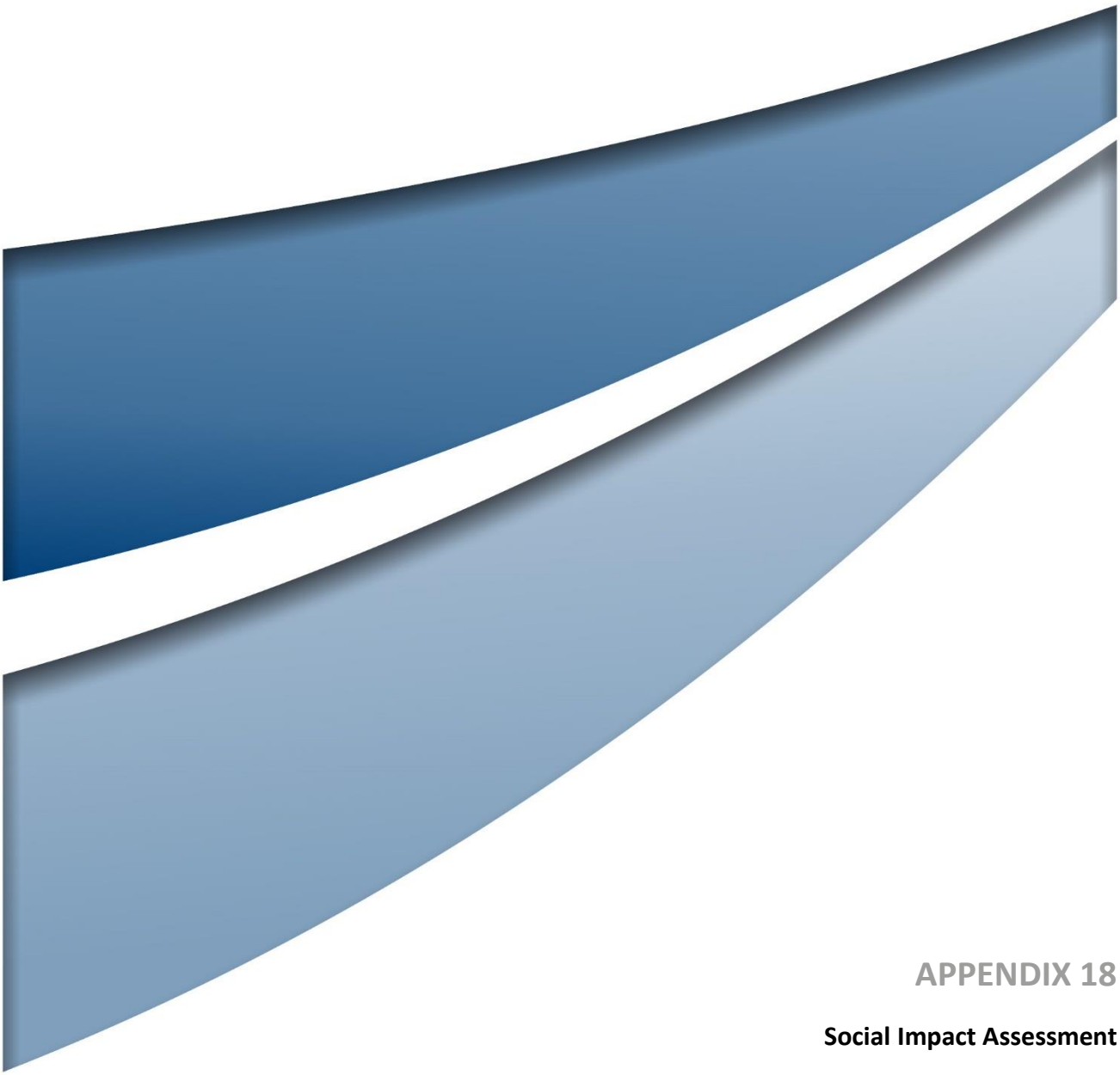

APPENDIX 18

Social Impact Assessment

umwelt
Environmental & Social Consultants

lightsource bp

GUNDARY SOLAR FARM

Social Impact Assessment

FINAL

August 2024

GUNDARY SOLAR FARM

Social Impact Assessment

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Lightsource bp

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Report No.	22223/R13
Date:	August 2024

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This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

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

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Jessica Anagnostaras	14 August 2024	Malinda Facey	14 August 2024

Executive Summary

Introduction

The Gundary Solar Farm Project (the Project) is a proposed renewable energy project that will generate up to 400 megawatt peak (MWp) of solar power on approximately 702 ha of land in the locality of Gundary, within the broader Goulburn Mulwaree Local Government Area (LGA), New South Wales (NSW).
The Project will involve the installation, operation and maintenance of solar photovoltaic panels, a battery storage facility, a substation, internal access tracks, perimeter fencing as well as permanent and temporary ancillary facilities. The Project will connect to the existing 330 kilovolt (Kv) transmission line that traverses through the Project Area and deliver clean energy to the National Electricity Market.

This Social Impact Assessment (SIA) aims to identify, analyse, and evaluate the potential social impacts of the Project on the local and regional communities, and to provide feasible management and mitigation strategies for identified negative social impacts and enhancement measures for the positive social impacts. The SIA follows the International Association for Impact Assessment (IAIA) principles and the NSW Government guidance for SIA for State Significant Developments.

SIA Methodology

The SIA methodology includes:

- A desktop review of relevant literature, policies, and data.
- Stakeholder analysis and stakeholder engagement.
- A social baseline study, including analysis of the existing social conditions and trends in the social locality.
- Impact identification and evaluation using various tools and techniques, such as impact matrices, significance criteria, and scenario analysis.
- Preparation of a social impact management planning framework.

Summary of Social Baseline

The social baseline provides a comprehensive overview of the existing social characteristics, conditions and trends in the social locality, which covers the Goulburn Mulwaree, Wingecarribee, Yass Valley, Upper Hunter Lachlan Shire, Queanbeyan-Palerang LGAs, as well as the ACT and the South East Tablelands Region. The social baseline draws on various sources of data, such as ABS census statistics, results from community surveys, stakeholder consultation outcomes, and literature reviews, to describe the key characteristics of the social locality. A summary of the social baseline findings includes:

- Natural capital: the Project is situated in the Sydney Drinking Water Catchment, has extensively modified vegetation with a history of agriculture and grazing. The region includes conservation areas, national parks and reserves, and is prone to bushfires.
- Human capital: in comparison to the State, the social locality has a relatively steady population growth, an older and aging population, lower density population with relatively strong access to health and education facilities. There is a lower medical practitioner ratio to people in the social locality, and an existing skill drain in the region, a medium rate of relative socio-economic disadvantage, and lower university educational attainments however higher levels of trade skills, when compared to the State.

- Social capital: communities in the social locality have strong social connections and high rates of volunteerism, there are well organised groups with a strong interest in renewable energy. In comparison to the State, there is a higher proportion of lone person households and less couples with children, a slightly less transient population, lower proportion of those born overseas, and a trend of tree change migration to Goulburn LGA. The LGA also has a higher proportion of residents who identify as Aboriginal and/or Torres Strait Islander than the State.

- Economic capital: the social locality has a strong focus on agriculture and mining, a diversifying industry and service base, with the rural economy making a significant contribution to the LGA's economy. The region is supported by interconnected economic and business groups and has connected road access to the proximal neighbouring LGA labour resources. There is a smaller proportion of the population working full-time and a larger proportion working part-time in the region in comparison to NSW, lower unemployment in the host and neighbouring LGAs and lower than State average youth unemployment.

- Physical capital: the social locality is situated between Sydney and Canberra, proximal to the Canberra Airport, Goulburn Airport and key transport linkages, providing communities in the area access to many high order services, and good access to health and education facilities. Significant heritage buildings in Goulburn reflect its agricultural industry history with high rates and capacity for tourists and visitors. The social locality has many Airbnb properties, and other short term accommodation availability and capacity, however low rental vacancy rates and stock in the private rental market. The existing transmission lines, energy infrastructure, and local roads are also infrastructure assets of the social locality.

- Cultural capital: the social locality is an area with contested traditional ownership including lands of the Wiradjuri Nation, the Gandangara and the Ngunawal peoples, with representation by the Pejar Local Aboriginal Land Council (LALC) and the Mulwaree Aboriginal Community Inc (MACI). There is significant European heritage represented throughout the buildings in Goulburn and surrounding suburbs, with growth of the tourism industry through festivals related to cultural heritage and a strong sense of pride in the heritage, arts, and cultural scene of the area.

Summary of Stakeholder Engagement

The SIA process has involved extensive consultation with a range of stakeholders, including the host landholder, proximal landholders and residents, Aboriginal stakeholders, local business and service providers, members of the broader community, elected representatives, local media, local community groups, non-government organisations, and government agencies, including local councils. As part of this, information sharing mechanisms have included the establishment of a Project website, project newsletters, email updates, and personalised letters and letterbox drops. Consultation activities have been varied and included Project briefings, individual meetings, semi-structured interviews, community information drop-in sessions, information market stalls, a targeted telephone survey (random sample) and an online survey. The consultation program has provided critical inputs and feedback for the SIA, with outcomes from community consultation used to identify the key issues and concerns, expectations and aspirations, impacts, opportunities and challenges related to the Project.

The views and perceptions of affected stakeholders regarding the project and its potential benefits and impacts is documented within the SIA. This is based on the feedback gathered through various engagement methods. Analysis of engagement data indicates that stakeholders have mixed opinions about the Project, with some expressing greater acceptance and interest, and others expressing opposition and concern.

The main themes that have emerged from the stakeholder engagement include potential and/or perceived matters:

- Positive impacts of the Project on the local and regional economy, employment, income, and skills development, especially during the construction phase.
- Negative impacts of the project on the visual amenity, landscape character, rural lifestyle, and heritage values of the area, particularly noted by proximal landowners and neighbours to the Project.
- Indirect social impacts associated with environmental impacts of the Project, including effect on environmental values relating to flora and fauna, water resources, soil quality, and air quality in the area, and the measures to avoid, minimise, or mitigate these impacts.
- Social impacts of the project related to traffic and road safety, noise and vibration, dust and glare, and health and wellbeing of the community, and the measures to avoid, minimise, or mitigate these impacts.
- Opportunities and challenges of the project in relation to social infrastructure and service provision, such as the demand and supply of housing, education, health, and emergency services, including the local contributions made by the Project and the coordination of activities with local and state government agencies.
- Benefits and risks of the project for the community wellbeing and social capital, such as the enhancement or disruption of community cohesion, community identity and values, and the processes of engagement and involvement of stakeholders in project planning and decision making.

Assessment of Social Impacts

The SIA has identified and assessed the potential social impacts of the Project during the construction, operation, and decommissioning phases. The impacts have been categorised into high, moderate, low, or negligible levels of significance based on their likelihood, consequence, extent, duration, and sensitivity. The SIA has also considered the cumulative and residual impacts of the Project, considering other existing or planned developments in the region.

Table 1.1 Potential Social Impacts and Opportunities

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape.	Refinements to the Project layout have been made to reduce visual impacts to nearest residences (i.e. removal of panels). Targeted on site visual screening will occur through perimeter landscaping, with a draft landscape plan developed in collaboration with Goulburn Mulwaree Council, Greening Australia and Goulburn Landcare. Related, visual screening on individual landholder's properties may also be appropriate for some residences, with some stakeholders requesting tree planting on their respective properties. However, the topography and view lines surrounding the Project may reduce the efficacy of this solution for some landholders. Further, one proximal landholder is subject to an impact agreement based on assessed level of visual impact, developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder.
Changes in sense of place due to loss of agricultural nature of land.	Potential establishment of agrisolar initiatives once construction has been completed, subject to further engagement with the landholders and / or regulatory authorities. It is Lightsource bp intention to have a local farmer run their sheep on the Project Area, as a means to coexist with the local agricultural farming sector.
Potential loss of agricultural productivity on the site during the Project life cycle.	Potential establishment of agrisolar initiatives once construction has been completed, subject to further engagement with the landholders and / or regulatory authorities. It is Lightsource bp intention to have a local farmer run their sheep on the Project Area, as a means to coexist with the local agricultural farming sector.
Reduced sense of community and cohesion due to influx of transient construction workforce and change in population composition.	Lightsource bp will also work with local service providers, education providers, procurement stakeholders, local emergency service providers, such as the police, during the construction period and as needed. Further, a standardised workforce code of conduct, including all contractors will be implemented, which would include expectations of workforce behaviour outside of work hours. Lightsource bp will provide accessible training and employment opportunities for First Nations groups and female trainees, as well as targeted training opportunities for reskilling or upskilling local workforces.
Reduced sense of community and cohesion due to differing attitudes and feelings towards renewable energy development in the local community and region.	Lightsource bp will continue the implementation of the CSEP for the Project during construction, operation, and decommissioning phases. Lightsource bp to continue to proactively involve and collaborate in existing multi-stakeholder forums, state and federal government initiatives and engage with key representative groups relating to the energy transition, especially those within the vicinity of the Project (Goulburn).
Increased conflict and reduced cohesion between neighbouring landholders given inequitable distribution of social impacts.	Lightsource bp will implement its Neighbourhood Benefit Sharing Program and will facilitate social investment in the broader community through the Voluntary Planning Agreement (VPA) with Council. One proximal landholder is subject to an impact agreement based on assessed level of visual impact, developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Supply chain and human rights issues associated with solar energy infrastructure component sourcing and manufacture.	Lightsource bp adheres to the relevant Human Rights Policy and supply chain standards (Lightsource bp, 2022).
Reduced access to affordable housing and accommodation due to construction workforce influx into the region.	Lightsource bp will continue planning workforce and employment requirements as per the Project's Accommodation and Employment Strategy (AES). This will involve, the prioritisation of local service providers (e.g. accommodation/housing, education, employment), to operate a Housing and Accommodation Expression of Interest Register, the implementation of actions and strategies in the Project's AES, including distribution of workforce accommodation across the social locality to reduce impacts on vulnerable groups, the provision of a VPA to Goulburn Mulwaree Council to support the funding of social infrastructure and other community programs/initiatives, and will explore opportunities to partner with accommodation providers in the local area to minimise use of broader housing.
Increased pressure on local health care, facilities, and emergency services due to incoming construction workforce.	Lightsource bp will ensure the appropriate First Aid qualified people on site during construction and operation, and will implement the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area.
Generation of local employment and procurement opportunities.	Lightsource bp will establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the Project planning and development phase (pre-construction), will advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media, and will collaborate with local employment providers to assist with the sourcing of local employment and procurement. Further, the Project will establish and maintain working relationships with key industry and government stakeholders in the region, will ensure the provision of accessible opportunities and working with relevant First Nations training and employment groups, will incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies and will give consideration to a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project.
Ability to enhance human and economic capital through skill development and training opportunities.	Lightsource bp will seek to partner with the local TAFE and other education providers to facilitate training in renewable energy employment opportunities and through such partnerships, will provide apprenticeships and trainee opportunities with ongoing work experience. Lightsource bp will ensure specific engagement approaches and tailored training opportunities for the employment of women and First Nations people through dedicated resourcing and project prioritisation. Further, the Project will develop and commit to clear pathways between training / upskilling and job opportunities on the Project, will work with local service providers, education providers and procurement stakeholders and will target female training opportunities.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Skills drain from existing skilled workforce.	Lightsource bp will develop and commit to clear pathways between training / upskilling and job opportunities on the Project, and will collaborate with local stakeholders including Council and local industry associations to manage any adverse effect on the local labour market.
Livelihood impact due to decreased property values and inability to sell proximal properties.	Lightsource bp has implemented design changes to reduce the visual and noise impacts of the Project. It is also acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.
Livelihood impacts associated with potential contamination of land due to potential for damage to infrastructure.	A Construction Soil and Water Management Plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. The Project's Operational Environmental Management Plan (OEMP) will also be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase.
Livelihood impact due to increased insurance premiums for neighbouring agricultural properties.	The Project design includes Asset Protection Zones (APZ), dedicated water supply (180,000l) on site for firefighting, emergency access via Kooringaroo Road with additional emergency accesses (via gates) along the security fence, internal access track network with turn around bays. The Project will implement a Bushfire Management Plan, and communication of the plan details to emergency service providers and the community. While there are no Project-specific mitigation measures proposed to address potential increase in insurance, it is acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.
Improved social capital for local community infrastructure and initiatives associated with community benefit sharing programs.	Lightsource bp will continue to implement the Community Shared Benefit Scheme (including both the Neighbourhood Benefit Sharing Program and the VPA) to ensure direct benefit from the Project is received by the local community. Community investment initiatives are to be targeted to community needs and priorities and developed in consultation with community groups, and there will be clear application process and publication of selection criteria for eligibility to community benefit programs/initiatives to be disseminated publicly.
Increased economic activity and spend in local towns, benefiting local businesses and services.	The Project will consider a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project. Lightsource bp together with the EPC Contractor will implement measures and recommendations within the AES, such as the incorporation of additional weighting in tenders and EOIs to prioritise procurement from local companies, and a dedicated project member located within the local community who facilitates relationships with contractors, local workforces, and service providers to provide Project related opportunities.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Reduced public safety due to further deterioration of local roads and increased volume of traffic.	Project access intersection upgrade works on Windellama Road will be undertaken to accommodate turning movements for heavy vehicles into and out of the Project Area. The Project will also ensure a range of measures including: notification and communication with community regarding traffic movement timing and key activities, construction vehicles not to utilise the northern route (Option 1) during School Zone times, implementation of appropriate traffic control measures and plans for OSOM vehicle movements, including temporary works at Braidwood Road / Bungonia Road intersection and traffic control. This shall further include the movement of OSOM vehicles over the Lansdowne Bridge on Bungonia Road. Further, the Project will implement a Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area and will prepare and implement a detailed Construction Traffic Management Plan (CTMP) detailing how works to the site access and ongoing construction works will be undertaken. The CTMP shall be prepared by the proponent with the works contractor in consultation with Council. The Project will also deliver a shuttle bus service from key population centres such as Yass and/or Goulburn to the site, where possible. It is expected that this will assist residents engage in employment opportunities who otherwise would not be able to reach site, as outlined in the AES. Dilapidation surveys covering the pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and local Councils for the proposed transport routes before and after construction. Regular inspections and consultation with local Councils. It is expected that any damage resulting from construction traffic, except normal wear and tear, would be repaired.
Safety concerns due to potential glint/glare from solar panels	Trees will be planted for Visual Screening along Windellama Road, with additional landscape screening to be established along the north-eastern boundary of the Project to further enhance screening and reduce potential glare towards Kooringaroo Road. There will be ongoing information sharing and engagement with Goulburn Airport about Project updates and plans.
Reduced public safety due to increased bushfire risk and potential impacts to access roads and proximal properties.	The Project design will include: ○ 10 m APZ around the perimeter of the Project Area. ○ Total of 180,000 L of water in tanks on the Project Area. This has been increased from a total of 2 x 10,000 L tanks on site since the scoping phase in response to community and stakeholder feedback. ○ Supplementary site access via Kooringaroo Road for emergency access only, as well as emergency accesses along the perimeter fencing ○ Access tracks on the Project Area to be designed to provide safe access for emergency services personnel.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
	Further, a Bushfire Emergency Management and Operations Plan, as outlined in the EIS, will be implemented. Intersection upgrades will occur, to improve access, as outlined in the Construction Traffic Management Plan (CTMP). Information sharing with surrounding community regarding bushfire management protocols will be in place, to be guided through the revised CSEP. Bushfire training and site familiarisation day with RFS and Fire and Rescue NSW will occur once the Project is commissioned, including notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate. The Project will continue to work with local emergency service providers.
Reduced levels of public safety due to potential for flooding and impacts to access roads and proximal properties.	The Project design contains project infrastructure to avoid impacts to main water courses, which have the potential to flood. The development and implementation of relevant management plans including Construction Soil and Water Management Plan (CSWMP), Operational Environmental Management Plan (OEM), and the Flood Emergency Management Plan (FEMP) will be undertaken. Further, fencing will be designed to consider flood levels across the site through construction of floodway to reduce the likelihood of fence blockage due to loss of vegetation in storm events. A flood training and site familiarisation day with the NSW State Emergency Service (SES) will also be organised once the Project is commissioned & constructed.
Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance and irritation.	The Project has implemented refinements to the layout and design, such as relocation of the centralised AC Battery Energy Storage System (BESS), removal of some decentralised DC BESS units, and incorporation of noise walls/barriers. The Project will prepare a Noise and Vibration Management Plan (NVMP) as part of the Construction Environmental Management Plan (CEMP). In addition, the additional implementation of mitigation and management plans will be undertaken to control and minimise construction noise should these occur. As part of the CEMP, protocols will be developed and implemented to minimise the air emissions during the construction, including water suppression on all exposed areas, unsealed roads and stockpile area when required (i.e. if visible dust emissions are observed), the location and scale of dust generating activities would be modified and limited during periods of dry and windy weather, engines to switch off when not in use for prolonged periods and the development of a complaints procedure to identify and respond to complaints. In addition to the above, where feasible and reasonable, construction to be carried out during the standard daytime working hours. Work generating high levels of noise will be scheduled during less sensitive time periods. Areas within the Project Area which have been temporarily disturbed by construction and operational activities will be rehabilitated. Further, once construction has been completed, ground cover to be established and maintained in accordance with the OEMP. Implementing the CSEP and communicating Project construction plans and timing with all relevant stakeholders will occur throughout the construction phase.
Intergenerational equity and improved liveability due to contribution of the Project to renewable energy generation.	The VPA and any other social investment initiatives under the AES could further fund development of renewable energy skills development in the Goulburn Mulwaree LGA. This could include sponsorship, training and education opportunities for local people wishing to work in the renewable energy sector, or students and young people.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Concern regarding ability to effectively rehabilitate land for agricultural use post solar farm use e.g. removal of all infrastructure.	The Project will implement a Waste Management Plan (developed as part of the EIS) and a Decommissioning and Rehabilitation Management Framework (DRMF). The revised CSEP will include communication and information regarding Lightsource bp's decommissioning commitments and plans with all stakeholders.
Loss of environmental values e.g. flora and fauna.	The Project will implement a Biodiversity Management Plan (BMP) to further reduce and mitigate impacts on biodiversity, there will be control measures in place for erosion and sedimentation, weed management, fencing, access control and fauna exclusion. Additionally, there will be workforce education and training in environmental management plan for the construction phase, and ecology pre-clearance surveys and supervision of works will be in place.
Stress and anxiety associated with the Project and uncertainty of the Project assessment process including the cumulative impacts of concurrent project development within the locality.	Lightsource bp will collaborate with other local developers to minimise where possible cumulative social impacts associated with renewable energy development in the area and will continue to engage with local landowners and residents regarding Project implementation and information provision. The Project will share and connect people to local services to support mental health.
Physical health and wellbeing impacts as a result of potential increased exposure to electromagnetic fields (EMFs) from Project infrastructure.	Separation distances between EMF sources and receivers have been considered in the Project layout and all project infrastructure will be designed in accordance with relevant industry standards. All relevant procedures in relation to a high voltage installation will be adhered to throughout the life of the Project and public access will be restricted throughout the life of the Project.
Health and wellbeing impacts associated with potential water contamination of neighbouring water sources, e.g. dams and bores.	The Project will prepare a Construction Soil and Water Management Plan (CSWMP) to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. An Operational Environmental Management Plan (OEMP) will be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase. Further, the operation maintenance on Project infrastructure will be in place.

Social Impact and Significance Rating	Refinements, Mitigation or Enhancement Measures
Reduced connection to Country and disruption to cultural values.	The Project will develop an Aboriginal Cultural Heritage Management Plan (ACHMP) in consultation with the RAPs, DPHI and Heritage NSW. The ACHMP will include an unanticipated finds protocol, unanticipated skeletal remains protocol, protocols related to heritage inductions for work crews, and long-term management of any Aboriginal sites being impacted. Aboriginal sites GSF-UMW-3, GSF-UMW-4 and GSF-UMW-5 are to be fenced off prior to construction commencing, and the staged salvage excavation is to occur prior to the construction of the Project for GSF-UMW-6 and GSF-UMW-9. All sites with surface stone artefacts within the Development Footprint are to be collected from the ground surface (including sites that will be subject to salvage excavation) by qualified archaeologists and RAP representatives. Lightsource bp to continue preventative management measures for historic heritage.
Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes.	The CSEP will be revised to address pre-construction, construction and operational phases of Project, which would include information relating to the construction period, operational phase, the company, and decommissioning. Lightsource bp have a contact phone number, which will continue to operate throughout the construction and operational phases. If necessary, appropriate contractor/s may have additional complaints and grievance mechanisms in place.

Management of Social Impacts and Project Refinements

In response to these identified impacts, Lightsource bp has undertaken detailed assessments and community consultation to refine aspects of the Project, and to design management and mitigation strategies.

Key Project refinements include the removal of approximately 50 hectares of solar panels from the north-west corner of the Project Area to reduce noise and visual impacts, relocation of the centralised BESS approximately 1.2 km to the east to minimise its visibility and auditory presence further away from nearby dwellings, and the removal of several decentralized BESS units to further reduce potential impacts on nearby dwellings or residents. Adjustments have also been made to protect local Eucalyptus trees, inclusion of a secondary access point via Kooringaroo Road, and the establishment of additional emergency access points along the perimeter fencing via gates for emergency access and egress to enhance fire safety measures. Further, the Project has committed to the following to avoid and minimise environmental and community impacts:

- Installation of riparian fencing (such as a latched tube watercourse crossing) where the security fence crosses a watercourse or creek.
- Solar panels designed with a 500 mm freeboard for the lowest edge to further avoid any impacts of flooding.
- Inclusion of dedicated non-combustible water tanks with a combined capacity of 180,000 L distributed throughout the Project Area.
- Strategically located noise barriers around the loudest Project infrastructure.
- Strategically located landscape screening.
- Implementing setback distances i.e. a 10 m APZ around the perimeter of the Project, within the security fencing and approximately 20 m to 40 m setbacks around second order and higher streams, in particular where these have biodiversity value.
- Implementing exclusion zones i.e. areas with habitat for threatened species, and areas prone to flooding.

In addition, Lightsource bp has committed to the implementation of a Social Impact Management Plan (SIMP) to manage and /or enhance social impacts and include a program to monitor, review and report on the effectiveness of these actions which would also include:

- Implementation of actions within the existing Accommodation and Employment Strategy to maximise local benefits and minimise any impacts on the local housing or accommodation market.
- Community and Stakeholder Engagement Plan for the pre-construction, construction and operational phases focused on the continued proactive engagement with the community.
- Community benefit sharing strategy.
- Neighbourhood Benefit Sharing Program.

Community identified strategies to mitigate or respond to the potential impacts, as well as opportunities to enhance the positive impacts of the Project and to maximise the Project's contribution to the local and regional community, have also been identified, with these strategies considered in the development of the social impact management framework.

The Neighbourhood Benefit Sharing Program aims to ensure that residents living closest to the Project can share in its direct financial benefits. Overall, Lightsource bp is engaging with stakeholders to address social impacts, both by altering the Project design and through community benefit programs, demonstrating a balance between advancing renewable energy and addressing the social impacts associated with its development.

In addition, as outlined in the Environmental Impact Statement (EIS) a range of management plans have also been committed to, to minimise and mitigate the environmental impacts of the project such as Biodiversity Management Plan, Sheep Grazing Vegetation Management Plan, Cultural Heritage Management Plan (including Aboriginal and non-Aboriginal Heritage), Noise and Vibration Management Plan, Soil and Water Management Plan, Traffic Management Plan, Waste Management Plan, Emergency Management Plan, including Bushfire and Hazards, Rehabilitation Management Plan.

