <li>NSW Police Station</li> </ul>	<ul style="list-style-type: none"> <li>Deniliquin-Conargo State Emergency Service Unit</li> <li>NSW Fire Brigades Fire Station</li> </ul>
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Deniliquin Mountain Bike Trails</li> <li>Willoughby's Beach Campground</li> <li>Rotary Park Sporting Facility</li> <li>Deniliquin Sports Stadium</li> <li>Memorial Park (sporting ovals)</li> <li>Deniliquin Lawn Tennis Club and Courts</li> <li>Deniliquin Swim Centre</li> <li>Eight parks and reserves</li> </ul>	<ul style="list-style-type: none"> <li>Deniliquin Golf Course</li> <li>Deniliquin Skate Park</li> <li>Deniliquin Bowling Club</li> <li>Deniliquin Racecourse</li> <li>Deniliquin Motorcycle Association, Sporting Car Club</li> <li>Deniliquin Clay Target Club</li> <li>Twin Rivers Boat Ramp</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>Multi Arts Centre</li> <li>Peppin Heritage Centre</li> <li>Deniliquin and District Historical Society Museum</li> </ul>	<ul style="list-style-type: none"> <li>The Depot Historic Collection Museum</li> <li>Edward River Library</li> <li>Five churches/religious services</li> </ul>
Community support facilities	<ul style="list-style-type: none"> <li>Deniliquin Corps Salvation Army</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>Deniliquin RSL Club</li> <li>Six community halls/recreation reserves</li> </ul>	<ul style="list-style-type: none"> <li>Deniliquin Town Hall</li> </ul>
<b>Finley</b>		
Education facilities	<ul style="list-style-type: none"> <li>Finley Early Learning Centre</li> <li>Finley High School</li> <li>Finley Public School</li> </ul>	<ul style="list-style-type: none"> <li>St Joseph's Primary School</li> <li>Finley TAFE NSW</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>Finley Medical Centre</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>Fire and Rescue NSW Finley Fire Station</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Finley Golf Club</li> <li>Finley Showground and Sporting Complex</li> <li>Finley Swimming Pool</li> </ul>	<ul style="list-style-type: none"> <li>Finley Bowling club</li> <li>Four parks/reserves</li> </ul>

Facility type	Facility	
Cultural facilities	<ul style="list-style-type: none"> <li>• Three churches/religious services</li> </ul>	
Community support facilities	<ul style="list-style-type: none"> <li>• Finley Regional Care Aged Care Service</li> <li>• Intereach Community Centre</li> </ul>	
<b>Berrigan</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Berrigan Public School</li> </ul>	
Health and medical services	<ul style="list-style-type: none"> <li>• Berrigan Medical Centre</li> <li>• Berrigan Memorial Hospital</li> </ul>	<ul style="list-style-type: none"> <li>• Berrigan Health Service</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>• Berrigan Ambulance Station</li> <li>• Fire and Rescue NSW Berrigan Fire Station</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• Berrigan Sportsground</li> <li>• Berrigan Racecourse</li> <li>• Berrigan Public Swimming Pool</li> </ul>	<ul style="list-style-type: none"> <li>• Berrigan Community Golf and Bowling Club</li> <li>• Two parks</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Two churches/religious facilities</li> <li>• Berrigan Museum</li> </ul>	<ul style="list-style-type: none"> <li>• Berrigan Library</li> </ul>
Community support facilities	<ul style="list-style-type: none"> <li>• Amaroo Aged Care</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>• Berrigan Soldiers Memorial Hall</li> </ul>	
<b>Darlington Point</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Preschool and playgroup</li> <li>• Darlington Point Public School</li> </ul>	
Health and medical services	<ul style="list-style-type: none"> <li>• Darlington Point Community Health</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>• Darlington Point Police Station</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• Darlington Point Sports Club</li> <li>• Darlington Point War Memorial Swimming Pool</li> <li>• Murrumbidgee Valley Regional Park</li> </ul>	<ul style="list-style-type: none"> <li>• Five parks/reserves</li> <li>• Bunyip Hole Campground</li> <li>• Darlington Point Skate Park</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Darlington Point Museum</li> <li>• Two churches</li> </ul>	
Community support facilities	<ul style="list-style-type: none"> <li>• Waddi Housing and Advancement Corporation</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>• Murrumbidgee Shire Hall</li> <li>• Country Women's Association Hall</li> </ul>	
<b>Oaklands</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Oaklands Central School</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>• Oaklands Police Station</li> </ul>	