Conclusion

The SIA has followed a rigorous and participatory approach to identify and assess the potential social impacts and benefits of the Project, as well as proposing mitigation and enhancement measures to address high and moderate significant impacts. The SIA has also demonstrated how relevant stakeholders and the community have been involved in the SIA process and how the proponent intends to continue this engagement during project implementation and operation.

In summary, this SIA documents the social baseline, impacts, and management measures associated with the Project. It informs the refinement of project design to minimise negative impacts and maximise positive benefits, while community-identified strategies contribute to a preliminary social impact management framework.

Abbreviations

Abbreviation	Definition
ABS	Australian Bureau of Statistics
ACHA	Aboriginal Cultural Heritage Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
AEC	Australian Electoral Commission
AEMO	Australian Energy Market Operator
AES	Accommodation and Employment Strategy
AHIMS	Aboriginal Heritage Information Management System
AIHW	Australian Institute of Health and Welfare
ANZCO	Australian and New Zealand Standard Classification of Occupations
APZ	Asset Protection Zones
ATDW	Australian Tourism Data Warehouse
BESS	Battery Energy Storage System
BOCSAR	Bureau of Crime Statistics and Research
CBF	Community Benefit Fund
CEC	Clean Energy Council
CIV	Capital Investment Value
CSEP	Community and Stakeholder Engagement Plan
CSP	Community Strategic Plan
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cr	Councillor
DCJ	Department of Communities and Justice
DFID	The Department of International Development
DPA	Distribution Priority Area
DPE	(Former) Department of Planning and Environment
DPHI	(Current) Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
FPIC	Free Prior and Informed Consent
FTE	Full-time equivalent
GP	General Practitioner

Abbreviation	Definition
Ha	Hectare
IAIA	International Association for Impact Assessment
IAPP	Indigenous and Australian Participation Plan
ICNNSW	Industry Capability Network of NSW
IEO	Index of Education and Occupation
IER	Index of Economic Resources
IRSD	Index of Relative Socio-Disadvantage
km	Kilometres
kV	Kilovolt
LAHA	Living away from home allowance
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
LIB	Lithium-ion batteries
LTESA	Long-Term Energy Service Agreement
LUCRA	Land Use Conflict Risk Assessment
LVIA	Landscape and Visual Impact Assessment
m	metre
MW	megawatt
MWh	Megawatt Hour
NEM	National Energy Market
NEMA	National Emergency Management Agency
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NVIA	Noise and Vibration Impact Assessment
OEH	Office of Environment & Heritage
OSOM	Over size over mass
PBC	Prescribed Body Corporate
PHA	Preliminary Hazard Assessment
PHIDU	Public Health Information Development Unit
PHN	Primary Health Network
PV	Photovoltaic
Q&A	Question and answer
Rd	Road
RDA	Regional Development Australia

Abbreviation	Definition
REX	Regional Express Airlines
REZ	Renewable Energy Zone
RFS	Rural Fire Service
RNTBC	Registered native title bodies corporate
RL	Reduced level
ROI	Register of Interest
SAL	Suburb and Locality
SALM	Small Area Labour Market
SEARs	Secretary's Environmental Assessment Requirements
SEIFA	Socio-Economic Indexes for Australia
SIA	Social Impact Assessment
SISR	Social Impact Scoping Report
SSD	State Significant Development
TfNSW	Transport for New South Wales
UCL	Urban Centres and Localities
UN	United Nations
WHO	World Health Organisation

Author's Declaration

As outlined in the NSW Government SIA Guideline, (DPE, 2023), suitably qualified and experienced practitioner/s should be involved in the preparation of the SIA report. A suitably qualified person must have:

- Suitable qualifications in a relevant social science discipline.
- Proven experience over multiple years and substantial competence in social science research methods and SIA practices.

This SIA has been by reviewed by Jessica Anagnostaras (SIA Technical Director), from Umwelt (Australia) Pty Ltd, who declares that this SIA, completed on 5 July 2024:

- Was prepared by a team that has suitable qualifications, proven experience and competence in SIA practice, and relevant professional memberships.
- That the authors understand their legal and ethical obligations in the preparation of the SIA.
- That none of the information included in the SIA is false or misleading.
- That the SIA contains all relevant information.

We declare that through the development of this SIA, the authors have adhered to:

- The SIA principles outlined in the SIA Guideline (DPE, 2023).
- The EIANZ Code of Ethics and Professional Conduct (EIANZ, 2021).

Table AD.1 Authors Qualifications

Requirement	SIA Technical Director - Jessica Anagnostaras
Suitable Qualifications	Master of Human Rights BA (Social Policy & International Relations) Certificate in Social Impact Assessment & Management Certificate in Social Risk & Resettlement Management
Proven Experience in SIA Practice	14 years
Professional Memberships	International Association of Impact Assessment Society for Applied Anthropology

Table of Contents

Executive Summary i

Abbreviations xiii

Author's Declaration xvi

1.0 Introduction 1

1.1 Project Overview 1

1.2 The Proponent 4

2.0 Methodology 5

2.1 Assessment Requirements 5

2.2 Social Locality and Baseline 8

2.2.1 Defining the Social Locality 8

2.2.2 Developing a Social Baseline 9

2.2.3 Data Sources 10

2.3 Stakeholder Engagement 11

2.3.1 Stakeholder Identification 11

2.3.2 Engagement Mechanisms 13

2.4 Social Impact Evaluation and Management 20

2.5 Assessment Limitations 21

3.0 Social Baseline 23

3.1 Defining the Social Locality 23

3.2 Local Project Setting 29

3.3 Energy Policy and Context 30

3.3.1 Federal Policy and Context 30

3.3.2 NSW Context NSW Policy and Context 31

3.3.3 Regional and Local Policy 33

3.4 Cumulative Impacts from Proximal Projects 34

3.5 Community Resilience and Adaptive Capacity 36

4.0 Social Impact Evaluation 38

4.1 Way of Life / Community 43

4.1.1 Impact on Sense of Place Due to a Change in Land Use (Loss of Agricultural Land) and Landscape (Visual Impacts) 43

4.1.2 Loss of Sense of Community and Cohesion 52

4.1.3 Change in Population and Community Composition 60

4.1.4 Constraining Future Growth 62
4.2 Accessibility 64
4.2.1 Increased Pressure on Housing and Accommodation 64
4.2.2 Pressure on other Social Infrastructure, Services and Facilities 68
4.3 Livelihoods 70
4.3.1 Employment, Procurement and Training Opportunities 72
4.3.2 Decline in Land and Property Values 76
4.3.3 Potential Contamination of Local Water Sources 79
4.3.4 Increased Cost of Insurance for Adjacent Property Owners 80
4.3.5 Enhancing Social Value through Community Investment 82
4.3.6 Distributive Inequity of Landholder Agreements 83
4.4 Surroundings 84
4.4.1 Reduced Public Safety 85
4.4.2 Social Amenity Impacts from Dust, Noise and Heat Effects 94
4.4.3 Intergenerational Equity 98
4.4.4 Loss of Environmental Values 101
4.5 Health and Wellbeing 103
4.5.1 Mental Health and Wellbeing 104
4.5.2 Physical Health and Wellbeing 106
4.6 Cultural Values and Impacts 109
4.7 Decision Making Systems 111
4.7.1 Information Provision, Engagement and Community Agency 112
4.7.2 Lack of Trust in the Planning and Assessment Process 115
4.7.3 Site Selection and Project Viability 116
4.8 Cumulative Impact 118
4.9 Broader Community Perspectives 121
4.9.1 Levels of Awareness and Acceptance of the Project 123
4.9.2 Project Impacts and Benefits 127
5.0 Summary of Social Impact Evaluation 132
6.0 Social Impact Management Framework 142
6.1 Early Design Changes 142
6.2 Preliminary Social Impact Management Framework 143
7.0 Conclusion 148
8.0 References 150

Figures

Figure 1.1	Project Location and Regional Context	3
Figure 2.1	SIA and EIS process	5
Figure 2.2	SIA Program Phases	6
Figure 2.3	Social Impact Categories	7
Figure 2.4	Direct and Indirect Social Impacts	8
Figure 2.5	Community Capitals	10
Figure 2.6	Key Stakeholders	12
Figure 2.7	Social Impact Evaluation Process	21
Figure 3.1	Geographical Boundaries within the Social Locality	26
Figure 3.2	Social Locality	27
Figure 3.3	Receivers within 4 km radius of the Project Boundary	28
Figure 3.4	Suitable Locations for Solar Development	32
Figure 3.5	Proximal Major Projects within 100 km of the Proposed Gundary Solar Farm	35
Figure 4.1	Social Impact Frequency	39
Figure 4.2	Social Impact by Category Matrix	40
Figure 4.3	Negative Impact Frequency by Stakeholder Group	41
Figure 4.4	Positive Impacts Frequency by Stakeholder Group	42
Figure 4.5	Community Impacts – Frequency by Stakeholder Group	43
Figure 4.6	Example of Landscape Value of Gundary	47
Figure 4.7	Project Refinements (2022 to 2024)	50
Figure 4.8	Estimated Construction Workforce	53
Figure 4.9	Social Licence to Operate Model	57
Figure 4.10	Urban Fringe Housing Strategy, Precincts and Opportunities for Development in Goulburn, Closest to the Project site	63
Figure 4.11	Accessibility Impact – Frequency by Stakeholder Group	64
Figure 4.12	Location of Accommodation Providers within 1-Hour Drive of the Project Site	65
Figure 4.13	Livelihoods Impacts – Frequency by Stakeholder Group	71
Figure 4.14	Solar's Effect on Home Resale Prices	78
Figure 4.15	Solar Farm Insurance Claims by Type	81
Figure 4.16	Surroundings Impact – Frequency by Stakeholder Group	85
Figure 4.17	Transport Route Options	88
Figure 4.18	Health and Wellbeing Impacts – Frequency by Stakeholder Group	104
Figure 4.19	Culture Impact – Frequency by Stakeholder Group	109
Figure 4.20	Decision-Making Systems Impact – Frequency by Stakeholder Group	111
Figure 4.21	Save Gundary Action Group Pictured at Local Market in Local Newspaper	114
Figure 4.22	Level of Awareness of Project	123
Figure 4.23	Level of Acceptance of Solar Farm Development	124
Figure 4.24	Social Licence to Operate – Broader Community	126
Figure 4.25	Negative Impacts associated with the Project (identified by Telephone Survey respondents)	128
Figure 4.26	Broader Community identified Strategies to Reduce the Negative Impacts	129
Figure 4.27	Positive Impacts and Benefits of the Project Identified by Telephone Survey Respondents	130

Figure 4.28 Broader Community Identified Strategies to Enhance Positive Impacts 131
Figure 5.1 Social Impact Significance Matrix 133
Figure 6.1 Framework for Social Impact Management 143

Tables

Table 1.1 Potential Social Impacts and Opportunities iv
Table 2.1 Number of Stakeholders Consulted by Stakeholder Group Category across project phases 13
Table 2.2 Engagement and Communication Mechanisms by Stakeholder Group 15
Table 2.3 Stakeholder Consultation and Engagement Mechanisms 16
Table 2.4 Communication counts between LSbp, Umwelt and the Community 20
Table 3.1 Social Locality inclusions and justification 24
Table 3.2 Population surrounding the Project 29
Table 3.3 Local and Regional Challenges and Opportunities 37
Table 4.1 Summary of Mitigation and Enhancement Strategies- Change to Sense of Place 52
Table 4.2 Summary of Mitigation and Enhancement Strategies- Loss of Sense of Community and Cohesion 59
Table 4.3 Construction Workforce Population Change Estimates - All Scenarios 61
Table 4.4 Accommodation Availability 67
Table 4.5 Summary of Mitigation and Enhancement Strategies – Housing and Accommodation 67
Table 4.6 Hospital within the Social Locality 69
Table 4.7 Emergency Services in the host LGA 69
Table 4.8 Summary of Mitigation and Enhancement Strategies – Access to Services 70
Table 4.9 Local* Employment Target 74
Table 4.10 Summary of Mitigation and Enhancement Strategies – Employment, Training and Procurement 74
Table 4.11 Summary of Mitigation and Enhancement Strategies – Property Values 79
Table 4.12 Summary of Mitigation and Enhancement Strategies – Potential Water Contamination 80
Table 4.13 Summary of Mitigation and Enhancement Strategies – Insurance Premiums 82
Table 4.14 Summary of Mitigation and Enhancement Strategies – Enhancement of Social Value through Community Investment 83
Table 4.15 Summary of Mitigation and Enhancement Strategies – Public Safety (Traffic) 89
Table 4.16 Summary of Mitigation and Enhancement Strategies – Reduce Public Safety (Glint and Glare) 90
Table 4.17 Summary of Mitigation Strategies – Public Safety (Bushfire Risk) 92
Table 4.18 Summary of Mitigation and Enhancement Strategies – Reduced Public Safety (Flood Risk) 94
Table 4.19 Summary of Mitigation and Enhancement Strategies – Social Amenity (Noise & Dust) 96
Table 4.20 Summary of Mitigation and Enhancement Strategies – Intergenerational Equity 100
Table 4.21 Summary of Mitigation and Enhancement Strategies – Environmental Values 103
Table 4.22 Summary of Mitigation and Enhancement Strategies – Health and Wellbeing 106
Table 4.23 Summary of Mitigation and Enhancement Strategies – Physical Health 108
Table 4.24 Summary of Mitigation and Enhancement Strategies – Cultural and Historic Heritage 110

Table 4.25 Summary of Mitigation and Enhancement Strategies – Engagement and Decision Making 118
Table 4.26 Perceived Cumulative Impacts associated with the Project 119
Table 4.27 Telephone Survey Sample difference in Comparison to the LGA 122
Table 5.1 Impact Evaluation 134
Table 6.1 Project Design Changes 142
Table 6.2 Social Impact Management Strategies 145

Appendices

Appendix A SIA Guideline Review Questions
Appendix B Social Baseline Indicators, Data Sources and Community Capitals Analysis
Appendix C Community and Stakeholder Engagement Plan
Appendix D Community Engagement Materials
Appendix E Other Major Projects in the Region
Appendix F Background Information to the Neighbourhood Benefit Sharing Program
Appendix G Accommodation and Employment Strategy
Appendix H Preliminary Outline of Social Impact Management Strategies

1.0 Introduction

Lightsource Development Services Australia Pty Ltd (Lightsource bp) proposes to develop the Gundary Solar Farm (the Project), a 400 Megawatt peak (MWp) solar farm with a Battery Energy Storage System (BESS) located southeast of Goulburn, New South Wales (NSW). This report documents the process and outcomes of the Social Impact Assessment (SIA) undertaken by Umwelt as part of the Environmental Impact Statement (EIS) for the Project.

The Project is considered a State Significant Development (SSD) under Part 4 of the NSW Government's *Environmental Planning and Assessment Act 1979* (EP&A Act) with the SIA prepared in accordance with the NSW *Social Impact Assessment Guideline* (2023) (the SIA Guideline) as well as the Secretary's Environmental Assessment Requirements (SEARs), issued for the Project on 10 November 2022. In particular, the SEARs require the EIS to assess the social impacts of the Project in accordance with the SIA Guideline and include consideration of construction workforce accommodation.

An Accommodation and Employment Strategy (AES) has been developed for the Project, as part of the SIA with the purpose of outlining the approach and strategies of the Project relating to workforce accommodation and employment.

1.1 Project Overview

Lightsource bp proposes to develop a large-scale solar photovoltaic (PV) generation facility in the locality of Gundary, within the Goulburn Mulwaree Local Government Area (LGA) in New South Wales (NSW), southeast of Goulburn (see **Figure 1.1**). The Project is located at 961 Windellama Road, Gundary NSW and will gain access via the existing driveway from Windellama Road. Intersection works are proposed to upgrade the Project access on Windellama Road to accommodate heavy vehicles.

The Project will supply electricity to the National Electricity Market via a connection to the 330 kV overhead transmission line traversing the north-west corner of the Project Area. The Project will generate enough clean energy for about 133,000 homes and reduce carbon emissions by 670,000 tonnes. The BESS will have combined capacity of up to 555 MWp and store up to 1,570 Megawatt hours (MWh) of on-demand energy for supply to the grid.

The Project would be located on land zoned RU1 – Primary Production. The area surrounding the Project is characterised predominantly by cultivated agricultural lands, rural residential properties, small settlements, and conservation areas. Land within and adjacent to the Project has been subject to extensive cultivation associated with historic agricultural land uses. The Project Area is not mapped as Biophysical Strategic Agricultural Land (BSAL), State Significant Agricultural Land (SSAL) or Class 1 or 2 under the Land and Soil Capability Mapping for NSW.

The Project will be developed across five freehold lots, covering an area of approximately 702 ha (the Project Area). These properties are primarily used for grazing activities. The Project infrastructure will cover approximately 512 ha (the Development Footprint) of the wider Project Area.

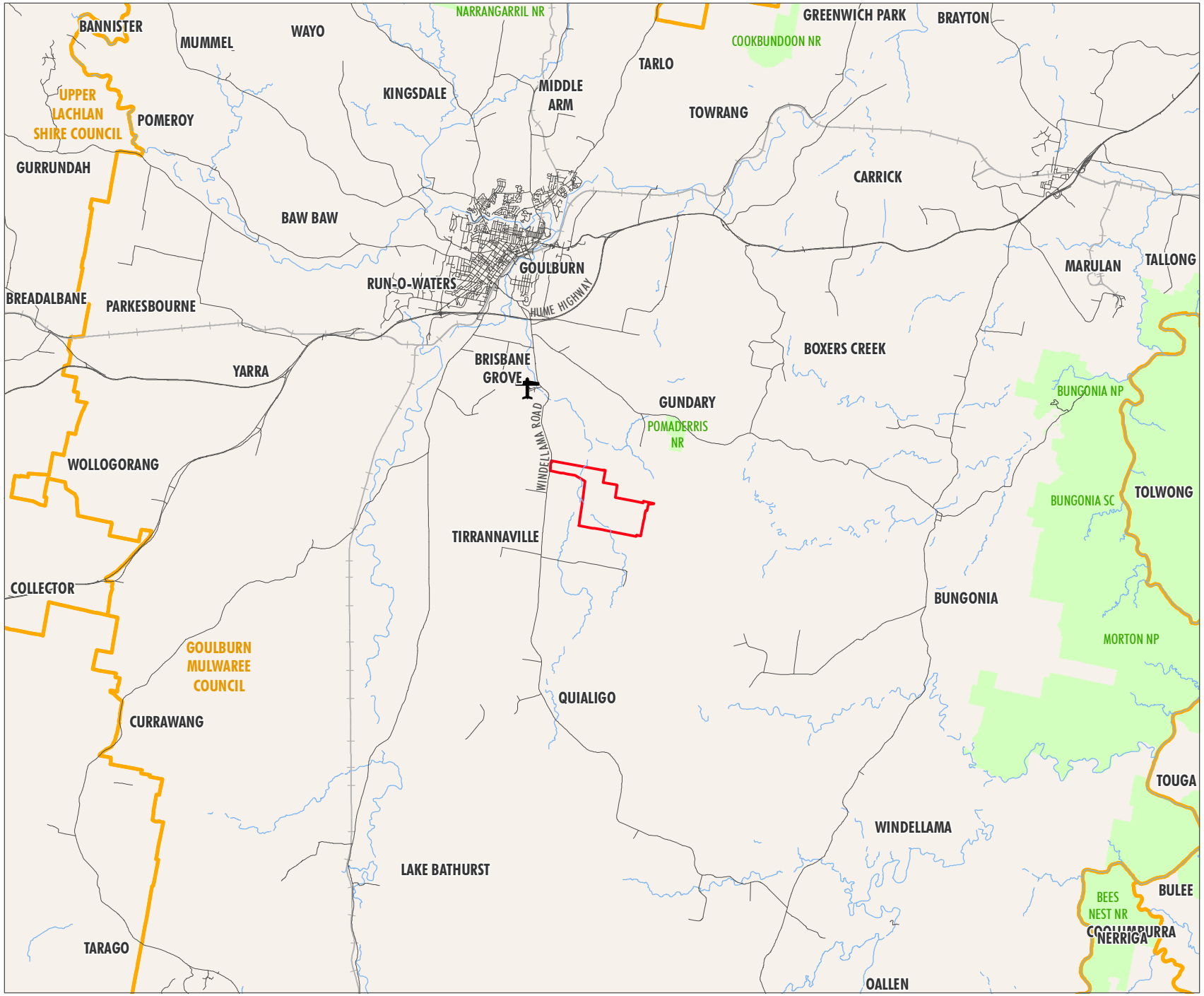
Development consent for the Project is required under Part 4 of the EP&A Act. The Project is State Significant Development (SSD) pursuant to Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* as the Project is development for the purposes of electricity generating works with a capital value of over $30 M.

The objectives of the Project are to:

- Generate approximately 780,000 MWh of renewable electricity per year.
- Reduce greenhouse gas emissions by approximately 670,000 tonnes of CO_2 equivalent per annum. This is roughly equivalent to removing approximately 278,000 cars from the road.
- Generate a capital investment of approximately $650 million.
- Create up to 400 FTE employment opportunities during the construction phase (it is anticipated only 250 personnel would be on site at any one time during peak construction) and create up to four FTE employment opportunities during the operational phase.
- Generate enough electricity to supply approximately 133,000 households on an annual basis in NSW.
- Establish indirect benefits to local services through the construction and operation phases.
- Diversify land use and economic activity in regional NSW.
- Provide the landholder with additional income (year on year) to supplement their agricultural practices.
- Provide ongoing financial assistance through the community shared benefit scheme (including both the Neighbourhood Benefit Sharing Program and the Voluntary Planning Agreement (VPA) to ensure direct benefit from the Project to the local community.

FIGURE 1.1

Project Location and Regional Context



Project
Goulburn
Local Government
NPWS Estate
Roads
Railway
Watercourses

0 2.5 5

Kilometers

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

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APPROVED FOR AND ON BEHALF OF Umwelt

Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

1.2 The Proponent

The Proponent for the Project is Lightsource Development Services Australia Pty Ltd (ABN 26 623 301 799), a wholly owned subsidiary of Lightsource bp Renewable Energy Investments Limited (Lightsource bp). Lightsource bp was formed in 2017 as a joint venture (JV) between the European solar farm developer Lightsource and global energy company, bp. Most recently, bp has announced the intention to fully acquire Lightsource bp, which currently operates as a 50/50 joint venture with bp. Lightsource bp is a global leader in the development and management of utility scale solar projects, with a successful track record of progressing projects from early-stage development through to operation. Lightsource bp works closely with local businesses and individuals to deliver sustainable renewable energy projects in a manner that reduces impacts and increases local benefits.

2.0 Methodology

2.1 Assessment Requirements

A 'best practice' approach to the SIA has been adopted and addresses the Department of Planning and Environment's (DPE) Social Impact Assessment Guideline for State Significant Projects (2023) (hereafter referred to as the SIA Guideline) and the Undertaking Engagement Guidelines for State Significant Projects (2022).

Commencement of SIA early in the Project, informed by community and stakeholder engagement, affords the opportunity to effectively address social impacts within the detailed project planning and assessment phase, resulting in improved project design and social/community outcomes. Engagement to inform the SIA is considered separate to, and different from, consultation on the EIS and the Project, with the former being more two-way in seeking stakeholder input to the assessment process.

Figure 2.1 outlines the SIA and EIS processes, with further information on the relevant SIA phases provided in **Figure 2.2**.

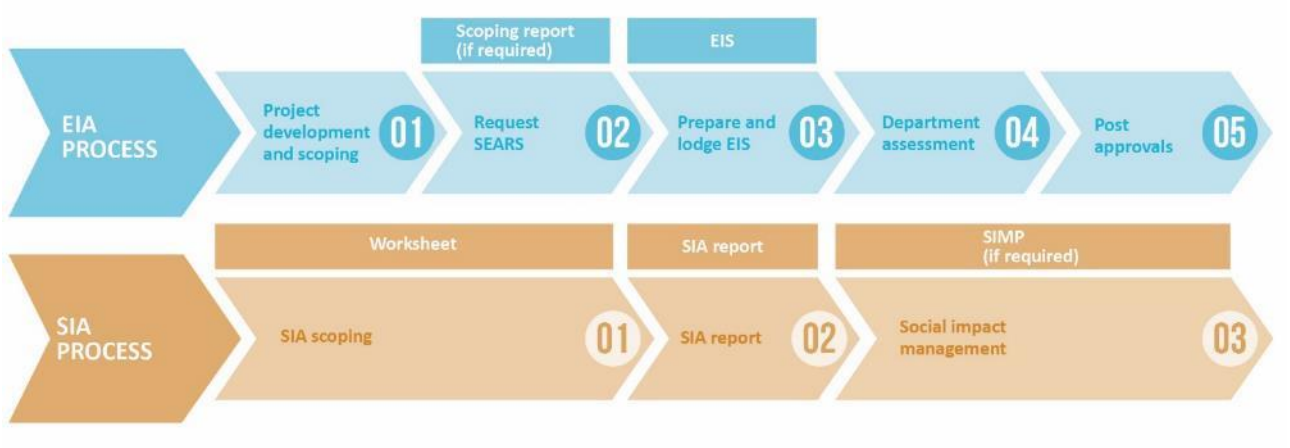


Figure 2.1 SIA and EIS process

Source: (DPE, 2023).

The SIA has been completed to address the SEARs for the Project, which included the provision to undertake an assessment of social impacts in accordance with the NSW SIA Guideline and consideration of construction workforce accommodation. **Figure 2.2**. outlines the activities involved in each of the key phases of the SIA.

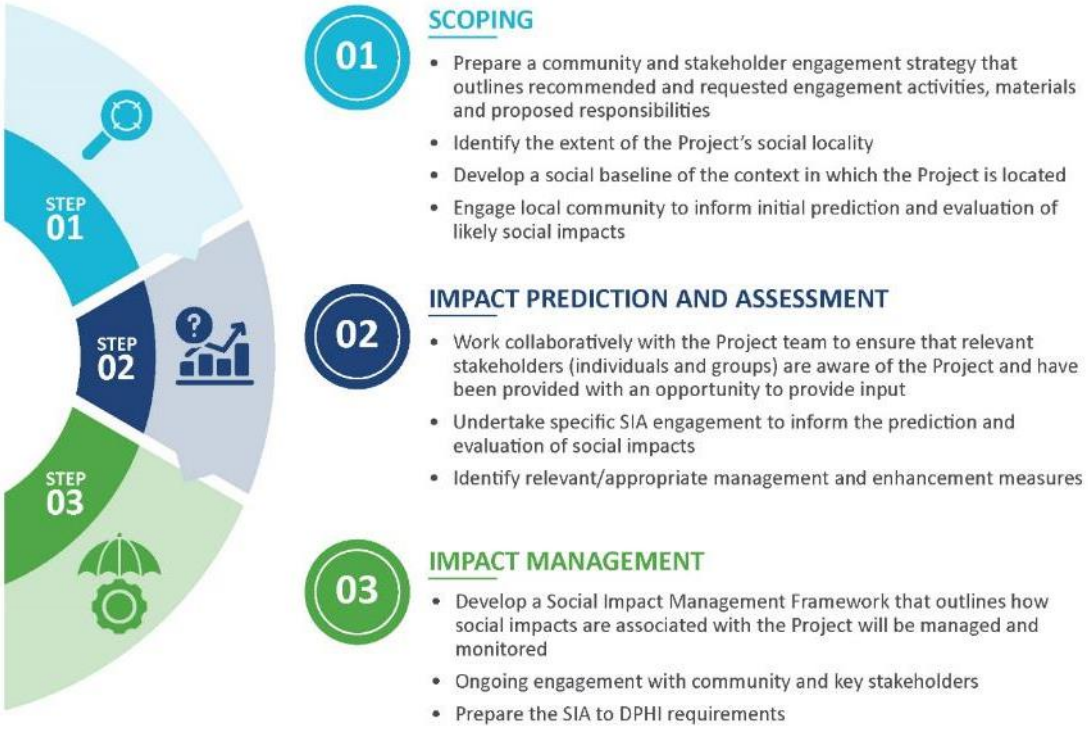


Figure 2.2 SIA Program Phases

Source: Umwelt 2023, adapted from NSW SIA Guidelines, 2023.

It is important to recognise, that not all social impacts will be equally distributed, some individuals or groups within the community may benefit from a Project, while others may also experience negative impacts. If negative impacts are predicted, it is the role of the SIA to determine how such impacts may be addressed effectively to reduce the degree of disruption to those affected. If positive impacts are predicted, the aim of the SIA is to maximise these opportunities and identify how they might be further enhanced and realised.

Monitoring and evaluation are also a key component of the SIA process and should outline how social impacts will be monitored and adaptive management applied, to reduce impacts, should the Project proceed. Such monitoring is also important to identify any unanticipated impacts that may arise as a result of the Project.

According to the SIA Guideline and as outlined in **Figure 2.3**, social impacts can involve changes to people's:

Figure 2.3 Social Impact Categories

Source: (Umwelt, 2023, adapted from NSW SIA Guidelines, 2023).

While some social impacts may directly occur because of the Project, others may be indirectly caused by changes in the biophysical environment and biophysical impacts, as outlined in **Figure 2.4**. Consequently, both direct and indirect social impacts should be considered.

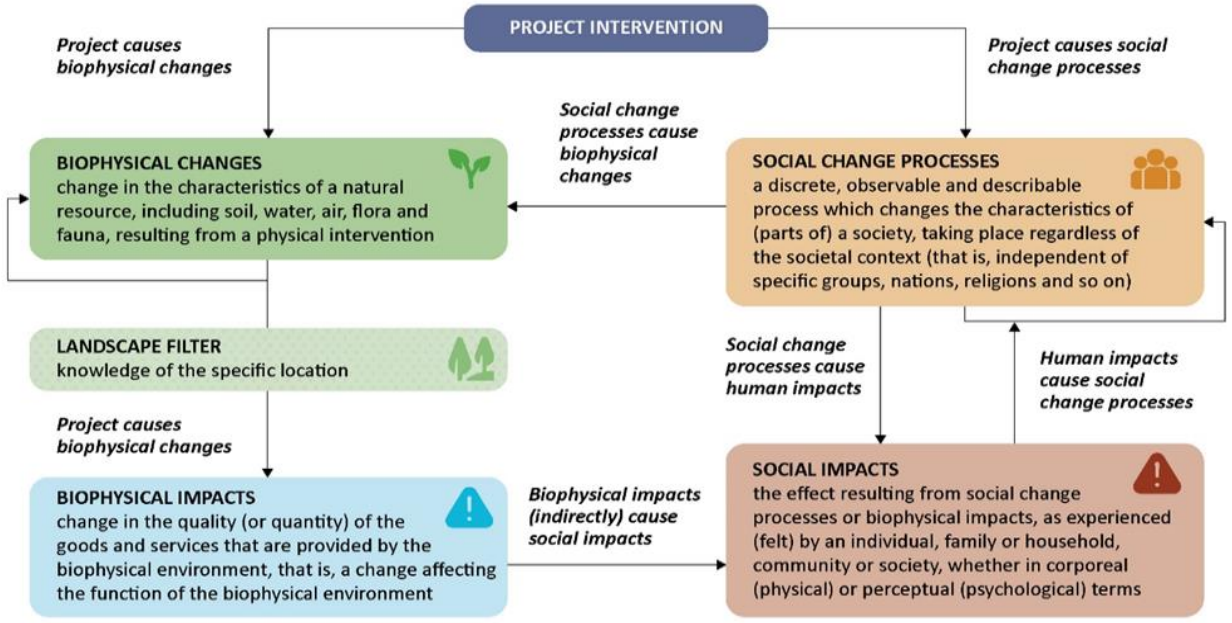


Figure 2.4 Direct and Indirect Social Impacts

Source: Umwelt 2023, Adapted from Slootweg et al 2013 (p.78).

Social impacts may be tangible or more intangible in nature and may be experienced both physically and psychologically. Social impacts may also be experienced at even the rumour of a Project change, and may manifest in differing expectations, fears, and anxieties.

Given that social impacts are impacts on people, it is important that their significance is determined from the perspective of those experiencing the impact, integrated with the social impact practitioner's experience, and with impact significance also informed by relevant social research and knowledge.

2.2 Social Locality and Baseline

2.2.1 Defining the Social Locality

The term 'social locality' or 'area of social influence' is commonly used in SIA practice. There is no fixed meaning or predefined geographic boundary to a social locality (e.g., the local suburb, or 'within 500 m'). Instead, the scale of the social locality should be established on a case-by-case basis, having regard to the nature of the project and its impacts (DPE, 2023). For further direction, the social locality is defined by:

- The scale and nature of the project; its associated activities including ancillary works and infrastructure; potential direct and indirect impacts (for example, transport and logistics corridors or property acquisitions); and cumulative impacts.
- Who may be affected by the project and how they may be affected; their social, cultural and demographic characteristics; their relevant interests and values; the things that differentiate groups (such as cultural diversity) as well as things that they have in common; and the broader community and public interest.

- Whether any vulnerable or marginalised people may be affected by the project; including people on low incomes; people living with disabilities, chronic medical conditions or in poor health requiring access to services; culturally and linguistically diverse communities; people who are homeless or in insecure housing; people who are unable to represent themselves or other vulnerable people such as elderly people, children, or single-parent households.

- Built or natural features on or near the project that could be affected, and the intangible values that people may associate with these features, such as a sense of place or belonging, rural character, community cohesion, connection to Country and value of stories within the cultural landscapes, and use of natural areas and resources.

- Relevant social, cultural, demographic trends or social change processes occurring now, or which have occurred in the past near the project area and in the broader region, including how people have felt or experienced these changes; community resilience; different trends and patterns around issues relating to key social issues including rental affordability, employment, changing land uses, population and demographic change; or experiences of extreme weather and natural hazards.

- The history of the proposed project and the area, and any similar experiences people near the project have had, including change prior to, or created by, the planning assessment process; how people have reacted to early discussions; and how these discussions and other experiences have affected the broader community; and the traditional Aboriginal use of the place, recent history of the place and people and any ongoing traumas.

The social locality is further defined in **Section 3.1**.

2.2.2 Developing a Social Baseline

The development of a baseline social profile gathers knowledge from both primary and secondary data sources to increase understanding of the existing social locality in which a project is proposed, and of potentially affected communities. The social baseline profile is a foundational component of SIA, as it provides the basis from which social impacts associated with the Project may be predicted.

To assist in structuring the social baseline for the Project, to better understand the communities of interest to the Project and to evaluate their resilience and adaptive capacity to change, the Sustainable Livelihoods Approach or 'community capitals' approach has been adopted (U.K. Department for International Development [DFID] 1999).

The DFID (1999) approach draws on broad categories of community capitals (human, social, natural, physical and economic/financial) as a fundamental basis to identifying and further enhancing community capacity and resilience. This methodology has been further developed by Coakes & Sadler (2011) and applied in SIA practice to also include cultural and political capital areas. The vulnerability of each capital area can be assessed through the selection of a suite of social and economic quantitative and qualitative indicators specific to each capital area to assess a community's vulnerability to change, or conversely adaptive capacity. Elements of each capital area are further outlined in **Figure 2.5**, with further discussion of these capitals provided in **Section 3.5** and **Appendix B**.

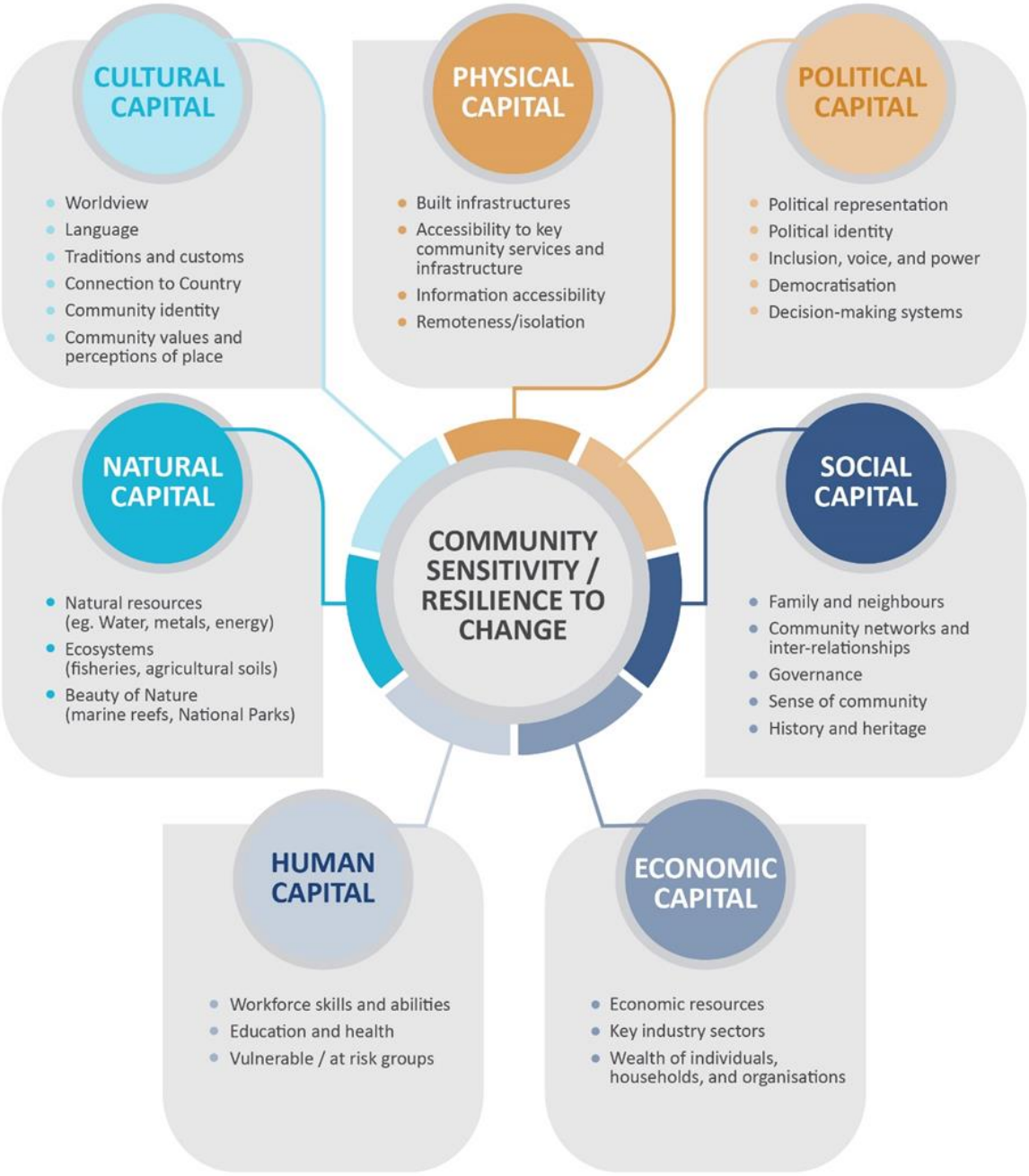


Figure 2.5 Community Capitals

Source: Umwelt, 2023 adapted from (Coakes & Sadler, 2011).

2.2.3 Data Sources

To gain an understanding of the demographic characteristics and composition of communities within the social locality, and to ascertain how the Project may change or affect people, socio-economic and demographic data has been gathered and summarised from the Australian Bureau of Statistics (ABS) Census (2021) and the Social Health Atlas of Australia (PHIDU, 2021), and a review of other data sources also undertaken, including local media, relevant literature and regional and local government plans and strategies.

Statistical and comparative analysis using ABS data has also been undertaken at the LGA level to capture key characteristics and trends across local communities. Suburb and Localities (SAL) level data has been utilised to understand the localised area of the Project, with key indicators outlined in **Appendix B**.

2.3 Stakeholder Engagement

2.3.1 Stakeholder Identification

SIA involves the participation and collaboration of people who have an interest in, or those that may be affected by, a project. Consultation in this project has been undertaken in accordance with the requirements of the Undertaking Engagement Guidelines for State Significant Developments (NSW DPE, 2021) and the SIA Guideline (DPE, 2023).

As Burdge (2004) outlines, stakeholders may be affected groups or individuals that:

- live, work, or recreate near the Project
- have an interest in the proposed action or change
- use or value a resource associated with the Project
- are directly or indirectly affected/impacted by the Project.

A stakeholder identification process was undertaken to support the planning and delivery of community and stakeholder consultation to inform the SIA. This process involved identifying stakeholders with an interest in the Project, or those directly and indirectly affected by the Project to identify potential issues/concerns or opportunities.

Key stakeholder groups that were consulted during the SIA are outlined in **Figure 2.6** below, with detail on the stakeholders engaged as part of the assessment. Further definition of the stakeholder identification process is outlined in the Community and Stakeholder Engagement Plan (CSEP) (refer to **Appendix C**).

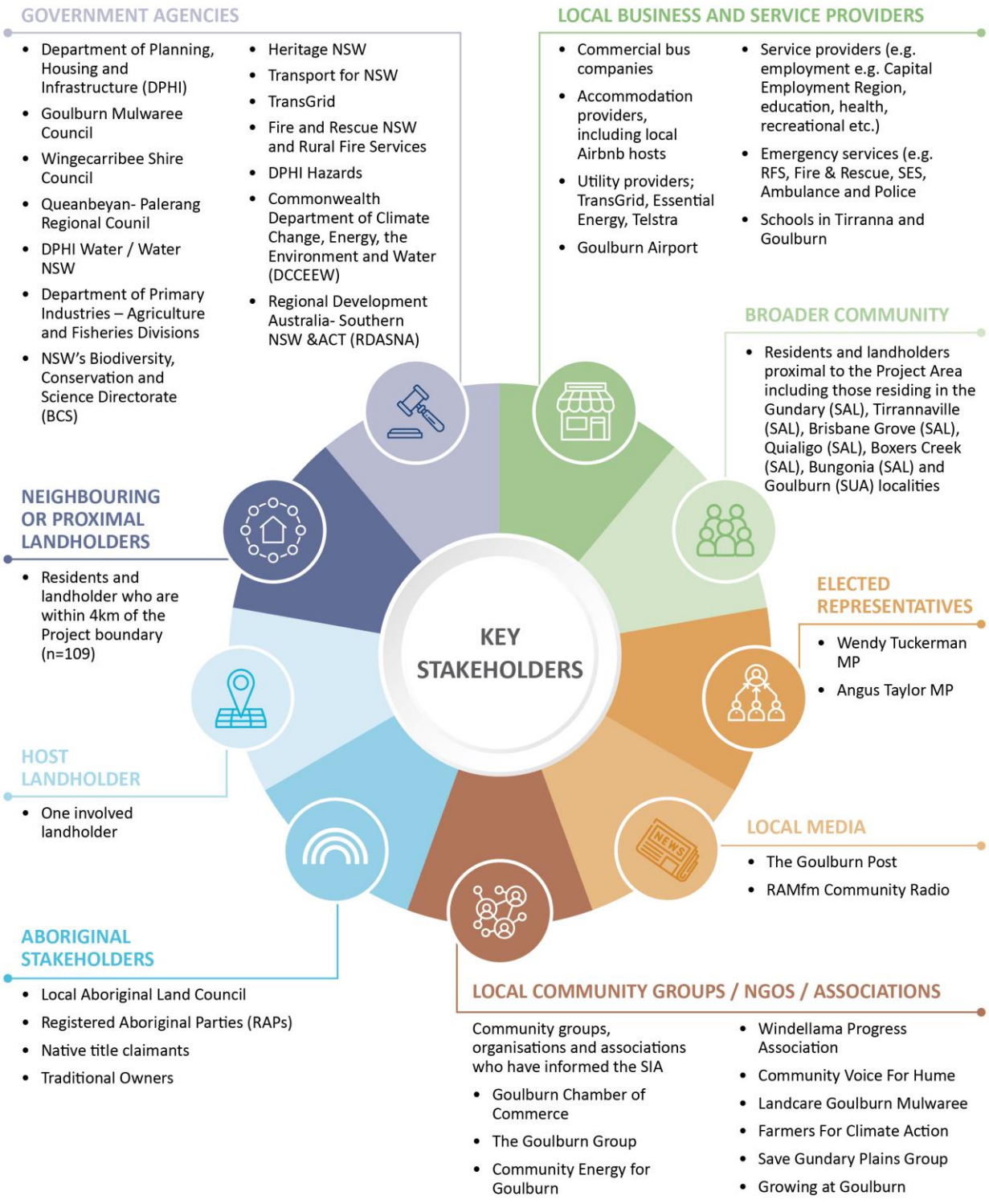


Figure 2.6 Key Stakeholders

Source: (Umwelt, 2023).

2.3.2 Engagement Mechanisms

Consultation activities undertaken to inform the SIA were focused on sharing information about the Project and planning process, gathering insights into the social impacts of the proposed Project from the perspectives of those likely to be affected, and gathering community feedback on potential management measures (mitigation and enhancement) to address these social impacts.

The methodologies utilised, and the outcomes of the various technical studies undertaken as part of the broader environmental impact assessment process, have also been communicated and community feedback sought on the outcomes of these studies. Lightsource bp has also undertaken engagement with key stakeholders and community members throughout the planning process to inform Project design changes and environmental studies as detailed in Section 5.0 of the EIS.

The SIA and engagement program has been informed by an understanding of the relevant communities and potentially vulnerable groups that may be affected by the Project, to ensure accessibility and appropriateness of the mechanisms and tools selected, as well as considering the social impacts that might be experienced and/or heightened for these groups. Additional engagement was undertaken for the AES to understand the accommodation and employment capacity of the social locality and to ensure the constraints and opportunities were reflected in the AES. This further informed the SIA.

The World Health Organisation (WHO) defines vulnerability as the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impacts of significant change (WHO, 2023). As a result, engagement activities have been explicitly designed to be as inclusive and accessible as possible and to provide a wide range of engagement opportunities to suit different preferences and capabilities. Quantitative and qualitative information collected through consultation activities has been analysed to inform the assessment and evaluation of social impacts associated with the Project, as outlined in **Section 4.0.**

Table 2.2 summarises mechanisms that were utilised during consultation for the Project, across both phases, and their engagement objective as outlined in the Project's CSEP. **Table 2.3** provides further detail of each mechanism, with **Table 2.1** outlining the total number of participants engaged to inform the SIA across the scoping and assessment phases.

Table 2.1 Number of Stakeholders Consulted by Stakeholder Group Category across project phases

Stakeholder Group	No. Participants Engaged (throughout both Scoping and EIS Phase)
Aboriginal stakeholder groups	3[1]
Local, State and Federal Government Departments or representatives [2]	16
Proximal landholders (those who live within 4 km of the Project Boundary)	67[3]
Local and broader community	231 (200 via telephone survey & 31 via SIA Engagement team)

[1] Additional consultation with Aboriginal stakeholder groups was also completed as part of the Aboriginal Cultural Heritage Assessment that is not reflected in these numbers.

[2] Refers to number of entities i.e. Councils, Government Agencies. Multiple meetings have been held with representatives throughout the planning and assessment phase.

[3] Refers to individuals, with multiple individuals who may live in the same household and/or address

Stakeholder Group	No. Participants Engaged (throughout both Scoping and EIS Phase)
Community & Special Interest Group Members	23
Education Providers	1
Employment Providers	2
Health and Emergency [1]	2
Local businesses	4
Accommodation providers	37
Media	1
Total	**387**

Source: (Umwelt, 2024).

Table 2.2 Engagement and Communication Mechanisms by Stakeholder Group

STAKEHOLDER GROUP	INFORMATION PROVISION				ENGAGEMENT MECHANISM					
	PROJECT WEBSITE	PRINTED PROJECT NEWSLETTERS	PROJECT EMAIL UPDATES	PERSONALISED LETTER BOX DROPS	PROJECT BRIEFINGS	INDIVIDUAL MEETINGS /INTERVIEWS	COMMUNITY DROP IN SESSIONS	INFORMATION MARKET STALLS	TELEPHONE SURVEY	ONLINE SURVEY
ABORIGINAL GROUPS	✓		✓		✓					
LOCAL GOVERNMENT	✓		✓		✓	✓				
STATE GOVERNMENT					✓					
FEDERAL GOVERNMENT					✓					
PROXIMAL LANDHOLDERS	✓	✓	✓	✓		✓	✓	✓		✓
COMMUNITY GROUPS	✓		✓			✓	✓	✓		✓
SERVICE PROVIDERS (HEALTH, EMERGENCY, EDUCATION, LOCAL BUSINESS)						✓				✓
ACCOMMODATION PROVIDERS						✓				✓
LOCAL AND BROADER COMMUNITY	✓	✓					✓	✓	✓	✓

Source: (Umwelt, 2024).
Please note that colours are for design purposes only.

Table 2.3 Stakeholder Consultation and Engagement Mechanisms

Mechanism	Engagement Objective / Intent[4]	Details
Project website	**Inform**	Dedicated project website page publicly available since April 2022 to provide Project information and updates to the broader community.
Project phone number / email	**Consult**	Dedicated project email address available since April 2022 and generic Lightsource bp phone number available for stakeholders to contact the Project team for information, or to provide feedback through the EIS process. 'Contact us' form and updates provided on the Project website.
Printed information sheets	**Inform**	Project information sheets distributed via Auspost to mailboxes. • April 2022 – a Community Information Sheet was printed and posted (unaddressed mail) to 3,525 residents in surrounding areas, as mapped in **Appendix D**. • July 2022 – a Frequently Asked Questions sheet (**Appendix D**) was printed and posted (unaddressed mail) to 12,420 residents in surrounding areas, as mapped in **Figure 2.7**. The information sheet was designed to answer key questions that had arisen during initial consultation with community members. • October 2022 – 109 personalised postcards were sent to residents who reside in the Gundary locality, inviting them to the community drop-in sessions in November. • March 2024 – a Community Information Sheet, included in **Appendix D**, was printed, and posted (unaddressed mail) to 12,500 residents in surrounding areas, as mapped **Appendix D**.
Project email updates	**Inform**	Email Project updates were provided to all stakeholders subscribed to receive the updates. As of June 2024, there were 266 email addresses recording on the project database. • September 2022 – Project update, outlining engagement to date, project design adjustments, local employment and economic benefits, community benefit fund. • October 2022 – Invitation to Community Information Drop-in Sessions. • November 2022 – Reminder and thank you to those who attended drop-in sessions with links to further project information. • December 2022 – Project update on drop-in sessions, Landscape and Visual Impact Assessment (LVIA and State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021 updates. • March 2023 – FAQ Information sheet. • May 2023 – Project update, including Project layout update map.

[4] Based on best practice engagement design and delivery by the International Association of Public Participation (IAP2) Public Participation Spectrum.

Mechanism	Engagement Objective / Intent[4]	Details
		• August 2023 – Project Status Update, including notification of EPBC referral. • January 2024 – Project Status Update.
Personalised letter box drops	**Inform**	A letter box drop was conducted between Monday 8 May and Friday 12 May 2023 to residents living near the Project boundary who had not yet been engaged. Thirty-one (31) residents were identified as being potentially visually impacted by the Project as defined in the Landscape and Visual Impact Assessment (LVIA) (Envisage Consulting Pty Ltd, 2023) and located within 4 km of the project boundary. The letter requested a meeting to discuss the Visual and/or Social impact assessment. Of these residences: • Three (3) residences were identified as sheds and not dwellings, therefore not needing to be assessed for the LVIA. • Five (5) residences did not have a letter box and had a locked gate. • 23 residences received a letter requesting to meet with them to contribute to the Visual Impact Assessment, and to discuss the Social Impacts of the Project. • 25 residences received a letter requesting to meet with them to discuss only the Social Impacts of the Project, as they were not identified to have visual impact from their property.
Government project briefings	**Consult**	Formal briefings to key stakeholders and government agencies were held regularly, with slide presentations utilised to formally introduce or provide updates on the Project. Letters and emails offering meetings to discuss the Project were provided to Elected Representatives, along with the Project newsletters and other electronic updates. Project briefings were held with Angus Taylor, Federal Member for Hume, and with Wendy Tuckerman Member of the New South Wales Legislative Assembly, representing Goulburn for the Liberal Party. Numerous Project briefings were held with Local and State government agencies. Meetings with Goulburn Mulwaree Council were held on several occasions, including both Council staff and the Councillors.
Individual meetings / interviews	**Collaborate**	Face to face meetings, phone calls and emails have been (and continue to be) undertaken with near neighbours and other interested stakeholders. Meetings were held over the periods of: • March to August 2022 – Individual meetings, emails, phone calls with near neighbours (23 households). Key stakeholder group interviews online and in-person were held with community groups and associations (15 groups), training and education providers (2 organisations) and Aboriginal organisations (3 groups, 10 participants) to hear community perspectives and obtain feedback on the proposed Project. • April 2022 – In person neighbour group meeting held in proximal landholder residence with 11 attendees to provide project information, hear community perspectives and obtain feedback on the proposed Project. Three (3) Lightsource bp representatives, two (2) Umwelt social team members, one (1) Envisage representative and ten (10) neighbours were in attendance.

Mechanism	Engagement Objective / Intent[4]	Details
		• June 2022 – Personal one on one meetings with six (6) proximal landholders to provide Project updates and gather neighbour feedback. Conducted by Umwelt and Lightsource bp. • May 2023 – Personal one-on-one meetings with nine (9) near neighbours (within 4 km) of the Project boundary, aligning with the LVIA.
Project relevant emails with Umwelt Social Team	**Consult**	Emails were exchanged between proximal landholders / residents and the Umwelt Social Team in organising times to meet etc. Of these emails, five (5) were included qualitatively in the social impact write up, to capture opinions from those who had not been previously engaged in person.

Service provider interviews and emails to inform the AES and SIA	**Consult**	To inform the AES, the following mechanisms were utilised:
		• Online interviews were held with Goulburn Mulwaree Council, with the neighbouring council of Queanbeyan-Palerang Regional Council, key regional development and employment stakeholder and accommodation providers. These meetings occurred over:
		  ○ April 2024: Online meetings with two (2) local councils, two (2) key stakeholders.
		  ○ March–April 2024: In person and phone interviews with 35 short-term accommodation providers.
		• An email exchange between Wingecarribee Shire Council and the Umwelt Social Team included qualitative housing capabilities for the LGA.
		• Interviews and emails allowed for local councils, key stakeholders and accommodation providers to give insight into the regions current housing and accommodation capabilities.
		Therefore, overall semi-structured phone discussions with 46 service providers and local businesses in the area occurred to understand capacity and demand for the SIA and AES.