Facility type		Facility	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Oaklands War Memorial Swimming Pool</li> <li>Oaklands RSL Bowling Club</li> </ul>	<ul style="list-style-type: none"> <li>Oaklands Recreation Reserve</li> </ul>	
Cultural facilities	<ul style="list-style-type: none"> <li>The United Church</li> <li>Doug Kerr Vintage Museum</li> </ul>		
<b>Urana</b>			
Education facilities	<ul style="list-style-type: none"> <li>Urana Public School</li> <li>St Francis Xavier Primary School</li> </ul>		
Health and medical services	<ul style="list-style-type: none"> <li>Urana Health Service</li> <li>Urana Medical Centre</li> </ul>		
Emergency services	<ul style="list-style-type: none"> <li>Urana Police Station</li> <li>NSW State Emergency Service Urana Unit</li> </ul>		
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Urana Bowling Club</li> <li>Victoria Park Urana Sportsground</li> </ul>	<ul style="list-style-type: none"> <li>Urana Aquatic Centre</li> <li>MacKnight Park</li> </ul>	
Cultural facilities	<ul style="list-style-type: none"> <li>Urana Uniting Church</li> <li>Three churches</li> </ul>		
Community facility	<ul style="list-style-type: none"> <li>Urana Soldiers Memorial Hall</li> </ul>		
<b>Tocumwal</b>			
Education facilities	<ul style="list-style-type: none"> <li>Sacred Heart Primary School</li> <li>Tocumwal Public School</li> </ul>		
Health and medical services	<ul style="list-style-type: none"> <li>Tocumwal Hospital</li> <li>Rao Medical Centre</li> </ul>		
Emergency services	<ul style="list-style-type: none"> <li>NSW State Emergency Service Tocumwal Unit</li> <li>Tocumwal Police Station</li> </ul>		
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Tocumwal Regional Park</li> <li>Tocumwal Beach</li> <li>Finley Beach</li> <li>Tocumwal Golf and Bowls Club</li> <li>WAAAF Creek Walk</li> <li>Annis and George Bills Horse Trough</li> <li>Tocumwal Football Club</li> <li>Tocumwal Pony Club Grounds</li> </ul>	<ul style="list-style-type: none"> <li>Hunts Beach</li> <li>Ulupna Beach</li> <li>Apex Beach</li> <li>Woperana Campground</li> <li>Tocumwal Skatepark</li> <li>Bouchiers Beach</li> <li>Tocumwal Foreshore Park</li> <li>The Big Murray Cod</li> </ul>	
Cultural facilities	<ul style="list-style-type: none"> <li>Tocumwal Library</li> <li>Three churches/religious facilities</li> </ul>		
Community facility	<ul style="list-style-type: none"> <li>Tocumwal RSL</li> </ul>		
<b>Koonoomoo</b>			
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Koonoomoo Recreation Reserve</li> </ul>		

Facility type	Facility	
<b>Barooga</b>		
Education facilities	<ul style="list-style-type: none"> <li>Barooga Public School</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>Barooga Rural Fire Service</li> <li>Barooga Police Station</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Cobram Barooga Golf Resort</li> <li>Barooga Recreation Reserve</li> <li>Sporties Barooga Bowls Club</li> <li>Barooga Adventure Playground</li> <li>Kennedy Park Thompsons Beach</li> </ul>	<ul style="list-style-type: none"> <li>Barooga Botanic Gardens</li> <li>Barooga Aquatic and Recreation Centre</li> <li>Barooga Football Netball Club</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>Two church/religious services</li> </ul>	
<b>Daysdale</b>		
	<ul style="list-style-type: none"> <li>No social infrastructure</li> </ul>	
<b>Cobram</b>		
Education facilities	<ul style="list-style-type: none"> <li>Cobram and District Specialist School</li> <li>Cobram Anglican Grammar School</li> <li>Cobram Primary School</li> </ul>	<ul style="list-style-type: none"> <li>Cobram Secondary College</li> <li>St Joseph's School</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>Cobram Hospital</li> <li>Cobram District Health</li> </ul>	<ul style="list-style-type: none"> <li>Cobram Medical Clinic</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>Cobram Police Station</li> <li>Cobram Fire Brigade</li> </ul>	<ul style="list-style-type: none"> <li>Ambulance Victoria</li> </ul>
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Cobram Skatepark</li> <li>Cobram Showground</li> <li>Cobram Outdoor Pool</li> <li>Cobram and District Harness Racing Club</li> </ul>	<ul style="list-style-type: none"> <li>Cobram Racecourse and Recreation Reserve</li> <li>Ten parks</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>Cobram Library</li> <li>Five churches/religious facilities</li> </ul>	
Community support facilities	<ul style="list-style-type: none"> <li>Ottrey Homes Aged Care</li> <li>Community Interlink Cobram Home Health Services</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>Cobram Italian Social Club</li> <li>Cobram Community House</li> </ul>	
<b>Yarroweyah</b>		
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Yarroweyah Recreation Reserve</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>Yarroweyah Public Hall</li> <li>Yarroweyah Memorial Hall</li> </ul>	