Community drop-in session	**Involve**	Four days of community drop-in sessions were held over 2022 and 2024 to enable community residents the opportunity to learn more about the project and provide their perspectives and feedback. Key assessment outcomes were also shared at these sessions. The community drop-in sessions were held on: • 14 and 15 November 2022. Drop-in sessions were hosted from 8 am to 10 am and 4 pm to 7 pm on both days – Workspace Goulburn attended by 30 people over the four sessions. • 25 and 26 March 2024 – Drop-in sessions were hosted at the Country Women's Association Hall Goulburn on Monday 25 March from 2 pm to 6 pm, and on Tuesday 22 March from 8 am to 12 pm. The sessions were attended by 56 individuals, with 8 individuals attending both sessions. The drop-in sessions allowed for community members to engage with members of the project and assessment team, to discuss individual concerns, interests, issues and gather feedback to validate impacts and opportunities, including potential mitigation / enhancement strategies.

Mechanism	Engagement Objective / Intent[4]	Details
Community Information Stalls at local markets	**Involve**	The Project team attended the Bungonia and Goulburn markets, to provide an opportunity for the wide Goulburn community to have a say on the project. • 28 April 2022 Bungonia Markets. • 14 May 2022 Goulburn Market.
Online surveys	**Involve**	Two online surveys were available for all stakeholders to complete. • March to August 2022 – administered in the scoping phase of the project with 53 completed surveys obtained. • August 2022 to December 2023 – administered to further inform the SIA with 32 completed surveys obtained. Survey questions related to: • Knowledge and awareness of the project. • Ranking and identification of potential positive and negative impacts of the Project. • Suggested mechanisms to mitigate or enhance impacts. • Levels of acceptance of the Project and renewable energy. • Information sharing and engagement preferences. The survey was distributed via a variety of channels, including: • Links to the online survey and paper surveys were shared at drop-in sessions and market stalls. • The survey was available on the Gundary Solar Farm website. • Links to the survey were provided in project emails and printed newsletters.
Targeted Telephone survey (random sample)	**Collaborate**	The views of residents in the local and wider community were also assessed through a random telephone survey, completed by Taverner. The survey obtained 200 responses from a random sample of mobile and landline numbers of people residing within the Goulburn Mulwaree LGA, specifically within the Gundary SAL and Goulburn SAL. The survey aimed to proportionally over-sample people who lived within 5 km of the Project Area to ensure representation of those residents living in closest proximity to the Project. A profile of those surveyed is presented in **Section 4.2**. Further details on the characteristics of survey participants are included in **Section 2.3.1.**

Source: (Umwelt, 2024).

Lightsource bp undertook extensive community engagement, and information sharing throughout the Scoping and EIS Phases of the Project, as outlined in **Section 2.3.** These include, but are not limited to emails, phone calls and meetings with proximal landholders / residents, broader community members, local community groups, and special interest groups and local businesses and service providers.

Table 2.4 Communication counts between LSbp, Umwelt and the Community

Communication method	Incoming	Outgoing	Total
Email	378	367	745
Face-to-face	19	29	48
Letterbox drop	0	19	19
Meeting	3	71	74
Phone call	48	217	265
Total	**460**	**691**	**1,151**

Counted communications are between the timeframes of March 2022 and June 2024, and are a mixture between Lightsource bp staff, and Umwelt Social Team and the community. These do not include mandatory briefings to government departments.
Source: (Simply Stakeholders, 2024).

2.4 Social Impact Evaluation and Management

As previously noted, quantitative and qualitative information collected through consultation activities has been collated and analysed to inform the identification of potential social impacts associated with the Project (refer to **Section 4.0**), from the perspectives of affected stakeholders, and to afford the evaluation of social impacts.

Each project activity is assessed by its potential impacts on people, considers whether previous investigation of the impact has been undertaken, the potential for cumulative impacts, and considers project design changes and/or mitigation and enhancement measures that may reduce negative impacts and enhance positive impacts of the Project. Social impact characteristics (magnitude and likelihood) that have been considered in the evaluation are outlined in the DPE SIA Guideline (2023).

As outlined in **Section 4.0**, a range of social impacts have been identified in relation to the Project, that require prioritisation for assessment and appropriate management and/or enhancement. These impacts relate to several social impact categories and have been informed through community engagement and consultation. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change, resulting in second order impacts such as impacts on sense of community and service provision.

The social significance matrix used to evaluate social impacts considers both the magnitude of the potential social impact (minimal, minor, moderate, major and transformational) and the likelihood of the impact occurring (very unlikely, unlikely, possible, likely and almost certain) to determine an overall evaluation of impact as ‘low’, ‘medium’, ‘high’ or ‘very high’. Proposed mitigation and enhancement strategies are also considered in determining the residual social impact.

Both positive and negative impacts are considered in this regard, with slight adjustments made to the approach to reflect positive impacts, for example, the level of concern becomes level of interest, severity becomes scale of improvement or benefit, sensitivity becomes importance of the improvement or benefit and the equity of its distribution, and so forth.

Social impact evaluation undertaken using the criteria noted above and through the application of the consequence and likelihood framework, as summarised in **Figure 2.7**.

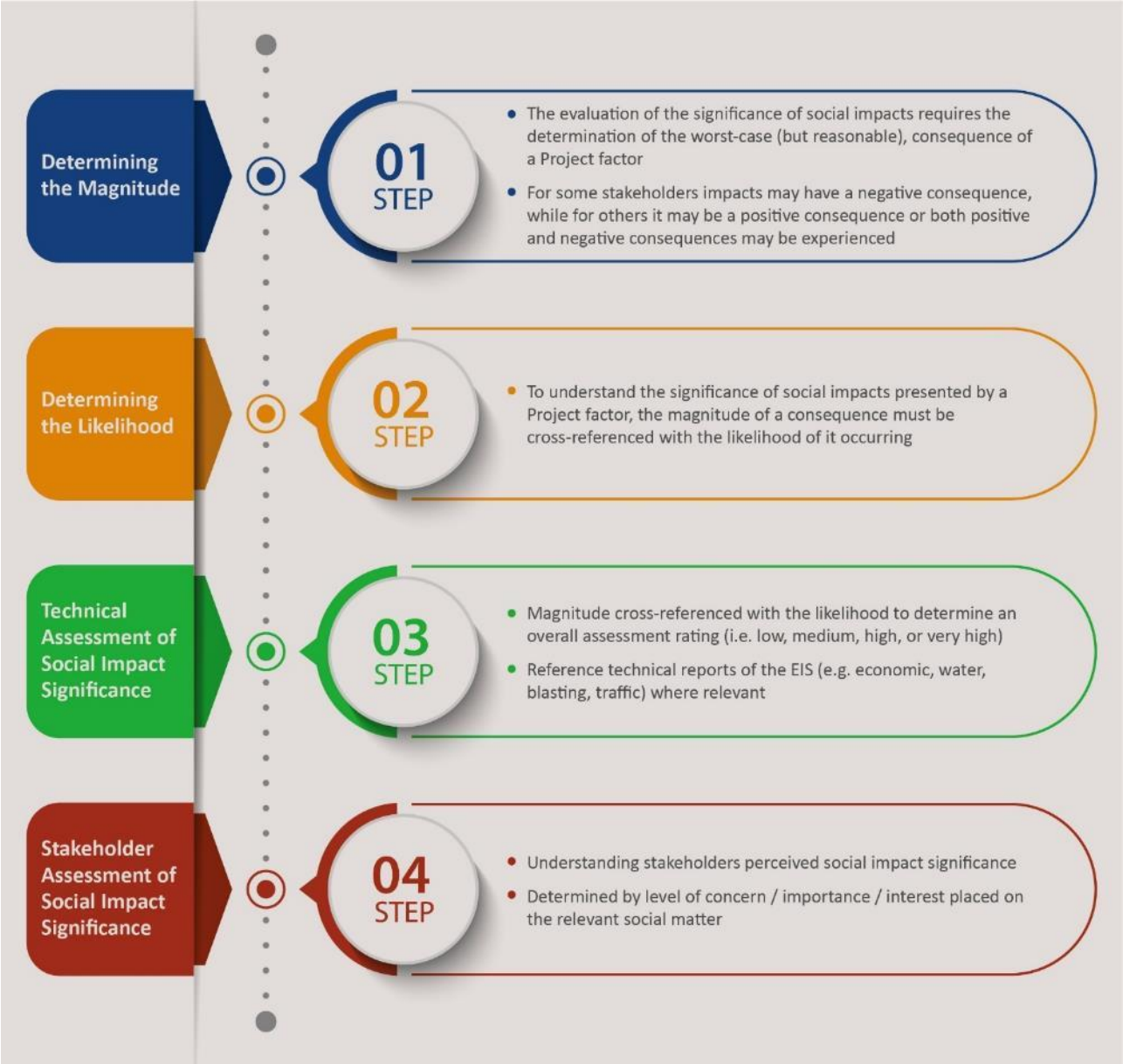


Figure 2.7 Social Impact Evaluation Process

Source: (Umwelt, 2023).

2.5 Assessment Limitations

The SIA has been undertaken in alignment with the NSW Government SIA Guideline and its *Technical Supplement - Social Impact Assessment Guideline for State Significant Projects* (DPIE, 2023). It has been informed by substantial assessment of secondary data, including ABS data sets, housing and accommodation data, existing literature and reference to technical reports developed as part of the EIS process. In addition, the SIA has involved engagement with key stakeholders as outlined in **Section 2.3**.

The following limitations apply to the assessment:

- The views of the community represented throughout the report are based on the sample of community members and stakeholders consulted as outlined in **Section 2.3** and do not necessarily represent the views of all community members.
- The SIA did not include primary insights from Traditional Owner groups and relied on inputs from engagement undertaken as part of the Aboriginal Cultural Heritage Assessment.
- Elements of the SIA have been developed based on knowledge and information collected from secondary data sources and community consultation. It is assumed that secondary data sources contain valid, representative data and have not misconstrued information.
- Accommodation data has been analysed from the latest data available, though this is indicative of the current periods (AirDNA – December 2023, ATDW – April 2024), and therefore may change once Project construction has commenced.

3.0 Social Baseline

This section defines the social locality and describes the social baseline of the Project, including consideration of the social, economic, natural and physical attributes of the locality. As previously noted, the social baseline provides a foundation from which social impacts relating to a project can be predicted. The complete social baseline profile, including the indicators and data sources relied upon, is presented in **Appendix B**.

3.1 Defining the Social Locality

The social baseline has been compiled based on the Project's social locality or 'area of social influence'. As outlined in **Section 2.2**, a social locality or 'area of social influence' is defined as the area considered to be impacted by a Project, based on a range of tangible and intangible impacts (DPE, 2023).

The social locality for the Gundary Solar Farm has been defined to reflect a variety of geographies and communities of interest where social impacts may be experienced due to the Project.

In defining the social locality, statistical areas prescribed by the ABS, land uses and transport routes and the land tenure composition of properties in, or nearby the Project Area have also been used to determine the social locality as visually represented in **Figure 3.2**. The primary communities of interest that comprise the social locality are identified, with their inclusion justified in **Table 3.1**.

Figure 3.1 provides further illustration of how the differing geographical scales relate to each other, from the largest to the smallest geographical scale, utilising ABS geographic boundaries; with **Figure 3.2** providing the overall social locality defined for the Project. **Figure 3.3** maps out the neighbours located within 4 km of the Project Area boundary, as they are likely to experience noise, visual, social amenity and intangible impacts associated with the Project. The NSW Technical Supplement for Landscape and Visual Impact Assessment (LVIA) recommends using 4 km as the 'study area' for LVIAs. This boundary has been validated through the engagement program.

Table 3.1 Social Locality inclusions and justification

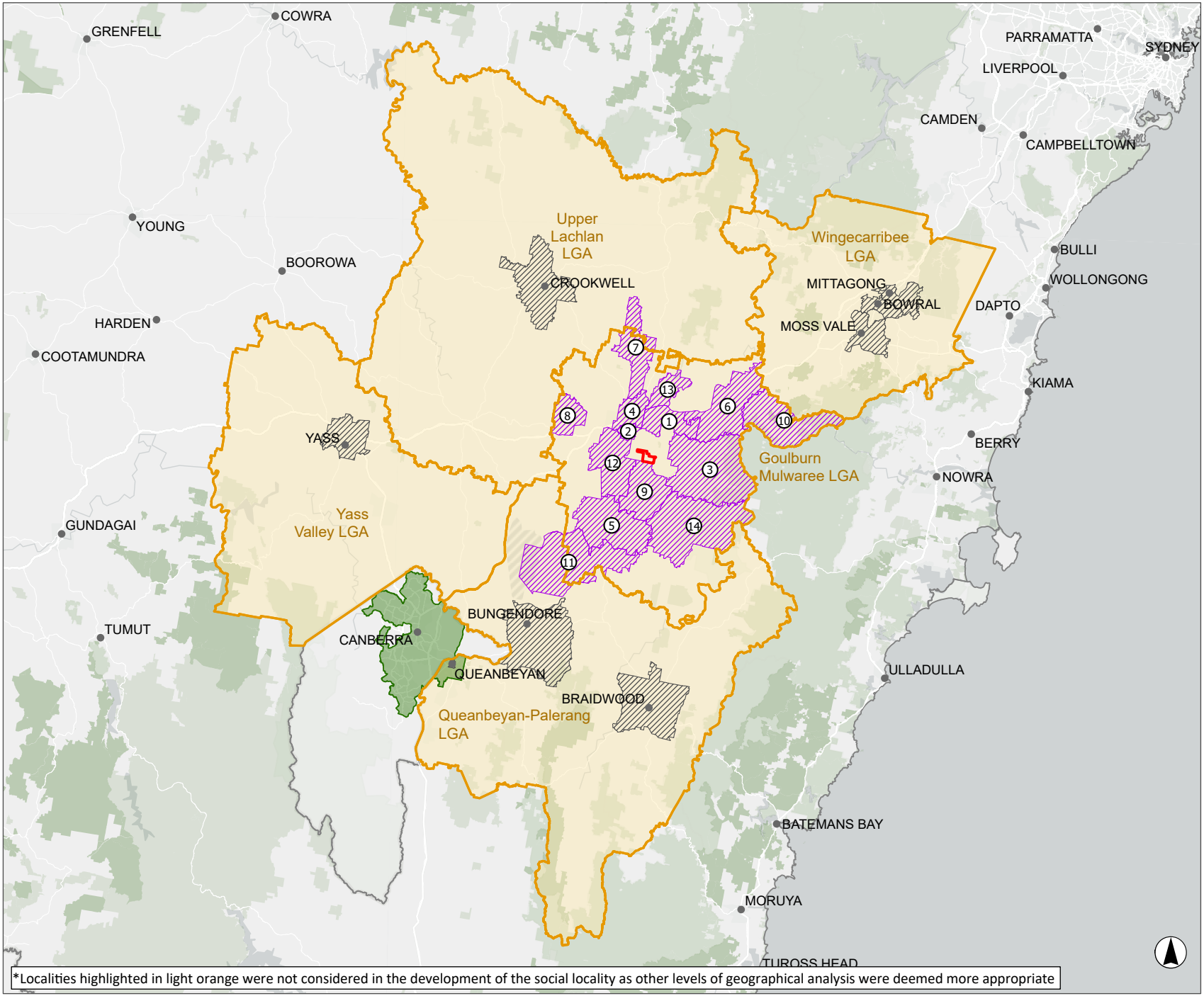
Area type	Community of interest (km drive distance from Project Area: population)	Reason for inclusion
Local impacted communities		
Associated Property	Host landholder	Landholding on which the Project Area is located.
Immediate neighbours of the Project	Neighbouring landholders: 109 residences identified within 4 km of the Project Area boundary	Neighbours located within 4 km of the Project Area boundary as illustrated in **Figure 3.3** are most likely to experience noise, visual, social amenity and intangible impacts associated with the Project. The NSW Technical Supplement for Landscape and Visual Impact Assessment (LVIA) recommends using 4 km as the 'study area' for LVIAs. This boundary has been validated through the engagement program.
Surrounding road network	**Option 1**: Hume Highway – Sydney Road – Sloane St – Bungonia Road – Windellama Road **Option 2**: Hume Highway - Hume Street - Garroorigang Road – Braidwood Road – Bungonia Road - Windellama Road Kooringaroo Road (emergency only)	These roads will likely see the largest increases in traffic during construction.
Host locality	Gundary: 306	The Project Area is located within the Suburb and Locality (SAL) of Gundary.
Surrounding communities		
Surrounding localities	Tirrannaville (10 km): 235 Brisbane Grove (7 km): 147 Quialigo (14 km): 292 Boxers Creek (24 km): 259 Bungonia (29 km): 469	Surrounding suburbs/localities have been included where relevant to spatially differentiate smaller communities near the Project Area. These SALs are predominately analysed in relation to land uses and human capital to understand localised community attributes.
Broader community, labour pool, service centres and economy		
Nearby Significant Urban Area	Goulburn (10 km): 24,565	The nearby SUA of Goulburn is likely to supply the majority of local workforce, accommodation and services required by the Project. Goulburn is included as the nearest regional City likely to be impacted by the Project.

Area type	Community of interest (km drive distance from Project Area: population)	Reason for inclusion
	Canberra-Queanbeyan (98 km): 490,517	Canberra is included as the largest population centre within 75 minutes' drive of the Project. Canberra also hosts an airport most likely to be used by workers to access the region. Due to Canberra's proximity to the Project, it may be considered as another option for accommodation when there is surplus demand which may occur during peak construction periods. Refer to **Appendix G** for further limitations.
Local Government Areas	Goulburn-Mulwaree LGA: 32,053 Wingecarribee LGA: 52,709 Yass Valley LGA: 17,281 Upper Lachlan: 8,514 Queanbeyan-Palerang: 63,304	Goulburn-Mulwaree is the Host LGA for the Project. The neighbouring LGA of Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan-Palerang are included in the SIA, as it will likely that these LGAs may supply accommodation services, labour force/ employment and experience economic impacts of the Project. Bowral and Mittagong, townships within the Wingecarribee LGA have populations of 10,764 and 6,090 respectively. These townships are located within a 1-hour drive from the Project Area, so could potentially also house and service the project workforce.
Region	Southern Tablelands: 57,863	The Southern Tablelands region is included as the region that hosts the LGA of Goulburn-Mulwaree. Regional insights are included when referencing region-scale strengths and weaknesses in industries, economic trends and land use patterns. The Project is not located within a NSW Government declared 'Renewable Energy Zone', with the closest zone being the Illawarra REZ, approximately 120 km away (Energy Co, 2024).
Proximal projects with the capacity to generate cumulative impacts	Dispersed throughout the Social Locality	Proximal projects have been identified and assessed where they are likely to generate cumulative social impacts such as traffic changes, population influx, visual impacts, pressure on social infrastructure and services, and changes to community sense of place. **Appendix E** outlines the details of other major projects in proximity to the Project.
Natural features	Region includes conservation areas, national parks and reserves	As further explored in **Appendix B,** the Project is close by to the Pomaderris Nature Reserve (3.5 km) and the Bungonia National Park (40 km).

Source: (ABS, 2021).

FIGURE 3.1

Geographical Boundaries within the Social Locality



*Localities highlighted in light orange were not considered in the development of the social locality as other levels of geographical analysis were deemed more appropriate

Legend

- Project Area
- Suburbs and Localities
- Suburbs and Localities - Goulburn-Mulwaree LGA
- Significant Urban Area
- Local Government Areas
- NPWS Reserve
- State Forest

Suburbs and Localities - Goulburn-Mulwaree LGA

1 - Boxers Creek
2 - Brisbane Grove
3 - Bungonia
4 - Goulburn
5 - Lake Bathurst
6 - Marulan
7 - Middle Arm
8 - Parkesbourne
9 - Quialigo
10 - Tallong
11 - Tarago
12 - Tirrannaville
13 - Towrang
14 - Windellama

0 25 50
Kilometres

Scale 1:1,400,000 at A4
GDA2020 MGA Zone 55

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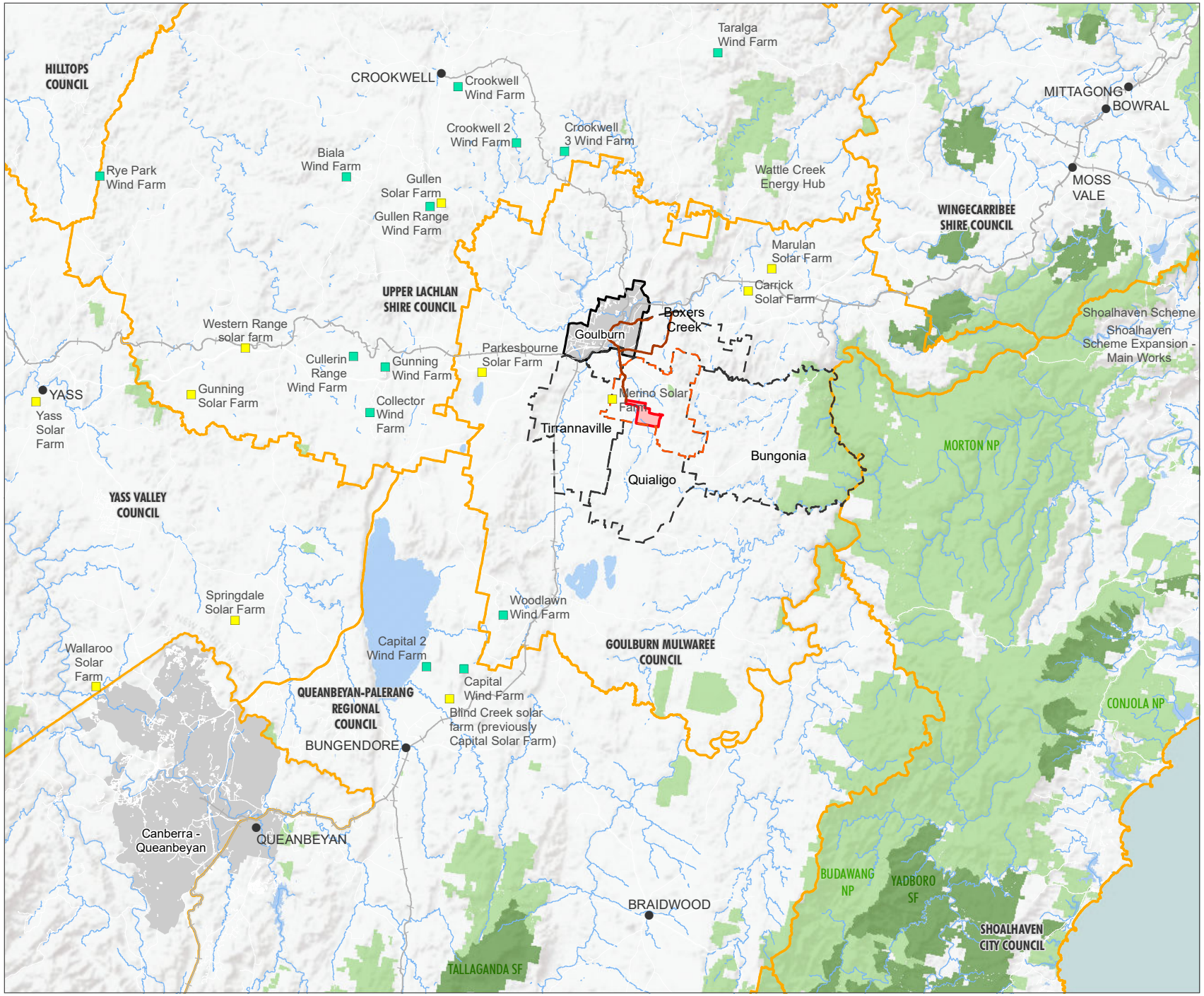
Image Source: ESRI Basemap (2024) **Data source:** NSW DFSI (2024)

FIGURE 3.2

Social Locality

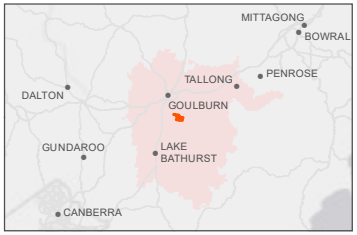


Legend

- Key Township
- Project Area
- Local Government Area
- NPWS Estate
- State Forest
- Railway
- Watercourses
- Proposed Haul Routes
- Host Suburb (Gundary)
- Surrounding Suburb and Localities (SAL)
- Nearby Significant Urban Area (SUA)

Major Projects

- Solar (11)
- Wind (13)



0 10 20

Kilometers

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

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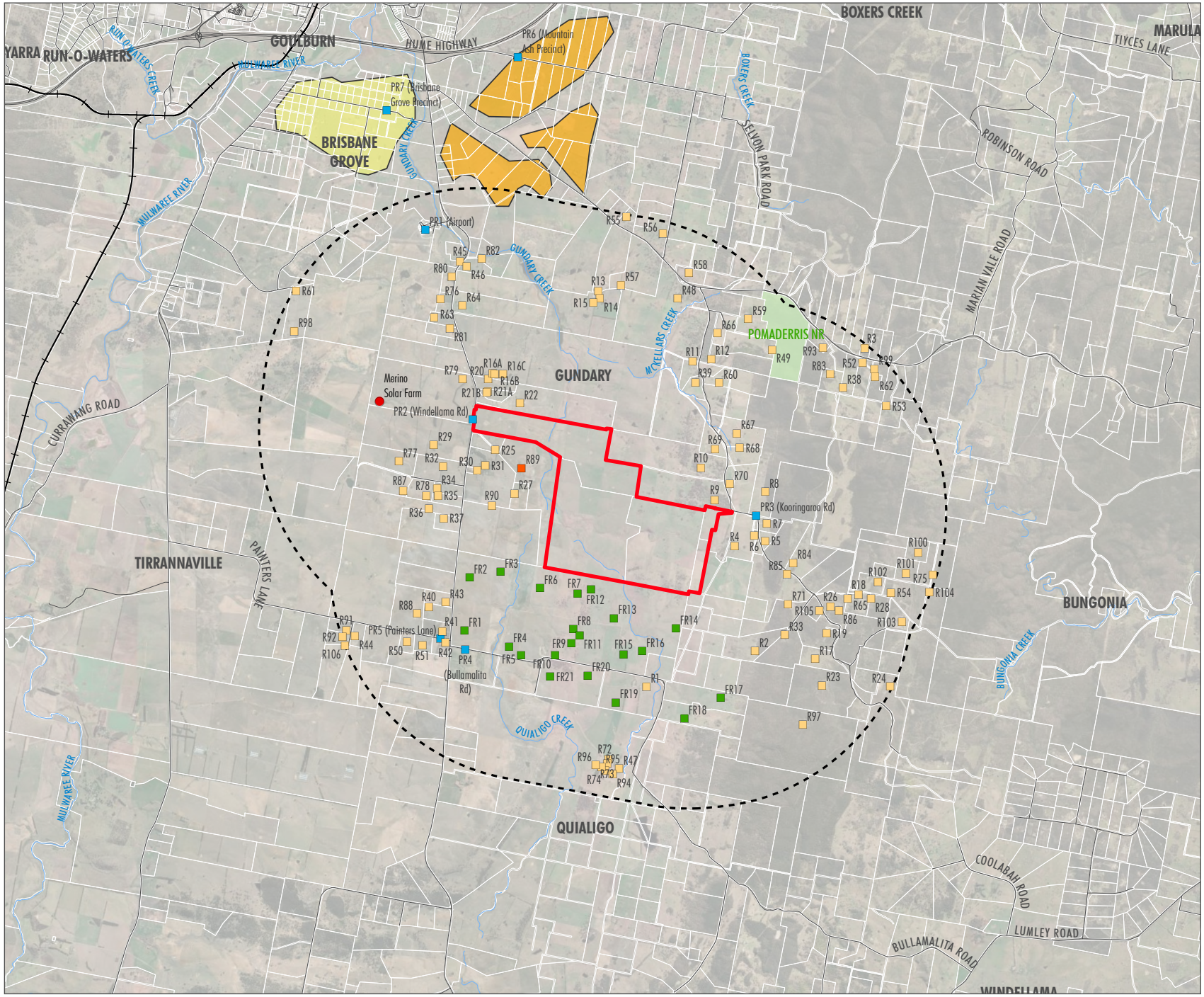
Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

FIGURE 3.3

Receivers within 4km Radius of the Project Boundary



Legend

- Project Area
- Project Area (4km buffer)
- Brisbane Grove Precinct
- Mountain Ash Precinct
- Cadastre Boundaries
- Roads
- Railway
- Watercourses
- Nearby Projects
- Non-associated Residences
- Associated / Host Residence
- Public Receivers
- Potential Future Residences (Rosedale Subdivision)

0 1,000 2,000

Meters

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

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Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

3.2 Local Project Setting

The Project Area covers 702 ha and is situated in the small suburb of Gundary, home to 306 people and 91 families with a median age of 45 years (ABS, 2021). The Project Area is located within the broader Goulburn Mulwaree Local Government Area (LGA), with other small localities proximal the Project Area including:

- Tirrannaville, approximately 6.3 km west.
- Brisbane Grove, approximately 7 km north-west.
- Boxers Creek, approximately 9.3 km north-east.
- Quialigo, approximately 9 km south.
- Bungonia, approximately 13.5 km east.

These surrounding localities are all small suburbs/localities with higher than State average median ages.

The Project Area is located approximately 10 km south-east of the Goulburn city centre which is the primary location where residents from the abovementioned suburbs access services and facilities.

Goulburn Airport is approximately 4 km north-west of the Project Area. The Hume Highway is approximately 7 km north of the Project Area and acts as the primary connection between Sydney and Canberra. Other key routes and transport options to the Project Area are detailed in **Section 3.1**.

Table 3.2 illustrates the key population centres/settlements of the social locality and the approximate distance from the Project Area.

Table 3.2 Population surrounding the Project

Communities	Population (2021)	Approximate straight-line distance from Project Area[5]
Goulburn Mulwaree LGA		
Gundary	306	-
Tirrannaville	235	7.3 km
Goulburn	32,053	10 km
Quialigo	292	11 km
Boxers Creek	259	12 km
Bungonia	469	16 km
Towrang	161	18 km
Lake Bathurst	218	22 km
Windellama	417	22 km
Parkesbourne	152	23 km
Middle Arm	377	24 km
Marulan	1,428	25 km
Tarago	510	27 km
Tallong	914	33 km

[5] Straight line distance from 916 Windellama Road, Gundary.

Communities	Population (2021)	Approximate straight-line distance from Project Area[5]
Wingecarribee LGA		
Mittagong	6,090	76 km
Bowral	10,764	73 km
Moss Vale	9,310	66 km
Yass Valley LGA		
Yass	6,763	77 km
Upper Lachlan Shire LGA		
Crookwell	2,686	50 km
Queanbeyan-Palerang LGA		
Bungendore	4,745	55 km
Braidwood	1,720	67 km
Queanbeyan	6,409	75 km
ACT		
Canberra-Queanbeyan SUA	490, 517	77 km

Source: (ABS, 2021).

3.3 Energy Policy and Context

3.3.1 Federal Policy and Context

There has been growing global recognition, including at a societal, political and individual level, of the need to mitigate the environmental effects associated with fossil fuel energy generation. A 2021 survey of 3,915 Australians conducted by Griffith University found that 87% of respondents believed climate change should be a key priority of government, 22% felt climate change was an 'extremely serious' problem right now and 45% believed climate change would be an extremely serious problem by 2050 (Bradley, Deshpande, & Foxwell-Norton, 2022).

At the COP21 climate talks in Paris (December 2015), the Australian Government committed to (and which have subsequently been ratified) an emissions target of a 26–28% reduction by 2030 compared to 2005 levels. The United Nations Climate Change Conference (COP28, December 2023) saw the first international agreement that signals the "beginning of the end" of the fossil fuel era by laying the ground for a swift, just, and equitable transition, underpinned by deep emissions cuts and scaled-up finance (United Nations Climate Change, 2023).

The Federal Labor Government's Powering Australia plan highlights its goals to create jobs, cut power bills and reduce emissions by boosting renewable energy (Australian Labor Party, 2021). This includes a goal to reduce Australia's emissions by 43% by 2030, supported by large-scale support for renewable energy projects and infrastructure. A reduction of 43% of emissions requires approximately 82% renewables on the National Energy Market (NEM) by 2030, thereby requiring a large-scale acceleration in the amount of new renewable generation required to be added to the NEM in the next eight years. The Australian Energy Market Operator (AEMO), the independent organization who manages the National Energy Market (NEM) in Eastern Australia, recently released their draft 2022 Integrated Systems Plan (ISP) anticipating that an additional 122 GW of renewable energy generation will be required in Australia to meet demand and maintain energy security; more than double the amount of the total generation in the NEM today (AEMO, 2022).

Gundary Solar Farm aligns with this policy framework by addressing the Federal Government's support for renewable energy development, contributing to the identified need for substantial increases in energy production and aligning with community acknowledgement of the benefits of renewable energy in addressing climate change.

3.3.2 NSW Context NSW Policy and Context

NSW Government recently reiterated their commitment to developing a sustainable renewable energy industry in NSW, stating that 'renewable energy is critical to meeting our state's target of net zero emissions by 2050 and ensuring a secure, affordable electricity supply' (NSW Government, 2023). This commitment builds on over a decade of renewable energy policy in the State.

In 2013, the NSW Government released the *NSW Renewable Energy Action Plan* (the Plan) which consists of 24 actions under three goals outlining the State Government's intention to work with communities and the renewable energy industry to increase renewable energy generation in the state. The Plan guided renewable energy development and aimed to streamline negotiations between network service providers and investors to make timeframes for grid connections in NSW more competitive. The Plan was implemented alongside the *Energy Efficiency Action Plan*, and the successful implementation of the Plan was completed in December 2018.

The NSW Government's current energy security policy and approach to a clean energy transition is being delivered through the strategic development of the renewable energy sector, as outlined through the NSW *Government's Renewable Energy Action Plan* (2013), *Electricity Strategy* (2019) and the *Electricity Infrastructure Roadmap* (2020).

The NSW Government released the *Draft Energy Policy Framework* in November 2023. When finalised, the framework will support faster and more consistent development decisions and provide greater investment certainty to the energy industry. It will also ensure communities benefit from renewable energy development and have more transparency and clarity about where and how development occurs. The Framework will include mechanisms to: provide transparency in assessment requirements; support the industry to make informed assessment decisions; allow communities to anticipate changes to their areas; ensure development is guided by meaningful consultation; manage visual impacts; provide transparency about anticipated decommissioning costs; support landholders in agreement negotiations; and ensure that the benefits of energy development are directly realised by the localities and regions that host the infrastructure.

Gundary Solar Farm aligns with State policy by providing appropriately located renewable energy development. The Project EIS process has also been conducted to meet the requirements of comprehensive environmental and social impact assessment, community engagement and benefit sharing.

3.3.2.1 Large-Scale Solar Energy Guideline

The *NSW Large-Scale Solar Energy Guideline* (DPE, 2022), provides the community, industry, applicants and regulators with guidance on the planning framework for assessments of large-scale solar energy projects such as the Project. The Guideline outlines which solar energy projects are considered as SSDs, where SSD solar developments are permitted, assessment processes for applicants and the regulation of approved large-scale solar developments.

The Draft Energy Policy Framework (DPE, 2023) proposes a series of changes to the Large-scale Solar Energy Guideline to reflect key policy changes in NSW. These changes and their relevance to the Project are articulated below: These include:

- Mechanisms and mapping to increase certainty about suitable locations for solar energy development – as **Figure 3.4** shows, the Project is located within an area identified as suitable for solar development due to access to transmission line capacity and solar resources.
- The framework seeks to deliver greater certainty around benefit sharing and private agreements. Lightsource bp is currently formulating a benefit sharing program including Neighbourhood Benefit Sharing Program (refer to **Appendix F**) and a VPA with Goulburn-Mulwaree Council.
- The guidance also outlines the suitability of areas for future solar development, of which the Goulburn area is highlighted as an area of medium suitability.

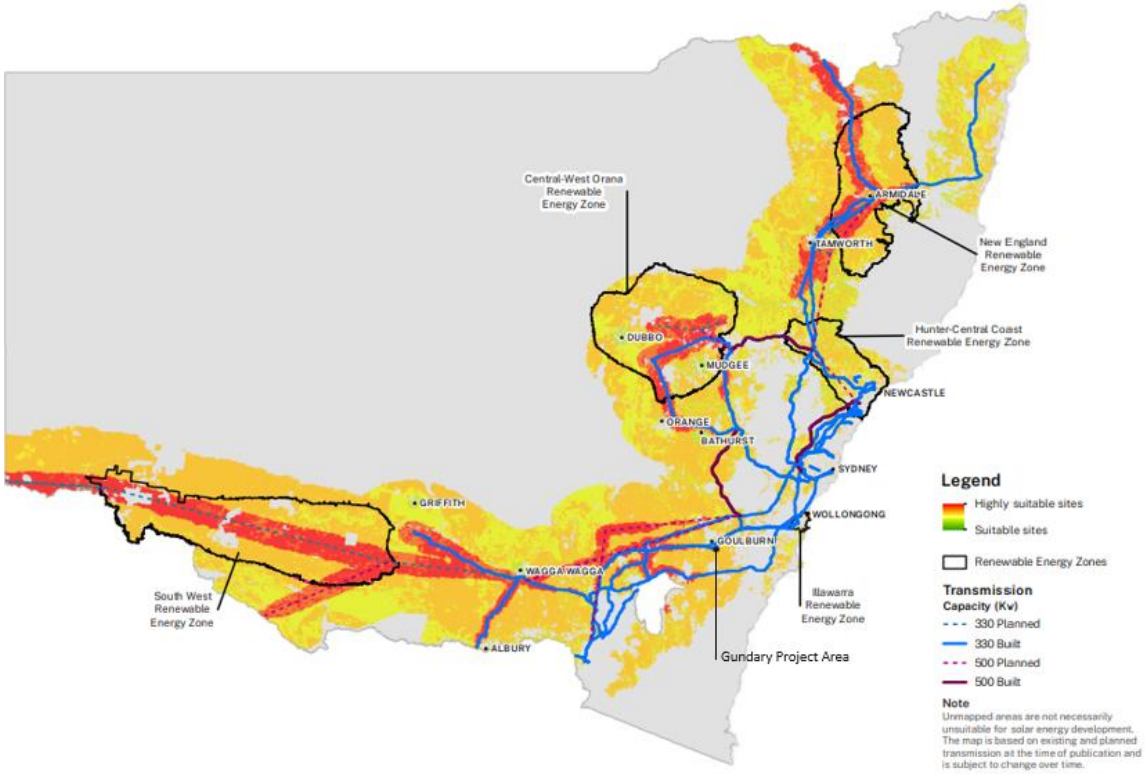

Figure 3.4 Suitable Locations for Solar Development

Source: DPE, 2023.

3.3.2.2 State Environmental Planning Policy (Transport and Infrastructure) 2021

Goulburn was designated as a regional city under the NSW Environmental Planning Policy SEPP) (Transport and Infrastructure) (NSW Legislation, 2024) 2021 in late 2022, joining the State's regional cities of Albury, Armidale, Bathurst, Dubbo, Griffith, Orange, Tamworth, Wagga Wagga and Mudgee.

Section 2.42 of the Transport and Infrastructure SEPP applies to the Project as a portion of the Project Area (i.e., Lot 12 DP1016332 and part of Lot 3 DP1238347) and is identified as within the 'subject land' on the Goulburn Regional Cities Map. Consequently, the consent authority must consider whether the Project is located to avoid significant conflict with existing or approved residential or commercial uses of land surrounding the Project and is unlikely to have a significant adverse impact on Goulburn's capacity for growth, or scenic quality and landscape character. This is addressed further on in **Section 4.1.4**.

3.3.3 Regional and Local Policy

Renewable energy is also addressed in regional and local policy documents, with the key documents summarised below. The following key points are of relevance to the Project, namely:

- Renewable energy is identified as a priority growth sector to diversify the South East and Tablelands regional economy, with Goulburn identified as a suitable location due to its connection to a high voltage transmission line.
- The Goulburn Mulwaree Council is also supportive of renewable energy project development, particularly in areas not classified as areas of prime cropping or pasture potential.
- The Project is consistent with the goals and objectives in both plans.

Draft South East and Tablelands Regional Plan 2041

The *Draft South East and Tablelands Regional Plan 2041* is the NSW Government's blueprint for the future of the South East and Tablelands region of NSW. This plan acts as the overarching strategic plan for the region, guiding the implementation of Local Strategic Planning Statements and the assessment of planning proposals such as rezonings as well as supporting key infrastructure and policy priorities for the region.

Under this plan, renewable energy is identified as a priority growth sector to diversify the region's economy based on the established network of high voltage transmission lines that traverse the region and contribute to the NSW Government's target for net zero emissions by 2050. Objective 8 under Theme 2 (enhancing sustainable and resilient environments) of the plan is to 'plan for a net zero region by 2050'. The plan acknowledges that 'while the region does not have its own renewable energy zone, the existing renewable energy network, coupled with increased renewable energy into the NSW electricity grid will benefit the region and reduce emissions.'

The Project is considered to be consistent with the goals, directions and actions for renewable energy development set out in the *South East and Tablelands Regional Plan 2036*.

Goulburn Mulwaree Council Local Strategic Planning Statement

Adopted on 18 August 2020, the *Goulburn Mulwaree Local Strategic Planning Statement* (Goulburn Mulwaree Council, 2020) is a 20-year vision for land use planning for Goulburn Mulwaree and provides an overarching strategic direction for future land use planning in the Goulburn Mulwaree LGA.

Planning themes and priorities of the Local Strategic Planning Statement are around infrastructure, community services and wellbeing, economy, environment and sustainability. Specifically, Goulburn Mulwaree Council aims to promote renewable energy projects, particularly in areas not identified as being of prime crop and pasture potential, in order to diversify the regional economy and promote a sustainable future.

The Project is considered to be consistent with the goals, directions and actions for renewable energy development set out in the *Goulburn Mulwaree Council Local Strategic Planning Statement.* In particular, it furthers strategic priorities in renewable energy and is not located on land identified as having with prime crop and pasture potential.

3.4 Cumulative Impacts from Proximal Projects

The Goulburn-Mulwaree LGA hosts several renewable energy projects as highlighted in **Figure 3.5.** The Project is also part of the Southern Tablelands Region, an area with an established renewable energy industry including the Snowy Hydro Scheme and NSW's first wind farm, which was established at Crookwell in 1998 Adapt NSW, 2017).

While the Project is not located within a NSW Government declared Renewable Energy Zone (REZ), the regional emphasis on renewable energy is likely to continue, with the Draft Energy Policy Framework identifying Goulburn as an area with suitability of sites for solar development (see **Figure 3.1**).

Further to renewable energy development potential, the social locality is also host to a range of other major projects at various stages of delivery, planning or operation, which have the potential to result in cumulative impacts. Such projects are outlined in **Appendix E** and mapped in **Figure 3.2**. Projects which are proximal of the Project have the potential to create cumulative impacts for host and neighbouring communities. Such impacts may include an increase in regional traffic, reduced access to housing/accommodation and social services and an increase in pressure on the local or regional labour market. **Figure 3.4** showcases the other major projects within a 100 km radius of the Project.

FIGURE 3.5

Proximal Major Projects within 100 km of the Proposed Gundary Solar Farm

Legend

- Project Area
- Local Government Area
- NPWS Estate
- Roads
- Railway

Projects within 100km

- Energy Hub - In Planning
- Hydro - In Planning
- Hydro - Operational
- Solar - Approved
- Solar - In Planning
- Solar - Operational
- Solar - Withdrawn
- Wind - Approved
- Wind - Operational
- Wind - Under Construction
- Wind - Withdrawn
- Other Major Projects

0 25 50

Kilometers

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

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Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2024)

3.5 Community Resilience and Adaptive Capacity

To summarise the social baseline profile (presented in detail in **Appendix B**), the social locality is characterised by strong infrastructure linkages, based on connection to high voltage transmission lines, a strategic position between Sydney and Canberra on a major road transit route. Despite this, there are limited housing and accommodation options in Goulburn and should the project be approved, a proportion of workforce, accommodation and services are likely to be sourced from Wingecarribee, Yass Valley, Upper Lachlan Shire, Queanbeyan-Palerang which are all located within a 1-hr drive time from the Project.

The social locality, particularly the area immediately proximal to the Project Area, is characterised by a strong historical and contemporary economic, social and emotional connection to agriculture. Sense of place and community pride is intrinsically connected to sheep and cattle grazing. This is beginning to change as larger farming blocks are being subdivided to create smaller lifestyle blocks for new households, many moving from larger cities and towns such as Canberra and Sydney. The surrounding community values and the agricultural and natural characteristics of the landscape, mean that industrialisation of the landscape is likely to be experienced as a disruption to valued amenity and sense of place.

The Southeast and Tablelands has a diversified and resilient economy. While agriculture remains an important regional economic strength, there is a small but growing regional strength in mining emerging. Further, there are regional strengths in public administration, construction and healthcare and social assistance, suggesting a diverse economy. Goulburn Mulwaree LGA also benefits from relatively strong connections to the neighbouring LGAs such as Yass, Wingecarribee, Upper Lachlan and Queanbeyan-Palerang which are located within a 1-hour drive. These factors suggest a relatively high capacity for goods, services and jobs to be procured locally.

There is a strong sense of community in the Goulburn Mulwaree LGA with passionate and sometimes opposing views to the renewable energy sector. For example, The Goulburn Community Energy Cooperative is developing one of the first community-owned renewable energy projects in Australia and works with The Goulburn Group to convene events and discussions that support renewable energy delivery and climate change mitigation. However, the Save Gundary Plains group has emerged in direct opposition to the Gundary Solar Farm Project, as well as the Merino Solar Farm (Vorrath, 2022).

Further, there are pockets of disadvantage in the social locality. Goulburn township is more disadvantaged, with a concentration of lower-income and lower-skilled households, in comparison to the rural locality of Gundary. This finding highlights opportunities for community benefit funds to address localised disadvantage and also may present limitations to the ability of local workers to benefit from employment opportunities.

Table 3.3 summarises the key challenges and opportunities being experienced in the region, that have relevance to the Project. **Appendix B** further details the social baseline.

According to Hart (Hart, 1999), natural, human, social, and built capitals are key assets to defining community resilience and sustainability over time. Central to Hart's model is the inter-relationship and linkages that exist across different community capitals and assets, such that where one capital is depleted, other community capitals and assets are also likely to be correspondingly compromised. For example, should human capital be depleted, in terms of a potential deterioration in levels of education or health, the subsequent maintenance of built capitals (e.g., economic infrastructure) are likely to also become affected, thus compromising the overall sustainability of the community.

Table 3.3 Local and Regional Challenges and Opportunities

Challenges	Capital	Opportunities
• Extensively modified vegetation. • History of grass fires.	**Natural**	• Due to the history of productive agriculture and grazing, this extensive cultivation for the purpose of development of exotic pasture has resulted in loss of native grassland. Therefore, there is lower biodiversity constraints for renewable energy development. Region includes conservation areas, national parks and reserves. • Landscaping will aid in habitat creation for biodiversity.
• Mental health is a concern for community. • Smaller proportion of population (compared to NSW) having completed Year 12, and bachelor's degree level and above education, indicating possibilities of a future skills shortage. • Lack of access to internet at home for population compared to NSW.	**Human**	• Population growth and city-to-regional population trends. • Opportunities for local skills, as Goulburn is a regional centre with a Country University Centre and TAFE. • Growing population, therefore opportunities for better infrastructure for the community and more investment in the area.
• Community division regarding renewable energy projects in the region.	**Social**	• Strong community and social relationships. • Well organised community groups with a strong interest in renewable energy.
• High demand for housing with limited rental availability and low rental stock. • Housing affordability decreasing. • Lower than State average labour force participation.	**Economic**	• Diversified economy. • Heritage values linked with tourism sector to promote economic benefits. • Supportive economic and business groups. • A resilient economy, as evidenced through the stable economy during COVID-19.
• Limited public transport accessibility. • Increases in housing prices leading to reduced affordability. • Lower access to the internet for locals. • Other proximal projects generating cumulative impacts (including the proposed Merino Solar Farm). • Limited short-term accommodation in Goulburn.	**Physical**	• Strategic location and strong highway and rail freight linkages, providing access to proximal labour forces and products, particularly in Canberra. • Very well located in the energy network with strong transmission lines and grid stability. • High quality land for sheep grazing. • Access to a larger supply of short-term and rental housing in broader LGAs.
• Project sites developed for Renewable Energy Projects having potential interruption to connection to country for Indigenous peoples and / or Traditional Owners.	**Cultural**	• Community support for solar. • Presence of the Pejar LALC and Mulwaree Aboriginal Community Inc (MACI).
• Not part of a Renewable Energy Zone. • History of community opposition to development and renewable energy in the area.	**Political**	• Regional plan has a direction of positioning the region as a hub of renewable energy. • Strong Local, State and Federal community representation.

Source: Umwelt, 2022.

The consolidated analysis above presents a range of implications in assessing the social impacts of the Project across the social locality, of which are further explored and assessed in subsequent sections of this report.

4.0 Social Impact Evaluation

This section identifies, discusses, and evaluates the social impacts associated with the Gundary Solar Farm Project.

Social impacts have been categorised according to the social impact categories provided in the NSW SIA Guideline (DPE, 2023), with impacts often relating to more than one social impact category. To guide the reader, **Figure 4.2** lists the social impacts identified for the Project and outlines each social impact category they relate to. Social impacts have also been assessed and evaluated in relation to the likelihood and magnitude of the social impact occurring, considering outcomes of engagement with key stakeholders, social research relating to the specific social impacts identified, social science expert assessment, and a review of outcomes of relevant technical studies.

As highlighted in **Section 2.3**, the SIA has drawn on multiple engagement mechanisms to gather stakeholder feedback on the Project. Engagement mechanisms have been matched to levels of stakeholder interest and impact, engagement preference and purpose. The majority of engagement has been focused on stakeholders with the highest levels of interest in the Project and those most likely to be impacted. These stakeholders have been engaged through one-on-one and small group engagement, with many of these stakeholders also attending community drop-in sessions and completing online surveys.

Figure 4.1 provides a summary of the frequency of social impacts (both negative and positive) identified through the stakeholder consultation process, including local landholders and nearby residents to the Project, community and special interest group representatives, local business owners, service providers, aboriginal organisations, local government, and broader community residents residing within the social locality. Each of the impacts identified is further described in the sections below.

To supplement this targeted engagement, a random telephone survey of 200 residents of the Goulburn Mulwaree LGA was also undertaken in November 2022. The purpose of this survey was to capture a broader insight into community attitudes towards the Project and understand perspectives from stakeholders less likely to be engaged through other consultation methods. Given the survey was conducted with a broader sample, the findings have been reported separately, so as not to dilute the perspectives of those living closer to the proposed development.

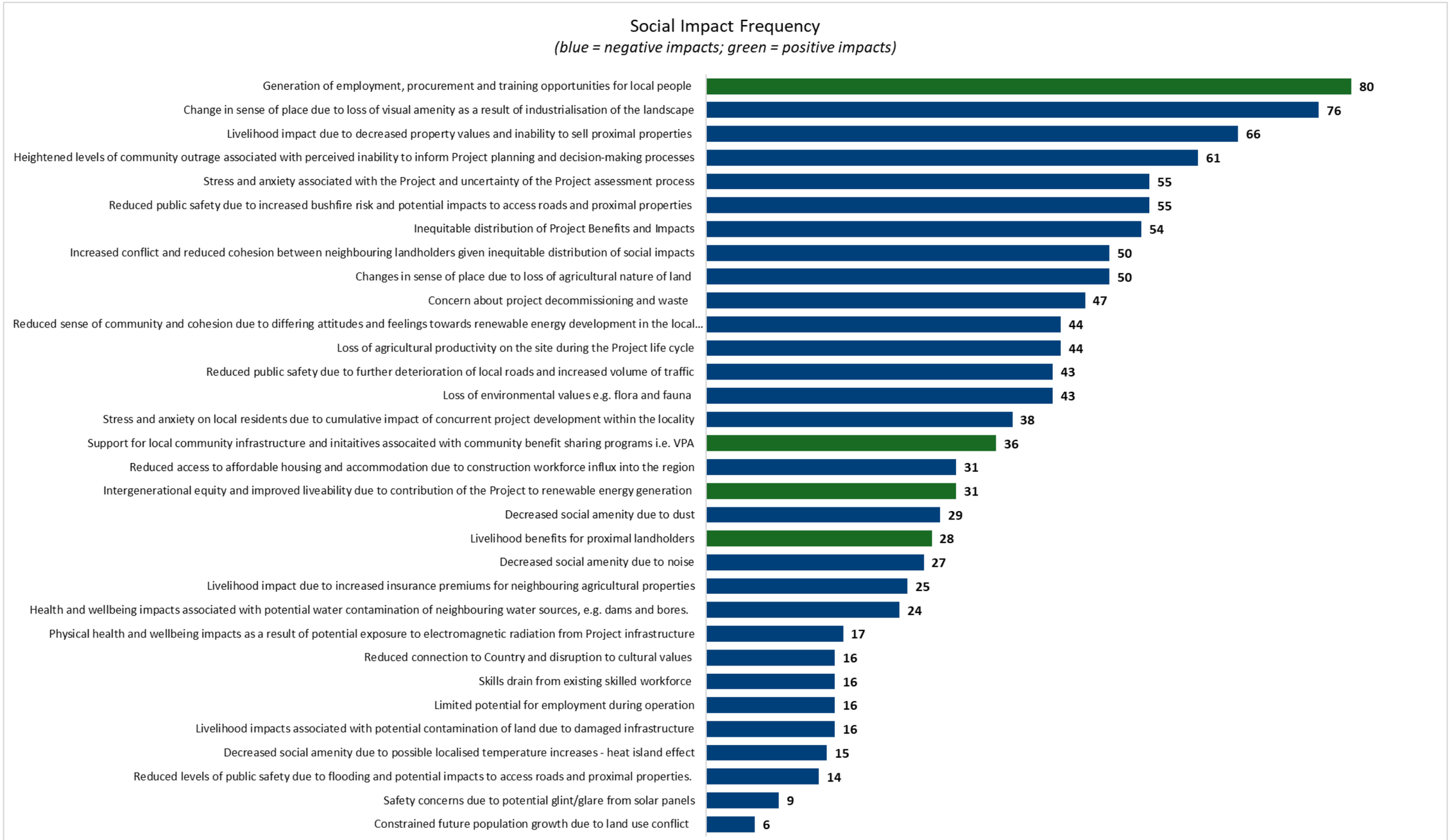


Figure 4.1 Social Impact Frequency

Source: (Umwelt, 2022–2024)

	COMMUNITY & WAY OF LIFE	LIVELIHOODS	DECISION-MAKING SYSTEMS	SURROUNDINGS	ACCESSIBILITY	HEALTH AND WELLBEING	CULTURE
Generation of local Employment and Procurement Opportunities	✓	✓			✓		
Ability to enhance human and economic capital through skill development and training opportunities		✓			✓		
Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape	✓			✓			
Livelihood impact due to decreased property values and inability to sell proximal properties		✓			✓		
Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes	✓		✓		✓	✓	
Stress and anxiety associated with the Project and uncertainty of the Project assessment process	✓		✓			✓	
Reduced public safety due to increased bushfire risk and potential impacts to access roads and proximal properties		✓		✓	✓	✓	
Supply chain and human rights issues associated with solar panel manufacture		✓	✓		✓	✓	
Lack of access to lower cost energy generated by the Project		✓			✓		
Access to lower cost energy generated by the Project		✓			✓		
Increased conflict and reduced cohesion between neighbouring landholders given inequitable distribution of social impacts	✓		✓		✓	✓	
Changes in sense of place due to loss of agricultural nature of land	✓	✓		✓			
Concern regarding ability to effectively rehabilitate land for agricultural use post solar farm use e.g. removal of all infrastructure	✓		✓	✓			
Reduced sense of community and cohesion due to differing attitudes and feelings towards renewable energy development in the local community and region	✓		✓			✓	
Loss of agricultural productivity on the site during the Project life cycle		✓		✓			
Reduced public safety due to further deterioration of local roads and increased volume of traffic	✓			✓	✓	✓	
Loss of environmental values e.g. flora and fauna	✓			✓			
Stress and anxiety on local residents due to cumulative impact of concurrent project development within the locality	✓	✓	✓	✓	✓	✓	
Support for local community infrastructure and initiatives associated with community benefit sharing programs i.e. VPA	✓	✓	✓		✓		
Reduced access to affordable housing and accommodation due to construction workforce influx into the region	✓	✓			✓		
Intergenerational equity and improved liveability due to contribution of the Project to renewable energy generation	✓		✓	✓		✓	
Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance, irritation		✓	✓	✓	✓	✓	
Livelihood benefits for proximal landholders		✓					
Livelihood enhancement associated with hosting of project infrastructure		✓			✓		
Livelihood impact due to increased insurance premiums for neighbouring agricultural properties		✓			✓		
Health and wellbeing impacts associated with potential water contamination of neighbouring water sources, e.g. dams and bores	✓			✓		✓	
Physical health and wellbeing impacts as a result of potential exposure to electromagnetic radiation from Project infrastructure	✓	✓				✓	
Reduced connection to Country and disruption to cultural values	✓		✓	✓			✓
Skills drain from existing skilled workforce	✓	✓		✓	✓		
Livelihood impacts associated with potential contamination of land due to damaged infrastructure		✓		✓		✓	
Decreased social amenity due to possible localised temperature increases - heat island effect	✓			✓		✓	
Reduced levels of public safety due to flooding and potential impacts to access roads and proximal properties	✓	✓	✓	✓	✓		
Safety concerns due to potential glint/glare from solar panels				✓	✓	✓	
Constrained future population growth due to land use conflict	✓		✓		✓		
Increased pressure on local health care and facilities due to incoming construction workforce	✓			✓	✓	✓	
Reduced sense of community and cohesion due to influx of transient construction workforce and change in population composition	✓			✓	✓		

Figure 4.2 Social Impact by Category Matrix

This figure recognises that social impacts may relate to more than one social impact category, therefore, the figure lists the social impacts down the left and have a figure underneath each social impact category they relate to. Colours are design purpose only.
Source: (Umwelt, 2022 to 2024).