Facility type	Facility	
<b>Whitton</b>		
Education facilities	<ul style="list-style-type: none"> <li>Whitton-Murrumbidgee Public School</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Whitton Park</li> <li>Whitton Swimming Pool</li> <li>Whitton Bowling and Recreation Club</li> </ul>	
<b>Corowa</b>		
Education facilities	<ul style="list-style-type: none"> <li>Corowa High School</li> <li>Corowa Public School</li> <li>Corowa South Public School</li> </ul>	<ul style="list-style-type: none"> <li>St Mary's Primary School</li> <li>TAFE NSW – Corowa</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>Corowa District Hospital</li> <li>Corowa Mediclinic</li> <li>MP Dental Corowa</li> </ul>	<ul style="list-style-type: none"> <li>Corowa Family Dental</li> <li>HC Health Hub</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>Corowa Police Station</li> <li>Fire and Rescue NSW Corowa Fire Station</li> </ul>	<ul style="list-style-type: none"> <li>NSW Rural Fire Service Corowa</li> <li>Corowa Ambulance Station</li> </ul>
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Granthams Bend Campground</li> <li>Corowa Aquatic Centre</li> <li>Lions Park Boat Ramp</li> <li>Corowa Racecourse and Showgrounds</li> <li>Corowa Golf Club</li> <li>Whitehead Street Wetland</li> <li>Corowa Skatepark</li> <li>RSL Park</li> <li>Flag Square Corowa</li> <li>Corowa Community Garden</li> </ul>	<ul style="list-style-type: none"> <li>Central Park Corowa</li> <li>Bangerang Park</li> <li>Ball Park Oval</li> <li>Lawrence Street Playground Corowa</li> <li>Lions Park</li> <li>Corowa Civic Bowls Club</li> <li>Corowa Recreational Flying School</li> <li>Beryl Drive Playground Corowa</li> <li>Corowa Rutherglen Football Club</li> <li>Corowa Clay Target Club</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>Gallery 294</li> <li>Corowa Federation Museum</li> <li>Max's Motor Museum</li> </ul>	<ul style="list-style-type: none"> <li>Wacky Bird Gallery</li> <li>Five churches/religious facilities</li> </ul>
Community support facilities	<ul style="list-style-type: none"> <li>Southern Cross Care Karinya Residential Aged Care</li> </ul>	<ul style="list-style-type: none"> <li>Lutheran Aged Care Albury</li> </ul>
Community facility	<ul style="list-style-type: none"> <li>Corowa RSL Club</li> <li>Corowa Visitor Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>Corowa Memorial Hall</li> </ul>
<b>Carrathool</b>		
Education facilities	<ul style="list-style-type: none"> <li>Carrathool Public School</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>Carrathool Racecourse</li> </ul>	

Facility type	Facility	
<b>Yarrowonga</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Sacred Heart College</li> <li>• Sacred Heart Primary School</li> <li>• Yarrowonga College P-12</li> </ul>	<ul style="list-style-type: none"> <li>• Yarrowonga Mulwala Community and Learning Centre</li> </ul>
Health and medical services	<ul style="list-style-type: none"> <li>• Yarrowonga District Health Service</li> <li>• Yarrowonga Community Health Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Yarrowonga Medical Clinic</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>• Yarrowonga Police Station</li> <li>• Yarrowonga Ambulance Branch</li> </ul>	<ul style="list-style-type: none"> <li>• Yarrowonga County Fire Authority Fire</li> <li>• sStation</li> </ul>
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• Yarrowonga Bowls Club</li> <li>• Yarrowonga River Camp</li> <li>• Yarrowonga Regional Park</li> <li>• Yarrowonga Weir</li> <li>• Lake Mulwala Swimming Pool</li> </ul>	<ul style="list-style-type: none"> <li>• Yarrowonga Mulwala Cricket Club</li> <li>• Black Bull Golf Course</li> <li>• 14 parks/reserves</li> <li>• Yarrowonga Showgrounds</li> <li>• Stan Hargreaves Oval</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Seven churches/religious facilities</li> </ul>	
Community support facilities	<ul style="list-style-type: none"> <li>• Bentley Wood Aged Care</li> <li>• Gorman House Community Centre</li> </ul>	
Community facility	<ul style="list-style-type: none"> <li>• Yarrowonga Mulwala Visitor Information Centre</li> </ul>	
<b>Yanco</b>		
Education facilities	<ul style="list-style-type: none"> <li>• Yanco Public School</li> <li>• Yanco Agricultural High School</li> </ul>	
Emergency services	<ul style="list-style-type: none"> <li>• Yanco Rural Fire Station</li> </ul>	
Sport and recreation facilities	<ul style="list-style-type: none"> <li>• McCaughey Bicentennial Park</li> <li>• McCaugheys Lagoon</li> <li>• Turkey Flat Trail</li> </ul>	<ul style="list-style-type: none"> <li>• Turkey Flat Picnic Area and Bird Hide</li> <li>• Middle Beach</li> </ul>
Cultural facilities	<ul style="list-style-type: none"> <li>• Yanco Powerhouse Museum</li> </ul>	