Figure 4.1 above outlines all the Social Impacts raised during consultation in relation to the Project, however, to further understand the social impacts raised by differing stakeholders, **Figure 4.3** below details the negative impacts of the Project with the frequency of which they were raised by each stakeholder group.

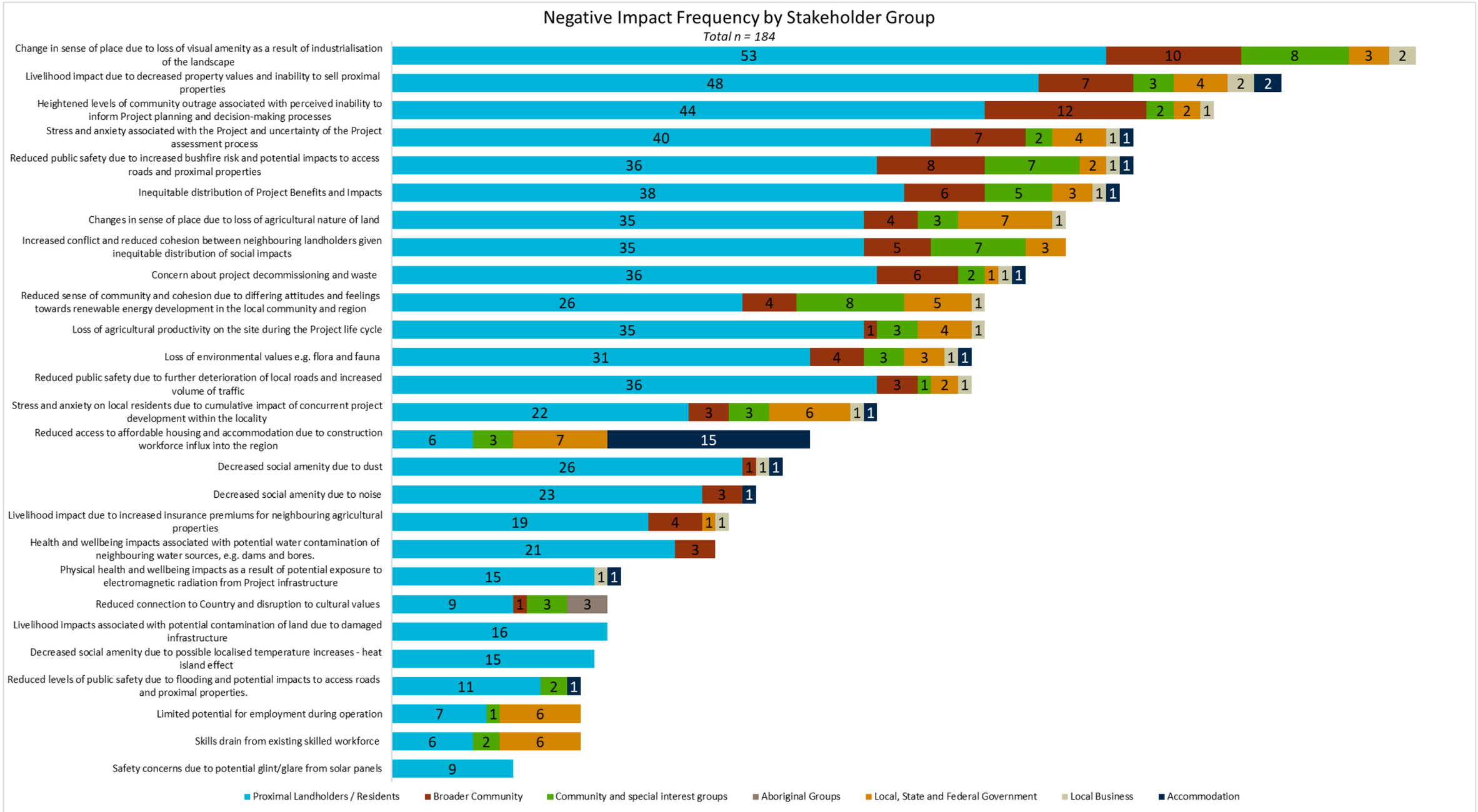


Figure 4.3 Negative Impact Frequency by Stakeholder Group

Source: (Umwelt, 2022–2024).

Figure 4.4 below represents the positive impacts of the Project with the frequency of which they were raised by each stakeholder group.

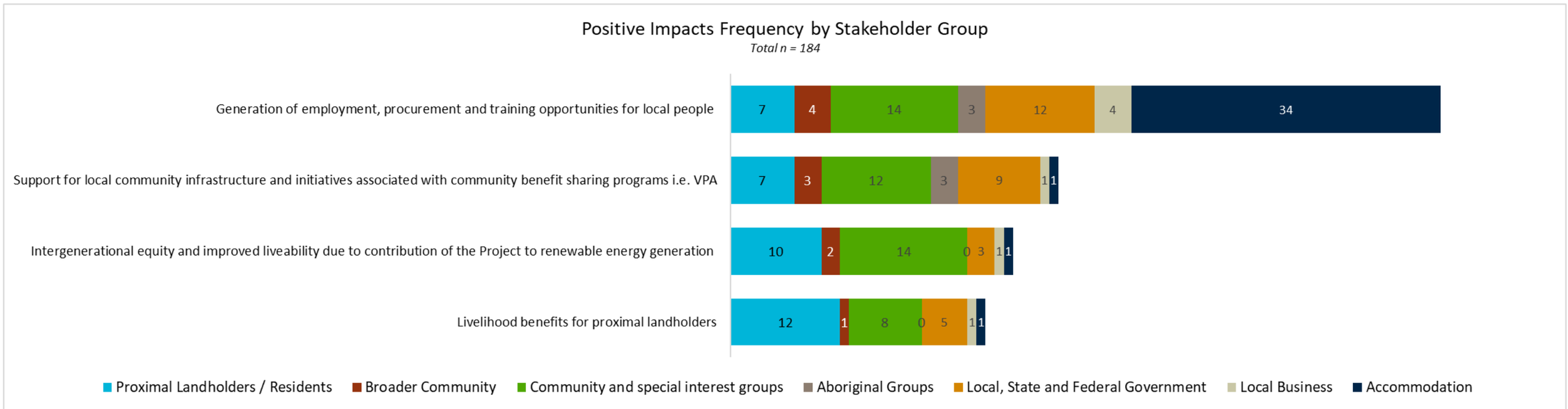


Figure 4.4 Positive Impacts Frequency by Stakeholder Group

Source: (Umwelt, 2022–2024).

4.1 Way of Life / Community

Potential impacts to way of life and community may include changes to how people live, work, and play within their communities and any changes in community composition, cohesion, character, function, resilience, and sense of place because of a project.

Social impacts identified through engagement for the Project on way of life and community are summarised in **Figure 4.5** below.

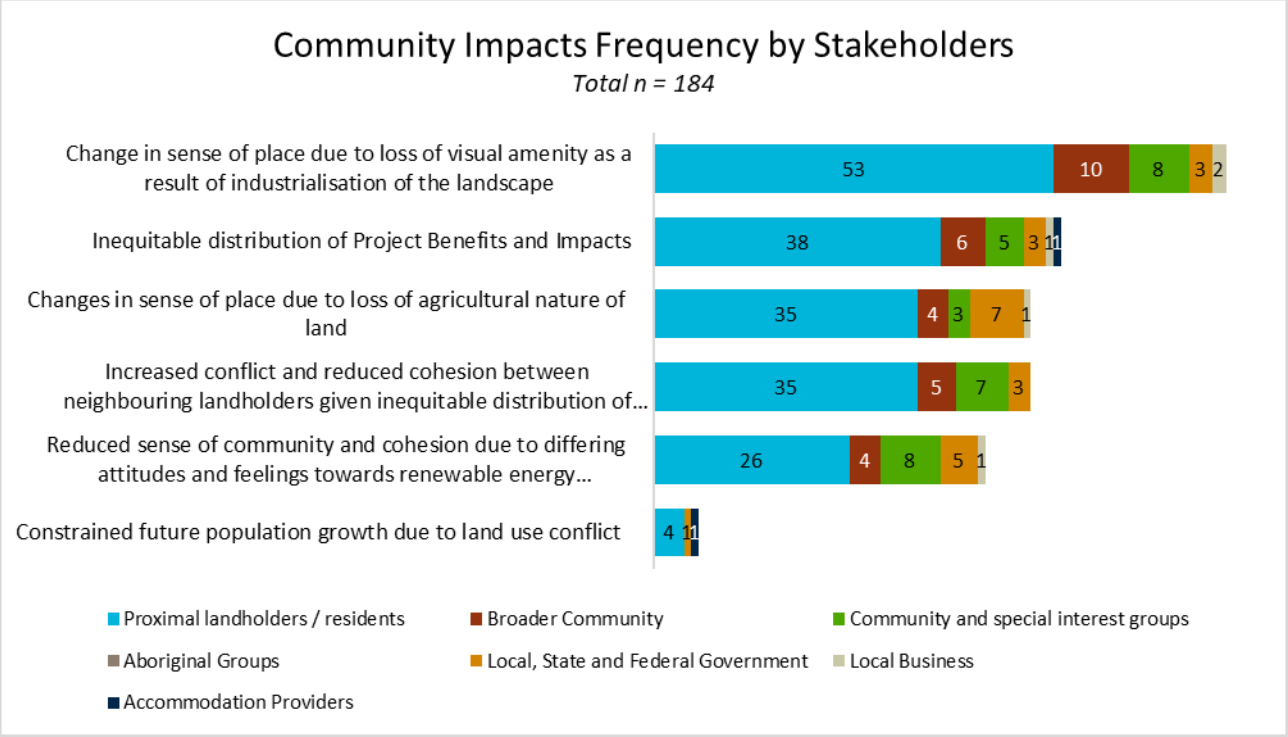


Figure 4.5 Community Impacts – Frequency by Stakeholder Group

Source: (Umwelt, 2024).

As **Figure 4.5** illustrates, these impacts were most salient for proximal landholders and residents to the Project. The following section provides further details of the social impacts identified.

4.1.1 Impact on Sense of Place Due to a Change in Land Use (Loss of Agricultural Land) and Landscape (Visual Impacts)

Vanclay (2008) states that place is 'the coming together of the biophysical, social and spiritual worlds. Simply put, place is space that is special to someone. The personal meanings that turn space into 'place' become embedded into people's memories and in community stories; and can be associated with positive and negative feelings'. Sense of place is therefore seen to be about the personal and collective connections that individuals have with where they live, work and play (Vanclay, 2008).

The majority of local residents living in proximity to the Project, described their relationship with the Project Area and surrounding area, by focusing on their feelings of belonging and the characteristics of the landscape that they highly valued. Such values included environmental values (local ecology), aesthetic and amenity values (including natural beauty of the area and tranquillity), and historic and social/familial connections (familial history with the land, use of the land for agriculture within the region).

The potential for impacts on sense of place and connection to the area were considered particularly salient due to the proposed change from agricultural to industrial land use on the Project Area, and subsequent impacts on visual amenity within the locality. As anticipated, impacts to sense of place were raised more frequently by community members in closer proximity to the Project Area.

For many of those interviewed, the area evokes a strong sense of place identity and attachment, with 'memories, ideas, feelings, attitudes, values, meanings and experience' related to the physical setting (Proshansky, Fabian & Kaminoff, 1938, p. 59, Devine-Wright, 2011). For many proximal landholders / residents consulted, the Project was perceived as a threat to community and place, given the lack of congruence of the Project with the existing surroundings, environment, and traditional agricultural land use. Such values are highlighted in some of the following quotes:

> *Rolling green and golden plains, rural farmhouses dotted around, livestock, native animals, beautiful dams and creeks, tall proud trees of every type, paddocks that vary in colour with crops and pastures, soft blue mountains on the horizon, farm fences dividing paddocks of alpacas, sheep, horses and cattle, kids riding motorbikes and farmers riding quads and side by side. – Proximal landowner / resident*
>
> *Rolling pastures, fences, dams, wind breaks and bush land – Proximal landowner / resident*
>
> *My rural landscape at the moment is very rural, cattle grazing crops growing, harvesting in summer, sewing crops in winter, my vista is undulating pasture, with native trees, bush on the horizon. The reason we purchased the block as a residential rural block. – Proximal landowner / resident*
>
> *Rural, vast, natural, green, farming, grazing, windy, quiet – Proximal landowner / resident*
>
> *When I was a young girl, I would travel all around the region with my dad for his work, we visited many properties in Gundary. I feel connected to the country landscape out there. Not sure how I feel about it changing from agricultural to a solar farm. – Community Group Member*

4.1.1.1 Loss of Agricultural Land

The majority of the properties surrounding the Project are rural properties. Of the 290 lots within 4 km radius of the Project boundary, the majority are under 50 Ha in size (n= 222, 77%). Properties between 50 Ha and 200 Ha (n=55, 19%) and properties above 200 Ha in size (n= 13, 4%) making up a smaller proportion. The Project Area itself comprises of one singular owned property which is the largest landholding within the 4 km radius and is currently used for grazing.

Given the history of agriculture in the region, the loss of agricultural value in the area was raised in relation to the Project, but also as a result of the potential cumulative impacts of other proposed renewable energy projects in the region, as a number of landholders outlined.

Agriculture/ farming has occurred on the Gundary Plain for over 200 years and should remain prime agricultural land – Proximal landowner / resident

The locality has a long history of agriculture dating back to early European settlement. However, in recent times it has been subdivided into small, lifestyle blocks with little agricultural significance. Most residents rely on 'off farm' income and only run some livestock for pleasure or to keep the grass down. – Community Group

The precedence that land of agricultural significance being used for REZ [Renewable Energy Zone] purposes. – Proximal landowner / resident

I cannot see the benefits of this project. It is not a farm it is not producing food for people. – Proximal landowner / resident

If this project is approved it will set a dangerous and irreversible precedent for inappropriate development of agricultural land and have devastating effects on the environment, local economy, and aesthetics of the Goulburn Mulwaree Region – Stop Gundary Website.

The dual use of land for both renewable energy and agriculture may go some way to reduce impacts on sense of place and address impacts associated with the perceived loss of agricultural land. As an article in the Goulburn Post recently highlighted (May 2024):

'There were all sorts of angry people at drop-in sessions saying this was all going to be a disaster and it was going to put an end to farming on the Gundary plain, and I thought it was ridiculous, I didn't agree with community members who said it would be the end of farming. I started to get involved in this whole agrivoltaic business – the co-location of intensive agriculture and solar farms,'. – Goulburn Post, 2024.

Many case studies exist which involve co-location of solar power generation and agricultural activities including cropping, grazing and horticulture – often referred to as agrivoltaics farming or agrisolar. This was reflected in a number of comments from key stakeholders.

Good to run sheep on project – Proximal landowner / resident

Grazing of sheep under the panels is good, I have visited the Wellington site and this is a good outcome for the Project – Community resident

It's not good enough just having sheep graze on the site, the sheep need to be owned by locals to bring that benefit back to the local people, not big corporations – Proximal landowner / resident

Should have Angus beef cattle grazing on the land too, not just sheep. – Proximal landowner / resident

Enhance soil carbon sequestration and offer locally grown produce to the residents of Goulburn through the development of an agrovoltaic project on the site – Community Group

While some stakeholders were supportive of agrivoltaics, others felt that more suitable sites for a solar farm should have been considered given the agricultural nature of the locality. Further stakeholder perceptions relating to site selection and project viability are provided in **Section 4.7**.

A detailed Soil and Agriculture Assessment, including a Land Use Conflict Risk Analysis (LUCRA), has been prepared by Minesoils (2024). The NSW Government uses the Land and Soil Capability (LSC) Scheme, which classifies the inherent physical capability of the land and soil to sustain a range of land uses, with LSC classes ranging from Class 1 being 'Extremely high capability land' to Class 8 being 'extremely low capability land'.

While the Project Area is currently being used for agricultural purposes, specifically livestock, the land is not classified as either Biophysical Strategic Agricultural Land (BSAL), a Critical Industry Cluster (CIC) or mapped as Class 1 or 2 under the Land and Soil Capability (LSC) Mapping. The Soil and Agriculture Assessment determined that a small area (63 ha) of mapped Class 3 (high capability land) LSC is present within the Project Area. Impacts on LSC are expected to be minor as disturbance to soils would be localised associated with minor soil stripping, leveling and limited excavation works. The remainder of the Project Area is classified as land less capable of sustaining high impact land uses (i.e. Class 4, 5 or 6). The majority of the Project Area is therefore considered mostly poor to moderate agricultural land.

Findings and recommendations from the Agriculture Commissioner's Report (2022) highlights that across the State, renewable energy development is likely to impact 55,000 ha, which equates to 0.1% of rural land. The report goes on to recommend that site selection for solar farm development should reduce impact on Class 1 and 2 land particularly (Recommendation 13), and where possible, should consider how agricultural uses can be continued on the Project Area (Recommendation 15) (NSW Agriculture Commissioner, 2022). Further guidance developed by the Community Power Agency (May 2024) also identifies strategies and practical methods for developers of large-scale renewable energy projects to address land use conflict and adopt regenerative farming techniques, including 'conservoltaics' and 'agrivoltaics' (Community Power Agency, 2024)

The Project will change the use of existing land (702 ha) from agriculture to electricity generation, representing 0.6% of agricultural land within the LGA; however, is not expected to result in permanent changes to agricultural land use or productivity of the Project Area, as it is likely that the Project Area would be returned to agriculture following decommissioning (unless otherwise agreed with the landholder and/or regulatory authorities). The existing land use within Project Area further provides the opportunity to implement agrivoltaics, subject to further consultation with the landholder and relevant agencies.

Should agrivoltaics be considered for the Project, a Sheep Grazing Vegetation Management Plan will be developed and implemented during the operational phase. This will include measures to manage the stock appropriately, including a requirement to keep the stock in good health, ensuring frequent shearing (to keep wool growth low), ensure mustering is conducted in an agreed safe manner, and that any fatalities are managed by the farmer.

In the case of the current site, Lightsource bp are considering sheep grazing of the site however this will be subject to discussions with landholder and relevant agencies.

4.1.1.2 Change in Visual Amenity

The potential for impacts on visual amenity, due to the introduction of solar panels and ancillary infrastructure, was raised as a key concern by stakeholders consulted, with a Landscape and Visual Impact Assessment (LVIA) undertaken.

The rural and scenic values associated with the landscape were highly valued by key stakeholders with concerns raised that Project infrastructure would result in industrialisation of the landscape and reduced visual amenity for property owners and those visiting the area. This proposed change was seen to influence sense of place as previously noted, as well reduce property values in the locality (refer to **Section 4.3** for further discussion of livelihood impacts).

> *Amazing rural views taken away by the solar panels. Lack of care for surrounding properties regarding property values and minimising the potential of perspective buyers. – Proximal landowner / resident*
>
> *My whole view will be ruined – Proximal landholder / resident*
>
> *We have picnics at the back of the property, up on the hill and will be able to see this project from there, it will ruin the peaceful view we have up there. – Proximal landholder / resident*
>
> *I love the quiet rural vista, I like looking at rural activity through the day. I enjoy living in a rural residential setting, I like watching the sun go down in our rural setting, and the moon coming up over the horizon without structures impeding my vision – Proximal landowner / resident*
>
> *Project would affect tourism. Tourists go down Windellama road, solar would detract tourists from visiting the area – Community resident*
>
> *Not only will I have to look at it from my place, but everyone driving past and to/from my place will have to look at the substation – Proximal landholder / resident*

Figure 4.6 Example of Landscape Value of Gundary

Source: (Umwelt, August 2022 to November 2023) Photograph uploaded to online survey to depict landscape value of Gundary.

In relation to visual impacts from private residences and other potential residences (proposed subdivisions and dwelling entitlement lots), a total of 31 private residences were assessed, with only one residence identified as likely to experience moderate visual impact according to the visual impact methodology. The remaining 30 residence were predicted to experience low or very low visual impacts. This was also the case for future residences.

A number of mitigation strategies, detailed in **Section 4.1.1.4**, have been proposed for the Project to further reduce the visual impacts associated with the Project.

4.1.1.3 Landscape Character

The visual impact of the Project was also seen to have implications for the broader visual amenity and landscape value of the Goulburn LGA. The NSW Government recently designated Goulburn as a regional city under the State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP), and according to the SEPP, consent authorities must consider whether a solar farm development is likely to 'have a significant adverse impact on the regional city's scenic quality and landscape character' (Section 2.42 (2)(b)).

The Landscape Character Assessment conducted as part of the LVIA has considered impacts to the landscape, its aesthetics, and its distinctive character, in particular the Gundary Plains, and Towrang Ranges; with the LVIA also considering the potential for visual amenity impacts from eight publicly accessible regional city viewpoints including existing and future growth areas. These viewpoints included:

- Mountain Ash precinct (future growth area).
- Brisbane Grove precinct (future growth area).
- Rocky Hill War Memorial (public lookout and significant local landmark).
- Auburn Street overlooking Belmore Park (public road).
- Former St. John's Orphanage (vacant private property).
- Montague Street overlooking the Anglican Cathedral (public road).
- Goulburn Brewery (private property visited by tourists and residents).
- South Goulburn McDonalds carpark (private property visited by tourists).

The LVIA also considered the impacts on Goulburn City's landscape character from the city's urban precincts, growth fringe precincts, heritage conservation areas and heritage items. The assessment concluded that the impact to landscape character would be low given the Project's distance from the City, its relative low-profile height, and dark visually recessive colour (Envisage Consulting, 2024).

The visual assessment from public viewpoints along Windellama Road (travelling north and south) and Kooringaroo Road were also considered to have a low visual impact ranking.

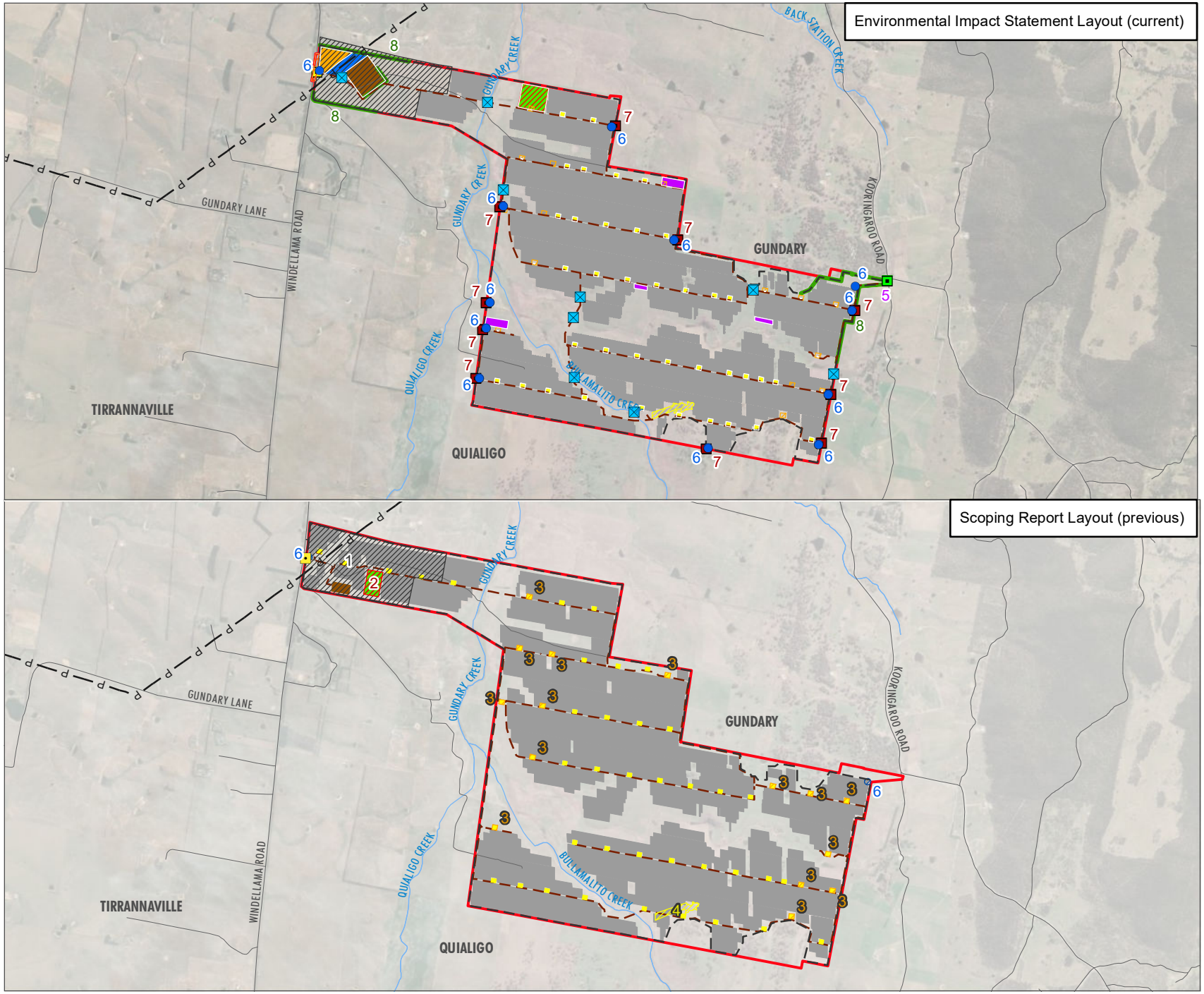
4.1.1.4 Mitigation Strategies to Reduce Visual Impacts

Given the level of landholder/resident concern relating to visual impacts, considerable changes have been made to the Project design to further reduce visual impacts of the Project, particularly on proximal landholders/residents. Such changes have included:

- Removal of approximately 50 hectares of panels from the northwest corner of the site to reduce visual impacts to landholders located to the northwest.
- Relocation of the centralised BESS approximately 1.2 km to the east, away from sensitive receivers on the north-west.
- Removal of 20 decentralised BESS units located nearest to sensitive receivers, to reduce visual impacts.
- Panel height has been reduced in response to community concern regarding visual impacts, 5 m were originally proposed for the Project, however Lightsource bp is now proposing panel high up to 3 m high, with an occasional height of up to 4 m (depending on topography).

FIGURE 4.7

Project Refinements (2022 - 2024)



Scoping Report to Environmental Impact Statement - Changes

- 1 - Removal of solar panels
- 2 - Relocation of the centralised BESS
- 3 - Removal of decentralised BESS units
- 4 - Avoidance of Eucalyptus macarthurii trees
- 5 - Kooringaroo Road emergency access
- 6 - Water tanks for fire fighting
- 7 - Emergancy Gate
- 8 - Landscape Screening

Environmental Impact Statement Layout (current)

- Internal Access Tracks
- Security Fence
- Existing Transmission Line
- Watercourse / Bed Level Crossing
- Water Tank
- Primary Site Access
- Emergency Access
- Emergency Gate
- Project Area
- Proposed Road Upgrade
- Solar Panels
- Landscape Screening
- Transgrid Line Works
- BESS Option 2 (Centralised)
- Substation and O&M Facility Area
- Construction Compound Area
- Inverter Stations and BESS Option 1 (Decentralised)
- Temporary Laydown Areas

Scoping Report Layout (previous)

- Primary Access
- Internal Access Tracks
- Security Fence
- Existing Transmission Line
- Project Area
- Inverter Stations and BESS Option 1 (Decentralised)
- BESS Option 2 (Centralised)
- Substation and O&M Facility Area
- Solar Panels

0 500 1,000

Metres

Scale: 1:0 at A4

GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

In addition to the Project design changes, Lightsource bp is also proposing strategically located landscape screening. This will mitigate potential glare impacts along Kooringaroo Road and reduce visual impacts of the Project (refer to **Figure 4.7**). While the majority of landholders have been assessed by the LVIA as having 'low' or 'very low' visual impact ratings, it is acknowledged that one neighbouring landholder (non-associated) has been assessed in the LVIA as having a 'Moderate Visual Impact' rating (Envisage Consulting Pty Ltd, 2023). Lightsource bp is currently seeking to enter a negotiated agreement with this landholder in line with the Solar Guideline (further discussed in **Appendix H**). A draft landscape plan is proposed as part of the Project to mitigate visual impacts of the Project.

Some concerns have been raised by local landholders in relation to the effectiveness of visual screening and tree planting as a mitigation measure, including the types of species to be planted and the need for maintenance of vegetation buffers and shelterbelts, as highlighted in comments below.

> *Screening plants will take 30 years to grow - not good enough - need to build structures to screen, and plant vines etc. – Proximal landholder / resident*
>
> *Screening from my property isn't an option, you need to put screening around the substation, rather than taking away my whole view – Proximal landholder / resident*
>
> *Screening with trees planted along the fence on the Project side, and trees planted amongst panels to make it less visually impactful. Don't want the screening on my property and taking up my land, it should be on their side. They should use pine trees and gum tress. – Proximal landholder / resident*
>
> *Provide screening around substation. Break up into pods of solar panels with trees between the pods. Pull back from boundary – planting of pines. – Proximal landholder / resident*
>
> *Shelterbelts of both exotic and native vegetation. Goulburn is the Lilac City and Lilac trees could intersperse with weeping willows and auricarias (bidwillii pine). It should be noted that the low-lying areas of the site were never treed and eucalypts are very hard to establish in the area. Reeds, sedges, and rushes (e.g. phragmites etc.) were the original vegetation along with native grasses. – Proximal landholder / resident*

Feedback received from landholders attending the in March 2024 community information sessions suggested that tree species selection and planting, both onsite and offsite, should be undertaken in consultation with Greening Australia, as well as engagement with local landholders who have undertaken extensive tree planting on their properties. Envisage, the visual assessment consultants, have subsequently engaged with some of the residents that have successfully planted trees on their properties in the past, and have identified preferred tree species to include Yellow box, Cabbage gum, Candle bark gums, and Argle Apple Gums. Envisage plans to further engage with Greening Australia and Landcare Goulburn throughout the development of the detailed Landscape Plan.

Onsite visual screening around the Project Area will be established in line with the draft landscape plan, to be finalised in collaboration with Goulburn Mulwaree Council, Greening Australia and Goulburn Landcare.

Table 4.1 summaries the impact of the Project on sense of place and further outlines community identified mitigation strategies and proposed mitigation and enhancement strategies.

Table 4.1 Summary of Mitigation and Enhancement Strategies- Change to Sense of Place

Social Impact	Community Identified Strategies	Proposed Strategies
Potential loss of agricultural productivity on the site during the Project life cycle & Changes in sense of place due to loss of agricultural nature of land	• Graze locally owned sheep beneath panels. • Dual land use by involving agrivoltaics.	• Potential establishment of agrisolar initiatives once construction has been completed, subject to further engagement with the landholders and / or regulatory authorities. It is Lightsource bp intention to have a local farmer run their sheep on the Project Area, as a means to coexist with the local agricultural farming sector. • Research opportunities to be potentially explored around agrisolar, and different ways for project to coexist with agriculture initiatives.
Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape	• The project should undertake planting of trees to address visual impacts of the solar farm to nearby residences. • Compensate neighbours based on their level of impact, considering their whole property, not just from one vantage point. • Financial support to neighbours who will be visually impacted. • Screening with trees planted along the fence on the Project side, and trees planted amongst panels to make it less visually impactful. • Screening around the substation. • Underground powerlines.	• Targeted on site visual screening through perimeter landscaping, with the draft landscape plan finalised in collaboration with Goulburn Mulwaree Council, Greening Australia and Goulburn Landcare. • Visual screening on individual landholder's properties may also be appropriate for some residences, with some stakeholders requesting tree planting on their respective properties. However, the topography and view lines surrounding the Project may reduce the efficacy of this solution for some landholders. • One proximal landholder is subject to an impact agreement based on assessed level of visual impact (Moderate), developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder.

Source: (Umwelt, 2024).

4.1.2 Loss of Sense of Community and Cohesion

Large-scale transition, the introduction of new projects in a social locality, changes to the built and natural environment, and the subsequent influx of workforces and new residents, can alter a community's composition and influence cohesion and sense of community (NSW DPE, 2023).

Sense of community focuses on the notion that an individual exists within a larger interdependent network or system that is greater than personal relationships between individuals. It includes a sense of communal efficacy and mutual responsibility to do 'right' by the community as a whole, where community members believe that they can do together what they can't achieve on their own (Jason, Stevens & Ram, 2015; Pretty Bishop, Fisher & Sonn, 2007). It is not an outcome nor an end state in itself but can be perceived as a process in which members of a community interact with each other, express who they are in an individual and collective sense, seek and provide social support, and create experiences that facilitate a shared history (Pretty, Bishop, Fisher & Sonn, 2007).

Gundary, the immediate social locality in which the Project is based and the broader LGA of Goulburn-Mulwaree, is characterised as having a:

- **Less transient population:** with a higher proportion of people living at the same address 5 years ago in the LGA of Goulburn-Mulwaree (58.4%) and SAL of Gundary (72.7%) compared to NSW (50.7%).
- **Higher proportion of residents that volunteer:** there is a high proportion of residents in the Goulburn Mulwaree LGA (13.8%) who had participated in volunteer work compared to NSW (13.0%).
- **Higher rates of home ownership:** The Goulburn- Mulwaree LGA (67.6%) and Gundary SAL (85.8%) indicate higher rates of homeownership when compared to NSW (64.0%).
- **Largest industry of employment**: The top 3 industries of employment in the Goulburn Mulwaree LGA include health care and social assistance (15%), public administration and safety (10.9%) and retail trade (10.7%), while in the Gundary SAL Construction (14%), Health Care and Social Assistance (13%), Public Administration and Safety (12%) and Agriculture, Forestry and Fishing (12%) are the most prominent employment industries.

Change in community composition, cohesion and sense of community were largely impacts identified due to:

- the potential influx of construction workforce associated with the project
- the distribution of project impacts (positive and negative)
- conflicting attitudes relating to renewable energy development within the social locality.

Each of these aspects are further outlined below.

4.1.2.1 Construction Workforce Influx

The potential influx of construction workforce associated with the Project would likely be over a 2-year period, and is estimated to peak at 250 workers over a 9-month time period, as outlined in **Figure 4.8**.

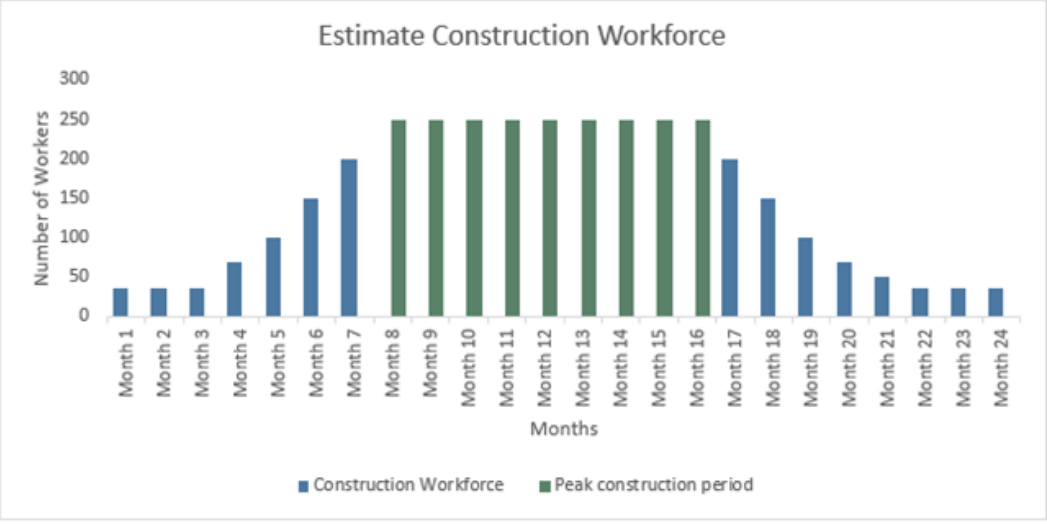

Figure 4.8 Estimated Construction Workforce

Source: (Umwelt, 2024).

Drive in, Drive out (DIDO) and Fly in, Fly out (FIFO) workforces are often understood to bring few direct benefits to the locality, with such workers often not seen as contributing to, or participating actively in, community life (Sincovich, Gregory, Wilson & Brinkman, 2018). A lack of meaningful opportunities to connect with the local community has the potential to create a psychological distance between locals and non-residents, leading to a perception of 'us' and 'them' that erodes sense of community, particularly in regional settings (Sincovich, Gregory, Wilson & Brinkman, 2018).

As sense of community is connected to a supportive and dependable structure, one that is predicated on reciprocity; a proponent's choice to use DIDO/FIFO workforces can be viewed as a lack of commitment to place and a lack of care about local community wellbeing as the relationship appears to be one sided (Carrington & Pereira, 2011) (Pretty, Chipuer & Bramston, 2003). For example, factors such as the facilitation of emotional bonds through friendships, affiliation to community groups, behavioural commitment to the community through volunteering, neighbour interaction or helping those who need assistance, and participating in community decision making, are integral to fostering a sense of place and community (Pretty, Chipuer & Bramston, 2003).

The presence of large construction workforces within a locality are also seen to result in a number of negative social impacts including antisocial and criminal behaviour, road safety issues, increased cost of living, and pressure on local facilities and services (Petkova, Lockie, Rolfe & Ivanova, 2009). Given that the construction workforce is likely to be predominantly male, this also has implications for gendered impacts within community, such as safety of female community members, higher rates of alcohol consumption and alcohol-fuelled violence (Ruddell & Ortiz, 2015), and subsequent road safety issues. However, the presence of a construction workforce may generate additional spending in the local area given increased economic activity (as will be discussed in **Section 4.3.1**).

The Goulburn Mulwaree region also has a high visitor rate with tourists coming to the area to attend key annual tourism event such as the annual Goulburn Lilac City Festival, Goulburn Poultry Fanciers Society-Annual Show and Goulburn Carnival Cups which highlight the region's key assets. Consequently, the influx of workforce associated with the Project, and with other Project developments in the area, may result in negative impacts on tourism, given a change in community composition (refer to **Section 4.1.3** for further discussion of population change impacts).

Impacts to social cohesion, may be more severely felt in the smaller localities such as Yass. As previously noted, while significant workforce influx is not likely to occur in smaller localities due to limited accommodation options, if additional accommodation options become available in these localities, an increased workforce influx may occur, potentially causing significant changes to social cohesion and sense of community.

The Accommodation and Employment Strategy (AES) developed for the Project (refer to **Appendix G**), outlines strategies to manage population influxes across the LGAs of Goulburn-Mulwaree, Yass Valley, Wingecarribee, Upper Lachlan, and Queanbeyan-Palerang. The sourcing and distribution of the peak construction workforce (250) from across the above LGAs, proportionate to the availability of accommodation, aims to reduce significant strain on the current short-term accommodation and housing market and manage influx of workers into smaller communities. Furthermore, the AES suggests increasing tailored female, learning worker and First Nations training and employment opportunities.

4.1.2.2 Conflicting Attitudes Toward the Project and Renewable Energy Development within the Social Locality

Levels of community conflict and reduced community cohesion were also seen to be associated with differing perspectives on the project and renewable energy more broadly, with differing perspectives evident across different stakeholder groups.

In the Gundary locality, where the Project is based, landholders/residents and representatives of local community groups noted that these differing perspectives on development were resulting in conflict between community members, with the main issues of contention relating to differing views on the benefit(s) of renewable energy development in reducing climate change impacts, and conflicts between host and proximal landholders. Such conflict had resulted in some community members expressing that they did not feel comfortable discussing the Project in public.

> *People who are for/against it is creating division between people who would otherwise get along. – Proximal landowner / resident Scoping Phase*
>
> *Most of the community supports additional renewable energy. But there are two sides of the story. Some will be very supportive, and some… don't want a bar of it. – Community Group/Association Scoping Phase*
>
> *Many people broadly support renewable energy, they just don't want it in their backyard. – Community Group/Association Scoping Phase*
>
> *Some of these negative impacts are rationally and scientifically illogical. They are like a drowning man clutching at a straw. Some arguments [about the negative impacts of the Project] make no sense at all. – Community resident*

As discussed in **Section 4.9**, levels of acceptance of the Project varied based on geographical location, with those in closer proximity in the Gundary locality holding lower levels of acceptance than those in the broader Goulburn Mulwaree LGA.

It is therefore important that differing stakeholder groups are able to provide input to the Project (refer to **Section 4.7** for further discussion) and that consistency in mitigation and management strategies is achieved to reduce conflict between parties. Social impacts may be experienced in the Project assessment phase and consequently efforts need to be made to reduce uncertainty and provide information to facilitate meaningful participation and reduce conflict where possible.

4.1.2.3 Inequitable Distribution of Social Impacts

Changes to community cohesion were also raised as being a result of the inequitable distribution of social impacts, both positive and negative, associated with the Project.

Local landholders/residents (n=35) identified that while Goulburn Mulwaree LGA residents and specifically those in proximity to the Project Area will experience most of the negative impacts associated with the Project, the benefits of the Project e.g. renewable power generation, will primarily benefit the larger cities. Consequently, the lack of benefit to the locality as a result was a key issue of concern.

Put the solar panel on roof tops in Sydney where the power is required, OR out on the beaches in Sydney, spoil your own vista not mine... for a lousy 80 days of good sunlight per year. Sydney has more sunlight days than we do. OR another option... in the desert, where only the wildlife have to see them. – Proximal resident / landholder

Scrap Goulburn and Gundary Plains as the proposed site. Goulburn Mulwaree and Upper Lachlan Shire residents have already sacrificed enough for clean energy, leave us alone and go somewhere else. – Proximal resident / landholder

Locals sacrifice their surroundings for those who live unaffected in Canberra or Sydney unfair load the bush is expected to pay to provide power for Sydney – Scoping Phase, Proximal resident / landholder

Stakeholders raised supply chain and human rights issues associated with solar energy infrastructure component sourcing and manufacture, given that much of the infrastructure required for the Project is sourced from outside of Australia.

Australia doesn't benefit from this Project, all the panels come from Chinese manufacturer – Local resident / landholder

Solar panels from China which means they are not produced sustainably. On a global front it's appalling. Source them from a responsible manufacturer – Scoping phase, Proximal resident/ landholder

Owned by an overseas company, benefits not felt in Australia. – Proximal resident/ landholder

The issue of inequitable distribution of impacts is an issue often identified in project development across other sectors. For instance, research relating to social licence in the mining industry has suggested that factors such as the quality of engagement and procedural fairness, trust in the proponent, and a more equitable distribution of impacts (negative) and benefits can assist in increasing acceptance of a project.

Moffat and Zhang (2014) note that social licence to operate and levels of acceptance and approval of a project are influenced by perceived levels of trust in the company, which were in turn influenced by the degree to which a project impacts on or benefits the community and individual experiences dealing with the company and perceived procedural fairness (Moffat & Zhang, 2014).

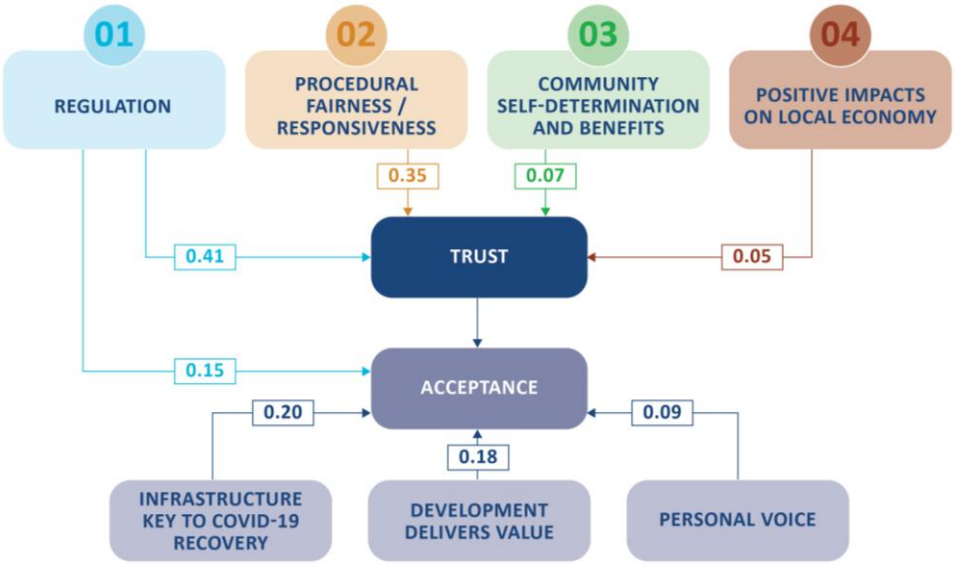

Figure 4.9 Social Licence to Operate Model

Source: Umwelt, 2024, adapted from Sanchez, Bice, & O'Connell, 2022, the numbers represent the level of correcaation and indicate the strength of the relationship, with higher numbers indicating a stronger relationship.

In this regard, further guidance is in the process of being finalised by the DPHI to provide a more structured framework for developing effective community benefit sharing programs within the renewable energy sector. While there are no existing requirements for solar farms to develop community benefits schemes, the NSW Draft Benefit Sharing Guideline outlines that:

There is a growing practice in Australia and internationally of developing community benefit sharing initiatives for renewable energy projects. These initiatives are generally designed to bolster the positive social and economic outcomes from projects, so that host communities who experience the most change can more directly benefit from these projects.

The Draft Guideline therefore provides advice on how community benefit sharing can be incorporated into the consideration and delivery of large-scale renewable energy development and outlines:

- a benefit sharing policy approach, objectives and implementation strategy
- benefit sharing mechanisms that operate at neighbourhood, local and regional levels
- a proposed model, including guidance on the expected total value of benefit sharing for individual projects (DPHI, 2023).

Draft Guideline (DPHI, 2023) suggests that proponents should contribute $850 per MW per annum for solar energy development projects. Lightsource bp has committed to a Neighbourhood benefit sharing program which includes:

1. VPA with Goulburn Mulwaree Council, which is under negotiations.
2. Funding towards local community programs.

3. Neighbourhood Benefit Sharing Program:

- Lightsource bp has established a Neighbourhood Benefit Sharing Program to ensure those residents living closest to the project can share in its direct financial benefits. The Program will commence if the project is approved, and construction begins, and the total fund equals $2.13 million, which is made up of the following:

- Sign-on payment ($90,000): A once-off payment of $5,000 when the Neighbourhood Benefit Sharing Agreement is signed to cover legal costs and to reimburse for time spent understanding the agreement.

- Construction Benefits ($440,000):

    - All residences (dwellings) within 1 km of the project boundary will be eligible to receive a home energy system, including rooftop solar and a battery valued up to $20,000.

        - Alternatively, those residence who do not elect to receive the home energy system will be eligible to receive a once-off payment of $15,000.

- Operation Benefits ($1,600,000 ex. CPI):

- All residences (dwellings) within 500 meters of the project boundary will be eligible to receive annual Operation Neighbourhood Benefit Sharing payments. Residence can opt for either:

    - annual payments of $5,000 (indexed annually to CPI) for the project's 40-year lifespan, or

    - frontloaded annual payments of $20,000 (indexed annually to CPI) for 10 years.

Further details of this program provided in **Section 4.3.6**.

The inequitable distribution of impacts was also discussed to be causing conflict between host and proximal landholders, with host landholders likely to benefit greatly as a result of the project being located on their land, and proximal landholders having to live with the negative environmental and social impacts associated with the project. Further information on Neighbourhood Benefit Sharing Program is discussed in **Section 4.3.6**.

Consequently, understanding how social impacts may be distributed across different individuals and stakeholder groups and working to balance positive and negative impacts is essential, so that those that may be most impacted by a Project development, are also able to receive some of the benefits of the presence of the Project in their respective locality.

Co-design of community benefit sharing programs, through establishment of community working groups or social investment committees, may also assist in identifying local community projects and initiatives that meet local key community needs and which may facilitate community cohesion.

Table 4.2 outlines the social impacts of the Project relating to loss of sense of community and cohesion. The table further outlines community identified strategies to mitigated impacts and proposes strategies to be implemented.

Table 4.2 Summary of Mitigation and Enhancement Strategies- Loss of Sense of Community and Cohesion

Social Impact	Community Identified Strategies	Proposed Strategies
Loss of sense of community and cohesion due to influx of transient construction workforce and change in population composition	• Employ as many local people as possible.	• Provision of accessible opportunities and working with relevant First Nations training and employment groups. • Targeted training opportunities for reskilling or upskilling local workforces. • Work with local service providers, education providers and procurement stakeholders. • Work with local emergency service providers, such as the police, during the construction period and as needed. • Implement a standardised workforce code of conduct, including all contractors. This includes expectations of workforce behaviour outside of work hours. • Provide traineeship opportunities. • Targeted female training opportunities.
Reduced sense of community and cohesion due to differing attitudes and feelings towards renewable energy development in the local community and region	• More communication regarding positive impacts. • Promote more understanding of the project for locals.	• Continued implementation of the CSEP for the Project during construction, operation, and decommissioning phases. • Lightsource bp to continue to proactively involve and collaborate in existing multi-stakeholder forums, state and federal government initiatives and engage with key representative groups relating to the energy transition, especially those within the vicinity of the Gundary Solar Project (Goulburn), and in relation to the Gundary Solar Project.
Increased conflict and reduced cohesion between neighbouring landholders given inequitable distribution of social impacts	• Clearly identify neighbour benefits based on level of impact. • Concessions to neighbours, either financial or in-kind through the supply of discounted power, installation of roof top solar or batteries. • Use Australian made solar panels. • Make it government owned or owned by an Australian company.	• One proximal landholder is subject to an impact agreement based on assessed level of visual impact (Moderate), developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder. • Neighbourhood Benefit Sharing Program. • VPA to be negotiated with Council to facilitate social investment in the broader community.
Supply chain and human rights issues associated with solar energy infrastructure component sourcing and manufacture	• Source materials and infrastructure from Australia where possible. • Communicate with broader community to provide transparency on the supply chain.	• Lightsource bp adheres to the relevant Human Rights Policy and supply chain standards (Lightsource bp, 2022).

4.1.3 Change in Population and Community Composition

Changes to population are fundamental impacts within SIA, given that the size, diversity and behaviours of a community are underpinned by its population and characteristics. Population change (influx and outflux) is usually described as a first order social impact which has the potential to create second order social impacts, such as impacts on community infrastructure and services, changes in sense of community, social cohesion, and networks etc.

This section examines the potential impacts of population change because of the Project, utilising established population change characteristics adapted from Burdge (2004). Burdge suggests that population change of greater than 5% in a local area is likely to result in social impacts being experienced, and as a result population change consequences have been based on Burdge's criteria.

Utilising workforce projections, existing ABS Census data relating to age, gender and workforce participation (refer to **Appendix B**) and assumptions in relation to source locations for the workforce, the following section provides estimates of potential population changes in the Goulburn Mulwaree LGA and other LGAs in the social locality as a result of the Project.

In relation to population change, it has been determined that the Project could influence population change in a number of ways:

- as a result of an influx of the construction workforce (most likely temporary and non-resident) during the construction period only
- as a result of an influx of a proportion of the operational workforce.

4.1.3.1 Construction Workforce

Construction workforces can typically result in specific social impacts in the communities in which they are housed. Construction workforces, depending upon the duration of construction periods, tend to be transient and often do not relocate their families to the area, instead moving from project to project. Given this, the following assumptions have been made:

- It is not expected that the construction workforce coming into the area from outside the region will choose to permanently relocate.
- It is unlikely that families will accompany workers in migrating to the area.
- The workforce is likely to want to temporarily reside near the Project Area, as much as is practicably possible.

To evaluate the social impacts relating to population change, three scenarios have been developed, which differ according to the proportion of construction workforce that may be likely to be sourced locally. Scenarios have been based on analysis of secondary data and engagement with relevant Councils, which indicates that a large proportion of the construction workforces may be required to be sourced from outside of the social locality (refer to **Appendix G** for further details).

As previously noted in **Section 4.1.2.1**, the Project is expected to have a construction workforce of up to 400 FTE workers over a period of 18-24 months with a peak of 250 FTE over a period of nine months.

The three scenarios are defined below:

- **Scenario 1** – assumes 5% of the Project workforce will be sourced locally (i.e. within the social locality), and a total of 95% of the workforce will migrate to the area for the construction period, thus seeking accommodation within the region. This is considered the **most likely scenario**, with 13 workers sourced locally and approximately 237 relocating to the area (for peak workforce numbers).
- **Scenario 2** – assumes 10% of the Project workforce will be sourced locally, and a total of 90% of the workforce will migrate to the area for the construction period.
- **Scenario 3** – is considered an aspirational scenario of 20% local employment and a total of 80% of the workforce will migrate to the area for the construction period.
- It is unlikely that the construction workforce will be able to be completely sourced from the host LGA of Goulburn-Mulwaree, given current labour force participation restrictions, low unemployment rates, and high demand for trades, which is further explored in the AES in **Appendix G**. Consequently, for the purpose of the assessment the neighbouring LGAs of Wingeecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan-Palerang have been considered as potential locations for accommodating workforces.

Table 4.3 has utilised the peak construction workforce (250) and has assessed 95% migration of construction workforce into the LGAs to represent the worst-case impact scenario. The scenario assessment has assessed the population change on each of the LGAs in their entirety; however, it is likely that the incoming workforce would be dispersed across LGAs. The **AES (refer to Appendix G**) provides further details.

Table 4.3 Construction Workforce Population Change Estimates - All Scenarios

Scenario	Population Increase[6]	% increase in Goulburn-Mulwaree population	% increase in Wingecarribee population	% increase in Yass Valley population	% increase in Upper Lachlan population	% increase in Queanbeyan-Palerang Regional population
Scenario 1 (95% migration of construction workforce into each LGA)	237	0.7%	0.4%	1.4%	2.8%	0.4%

Source: (Umwelt, 2024).

Given the worst-case workforce scenario, relating to a 95% migration into each of the identified LGAs, the population change across the LGAs ranges from 0.4% to 2.8%, and consequently the population impact is likely to be low.

Council areas such as Yass Valley and Upper Lachlan may be more likely to experience negative social impacts due to their smaller populations, which may result in changes in community composition and reduced access to services due to their relatively small resident populations. However, to enhance community benefits, efforts should be made to maximise sourcing of local employment where possible, providing accommodation options are available (refer to the AES in **Appendix G**).

[6] Population of LGAs: Goulburn Mulwaree (32,053), Wingecarribee (52,709), Yass Valley (17,281), Upper Lachlan (8,514), Queanbeyan-Palerang Regional (63,304).

The temporary influx of workers into the social locality has the ability to impact increase pressures on local services and facilities (including housing and accommodation), but also can offer economic benefits through increased economic activity and local spend, this will be further discussed in **Section 4.2** and **Section 4.3.0**.

4.1.3.2 Operational Workforce

During the operational phase of the Project, a total of four FTE employees are anticipated to be required to operate the Project. The Project has a lifecycle of around 40 years, and consequently it is assumed that family members of workers who relocate from outside the region, will also move to the area. Given low workforce numbers required to operate the Project the social impact of operational workforce change is considered a low social impact (likely to occur but of minimal magnitude).

As outlined in **Section 4.1.2** and **Table 4.2** summaries the impact of population influx as a result of temporary construction workforces and outlines community suggested strategies as well as proposed strategies to mitigate the social impact.

4.1.4 Constraining Future Growth

During engagement to inform the SIA, community members raised concerns that the Project may **constrain the future population growth of Goulburn** given the site location and its proximity to the Goulburn City (approximately 10 km), limiting the potential for further housing development in the Gundary locality. An approved subdivision is located directly south of the Project, with community members questioning the potential impacts on this future development.

As outlined in **Appendix B**, from 2016 to 2021 the population of the Goulburn Mulwaree LGA has grown by 1.8% per annum and is expected to continue to grow by at least 4,700 people by 2036 to 36,753 people. The potential for future growth in the area should be considered in the context of the recent inclusion of Goulburn as a Regional City under the State Environmental Planning Policy (Transport and Infrastructure) 2021. In the context of utility-scale solar and wind energy development, the SEPP outlines the need to consider whether the proposed development is:

- Located so as to avoid land use conflicts with existing and approved uses of land.
- Likely to have a significant impact on, or conflict with, land that would be required to support the growth of a regional city having regard to any future growth areas identified in regional plans, and local strategic planning advice from Council.
- Likely to have a significant adverse impact on the regional city's scenic quality and landscape character.
- While a portion of the Project is located within 10 km of land zoned B3-Commercial Core, which comes under consideration of the SEPP, it is not located within an area that has been identified by the Goulburn Mulwaree Council as being prioritised for future residential development (See **Figure 4.10**). The land is zoned as RU1 - primary production under the LEP, with the objectives of this zoning being to encourage sustainable primary production, not support housing growth.

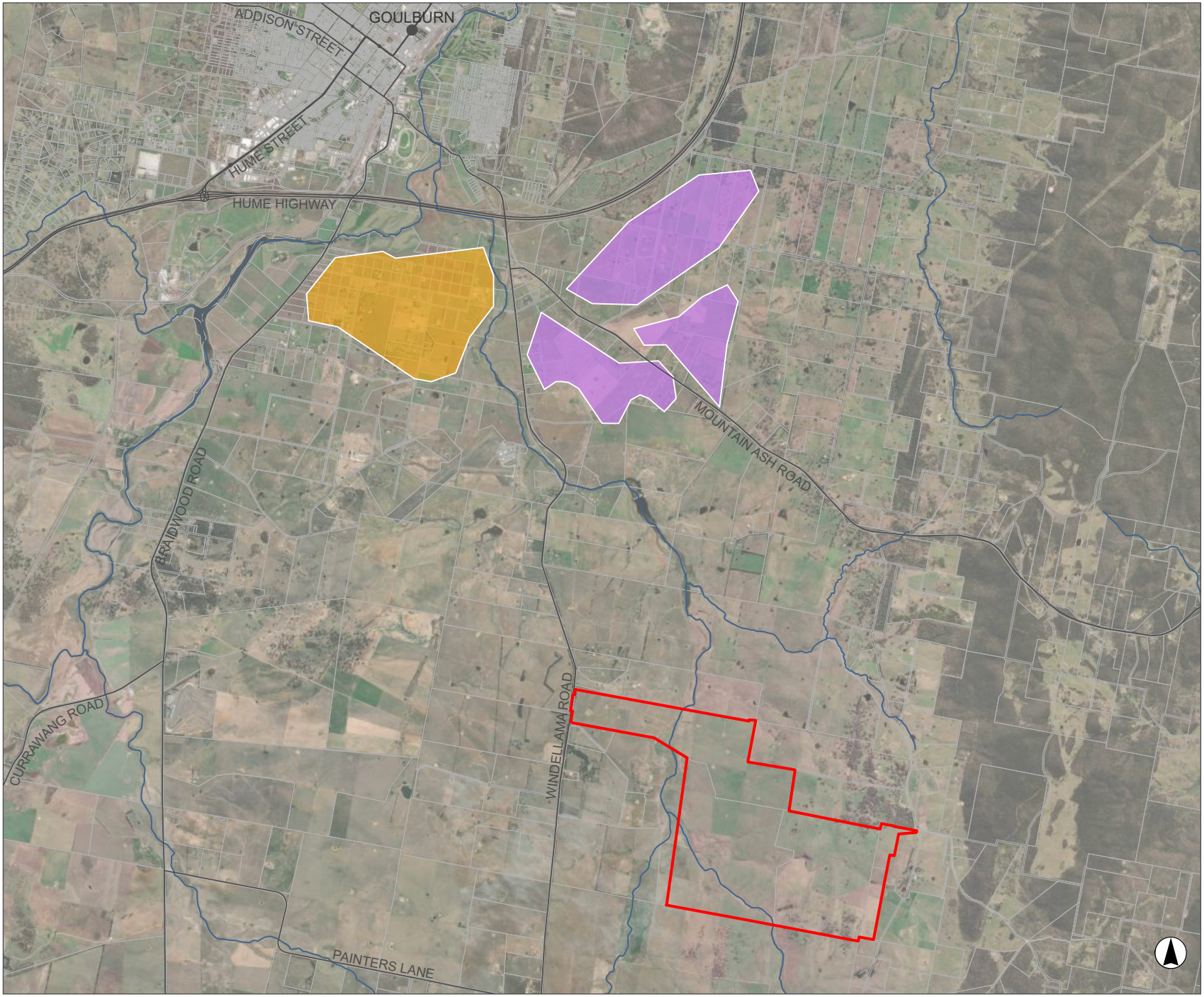

FIGURE 4.10

Urban Fringe Housing Strategy, Precincts and Opportunities for Development in Goulburn, Closest to the Project site

Legend

- Major Road
- Named Watercourse
- Project Area

Precincts and Opportunities

- Brisbane Grove
- Mountain Ash

0 1.5 3
Kilometres

Scale 1:75,000 at A4
GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) **Data source:** NSW DFSI (2023), Goulburn Mulwaree Council(2020)

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4.2 Accessibility

The SIA Guideline (DPE, 2023) defines accessibility as those impacts of the Project on how people access and use infrastructure, services and facilities, and any changes that may occur to way of life, including how people live, get around, work, recreate and interact. As outlined in **Figure 4.11**, during engagement reduced access to housing and accommodation due to the influx of a construction workforce associated with the Project was frequently raised across stakeholder groups. Given the construction period, the workforce may also increase pressure on other services and facilities, such as health and recreational services, which will be further discussed in the sections below.

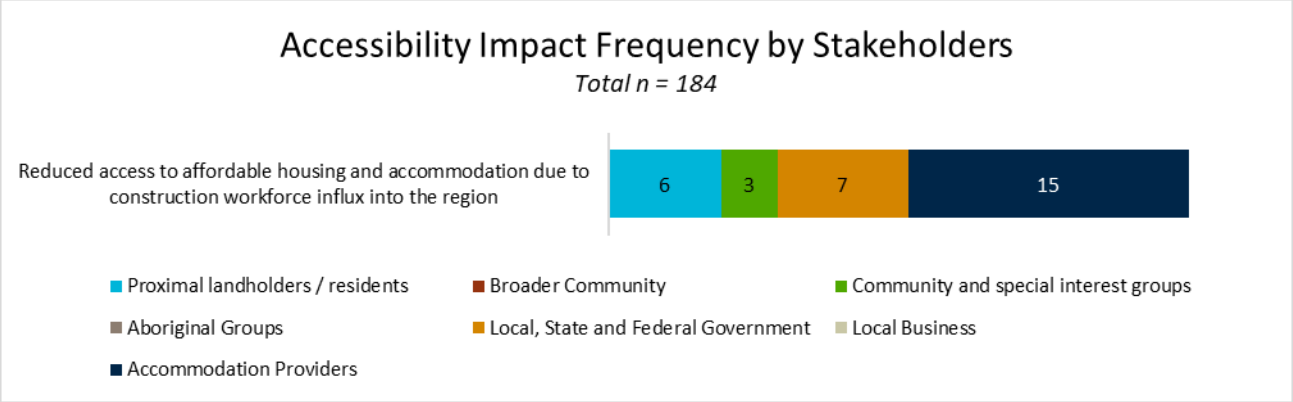

Figure 4.11 Accessibility Impact – Frequency by Stakeholder Group

Source: (Umwelt, 2022 to 2024).

4.2.1 Increased Pressure on Housing and Accommodation

The introduction of an additional 400 workers for the duration of the construction period t, resulted in concerns raised by several different stakeholder groups as illustrated in **Figure 4.11** above.

This impact was considered significant given the limited availability of short-term accommodation and rental properties in the area, and additional impacts that may be placed on more vulnerable groups in the community such as those requiring crisis accommodation/housing.

> *I don't know where you are going to house 400 construction workers. – Proximal landowner / resident*

> *It will generate additional short-term housing issues for our community, while hundreds of workers are brought in for the project. – Community member*

As has been discussed in **Section 4.1.2** it is unlikely that a significant proportion of the workforce will be able to be sourced locally given current labour force participation restrictions, low unemployment rates, and high demand for trades. Therefore, it is likely that a large proportion of the construction workforce will be sourced from outside the social locality and subsequently required to be housed within a 1-hour drive of the Project.

Figure 4.12 identifies 84 accommodation providers (motels, hotels, caravan, camping and holiday parks) located within a 1 hour driving distance from the Project.

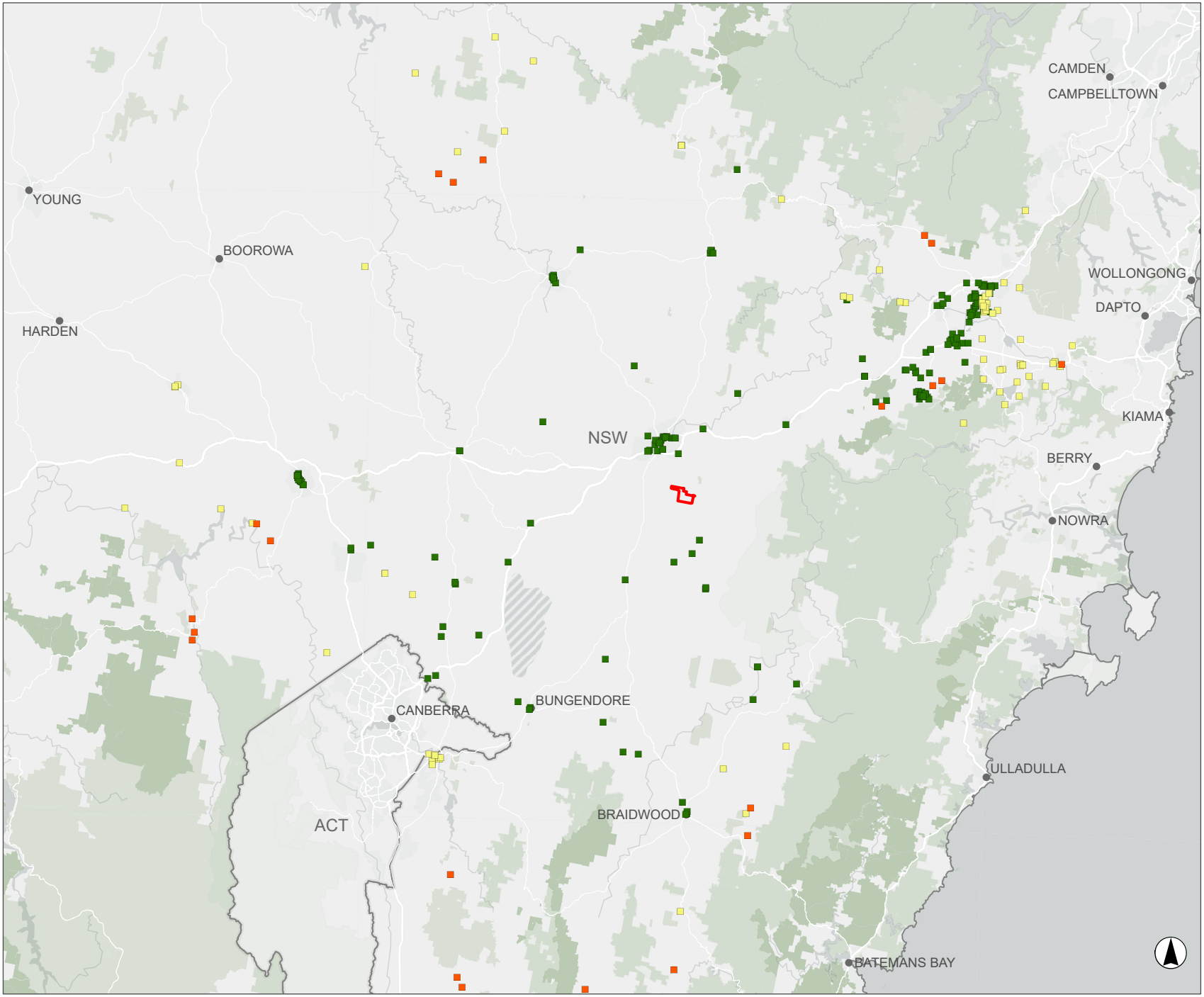

FIGURE 4.12

Location of Accommodation Providers within 1-Hour Drive of the Project Site

Legend

- Project Area
- NPWS Reserve
- State Forest

Accommodation Provider Travel Time

- 1-Hour Drive: Short-term Accommodation
- 1.5-Hours Drive: Short-term Accommodation
- >1.5-Hours Drive: Short-term Accommodation

0 25 50
Kilometres

Scale 1:1,100,000 at A4
GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) **Data source:** NSW DFSI (2023)

The AES has considered both primary (engagement with key stakeholders) and secondary data to minimise the impact of the Project's incoming construction workforce on the current housing and short-term accommodation market in the LGAs of relevance.

Engagement undertaken for the AES with Goulburn Mulwaree Council highlighted the current constraints in the housing market including, a lack of social and affordable housing, a saturated rental market with high demand and rising rental prices and competition in short-term accommodation from other transient workers. The neighbouring council of Wingecarribee further stated limited housing capabilities in the current market.

Representatives from RDASNA also outlined significant concern regarding the current housing market and limitations within the Goulburn area. The current low vacancy rates have impacted the availability of housing for essential/key workers; with RDASNA suggesting that a long-term benefit as a result of the Project could be investment in legacy housing which would benefit the community beyond the Project lifecycle.

The AES considered the availability of motels, hotels and caravan, camping and holiday parks, Airbnb properties and rentals, with the following findings and assumptions noted:

- An average occupancy rate of around 73% for short-term accommodation, based on a survey of accommodation providers (n=35) located within a 1-hour drive of the Project Area (Refer to **Appendix G** for further information).
- A 48% average occupancy rate for Airbnb properties, based on average occupancy across the LGAs of Goulburn- Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan- Palerang Regional from December 2020 to December 2023 (Refer to **Appendix G**).
- A maximum of 30% of total available short-term accommodation rooms may be accessible to Project construction workers, given the volume of concurrent projects and the presence of other transient workforces in the area.
- On average, Airbnb properties have two rooms per home and consequently a multiplier has been added to adequately assess the number of rooms available. Therefore, a maximum of 30% of total available Airbnb listings/rooms (utilising the two-room multiplier) may be available to Project construction workers.
- No more than 2.5% of available private rental stock will be occupied by construction workers for the Project given significantly low vacancy rates across the region, as highlighted by stakeholders during consultation.
- While conservative, these estimates reflect a 'worst case scenario' in relation to accommodation availability.

Table 4.4 provides an overview of accommodation options available to the Project's construction workforce, when utilising the findings/assumptions noted above and when assuming that approximately 5% of the peak construction workforce is likely to be sourced from the local area and thus already resident in the locality and 95% will be migrating into the area.

Consequently, there would be a surplus of approximately 89 rooms within 1-hour drive of the Project Area under the worst-case employment scenario (total number of rooms available (326) minus 237 incoming workers requiring accommodation, assuming 1 worker per room).

Table 4.4 Accommodation Availability

Accommodation Type	Rooms Available
Short-term accommodation (hotels, motels and Airbnb properties)	313
Private rental accommodation	13
TOTAL	**326**
5% local employment scenario / 95% workforce influx scenario	**237 workers requiring accommodation**
Accommodation surplice (Rooms)	**89 rooms**

Source: (Umwelt, 2024).

It is acknowledged that Canberra is also located a 1-hour drive from the Project Area. Given its proximity to the Project, it may be considered as a further option to provide accommodation during peak cumulative workforce demand periods. This option would only be utilised following exhaustion of all NSW options for accommodation and would be based upon accommodation/housing availability within Canberra itself. It is noted that Canberra does experience fluctuations in availability of accommodation due to key political events and being host to a number of large developments and infrastructure projects.

Proposed and community identified mitigation strategies to alleviate pressures on housing and accommodation are outlined in **Table 4.5**.

Table 4.5 Summary of Mitigation and Enhancement Strategies – Housing and Accommodation

Social Impact	Community Identified Strategies	Proposed Strategies
Reduced access to affordable housing and accommodation due to construction workforce influx into the region	• Opportunities for accommodation providers and other residents in the social locality to develop further housing capacity or offer accommodation to Project workforces to benefit from the Project and other Projects in the region. • Development or expansion of hotel/motel/caravan park businesses. • Potential for a hotel development at Goulburn airport. • Consideration of how housing development e.g. worker camps/villages may contribute to community in providing enabling infrastructure and social legacy housing.	• Continued workforce and employment planning in the pre-construction phase. • Prioritise use of local service providers (e.g. accommodation/housing, education, employment). • Operate a Housing and Accommodation Expression of Interest Register. • Implementation of actions and strategies in the Project AES, including distribution of workforce accommodation across the social locality to reduce impacts on vulnerable groups. • Provision of a Voluntary Planning Agreement to Goulburn Mulwaree Council to support the funding of social infrastructure and other community programs/initiatives. • Explore opportunities to partner with accommodation providers in the local area to minimise use of broader housing.

Source: (Umwelt, 2024).

4.2.2 Pressure on other Social Infrastructure, Services and Facilities

There is also the potential that an incoming Project construction workforce will further exacerbate access to other key social service within the social locality, including health services, particularly GP and emergency health services (hospital, ambulance), other emergency services (police, SES, RFS), recreational and to a lesser extent childcare and educational services.

Appendix G further outlines key social infrastructure, services and facilities within the LGAs defined as relevant to the social locality, which incoming workforces may utilise during their temporary residence in the region. While, as noted in **Section 4.1.3**, construction workers relocating into the region may be less likely to relocate and bring their families with them, given the defined nature of construction projects, others may choose to relocate more permanently, given cumulative project development across the region – in this later instance, workers may establish a more permanent base in the region, relocating their family members and taking advantage of ongoing construction work across different projects.

Consultation undertaken with representatives of RDASNA for the AES, highlighted the likely flow on effects of the presence of construction workforces on other local services including health services, given that this community sector is already stretched and operating at capacity.

However, the following assumptions have been made to model the impacts of construction workforce influx on other social infrastructure, namely:

- Construction workers that come from outside the region are expected to be housed in temporary commercial accommodation, or possibly rental properties (as required).
- Non-resident workforces are likely to use General Practitioner (GP) services at a level comparable to the resident population (Erny-Albrecht, 2014).
- Non-resident workforces are likely to use Emergency Health services and Hospital Emergency Departments at a level higher than the resident population (Erny-Albrecht, 2014).
- Non-resident workforces are likely to present at health services with more complex or challenging cases due to workplace accidents and fatigue-related road incidents. Treating these patients is challenged by a lack of existing relationship with the medical staff, which can result in low cooperation, the danger of drug interaction and/or unidentified allergy risks; and dissatisfaction with perceived 'small town' medical services (Erny-Albrecht, 2014).
- Incoming workforces are unlikely to be elderly and unlikely to directly consume aged care services.
- Non-resident workforces are likely to be predominantly temporary and unlikely to relocate with families, resulting in a limited impact on local schools, universities or TAFE, or access to childcare services.
- Non-resident workforces may access recreational facilities and services at their short-term accommodation or within a host community. Accessing services within a community is an economic stimulus and may contribute to community vitality and connection but may also impact service accessibility for permanent residents.

4.2.2.1 Health Services

As evidenced in **Appendix B**, there is varied health service capacity across the social locality. For instance, in the LGAs of Goulburn-Mulwaree, Queanbeyan-Palerang, Yass Valley and Upper Lachlan there is a lower rate per 100, 000 people of GPs compared to NSW, illustrating a lower provision of medical practitioners in the LGAs.

As outlined in **Table 4.6,** within the social locality there are approximately 9 hospitals with a total of 1,167 beds.

Table 4.6 Hospital within the Social Locality

Hospital	Bed Count
Goulburn Base Hospital	102-bed including 8 bed 24-hour emergency department
Yass District Hospital	12-bed hospital including 4-bed emergency department
Queanbeyan Hospital	29-bed with a 24hour emergency department
Bowral and District Hospital	94-bed including 10-bed emergency department
Southern Highlands Private Hospital	73-bed including surgical, rehabilitation, oncology and palliative care
Canberra Hospital	600-bed including trauma services
Calvary John James Hospital	100-bed including general medical, maternity and rehabilitation
Canberra Private Hospital	38-bed for elective surgery
Deakin Private Hospital	52-bed mental health services
University of Canberra Hospital	140-beds for inpatients
Total: 9	**1,167**

Source: (MyCommunityDirectory, n.d.; NSW Government, n.d.).

4.2.2.2 Emergency Services

The emergency services in the area include Police, NSW Fire and Rescue (NSW FR), NSW Rural Fire Service (RFS) and the State Emergency Service (SES), all located within a 15 km drive radius of the Project Area, outlined in **Table 4.7**.

Table 4.7 Emergency Services in the host LGA

Emergency service	Organisation	Driving Distance to Project site
Police	Goulburn Police Station	10 km
Fire and Rescue	Fire and Rescue NSW Goulburn Fire Station	11 km
Rural Fire Service (RFS)	NSW RFS – Goulburn Brigade	11 km
	NSW RFS – Gundary Brigade	13 km
	NSW RFS – Bungonia Brigade	28 km
State Emergency Service (SES)	NSW SES Goulburn	10 km

Source: (NSW RFS, n.d.; SES, n.d.; NSW Police Force, n.d.).

The Project may impact on the provision of emergency services in two key ways: either through changes in demand, and/or through changes in access and capacity.

It is possible that a temporary population influx may result in an elevated utilisation of emergency services This may result in increased wait times for emergency departments, however given that the construction period for the Project is 18–24-months this impact if likely to be temporary in nature.

Proposed and community identified mitigation strategies to reduce pressures on social services are outlined in **Table 4.8**.

Table 4.8 Summary of Mitigation and Enhancement Strategies – Access to Services

Social Impact	Community Identified Strategies	Proposed Strategies
Increased pressure on local health care, facilities, and emergency services due to incoming construction workforce	• Funding to be targeted to address housing, Infrastructure and service provision improvements. • Increased emergency access points into the Project Area, with wide roads to ensure fire trucks can turn around. • Workforce driver behaviour training and expectations.	• Always have an appropriate amount of First Aid qualified people on site during construction and operation. • Implementation of the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area.

Source: (Umwelt, 2024).

4.3 Livelihoods

Livelihood impacts refer to the Project's effect on people's capacity to sustain themselves through employment or business activities, and the economic contribution that a project may make to local communities and the broader region.

In this regard, the Project has the potential to contribute positively to the local community through employment, procurement and training opportunities (n-80). However, concerns were also raised in relation to the potential inequitable distribution of financial benefits (n=54) from the Project as discussed in **Section 4.1.2.3** and the potential impacts on property values (n=66) for proximal landholders of the Project. These impacts are further described in the sections below.

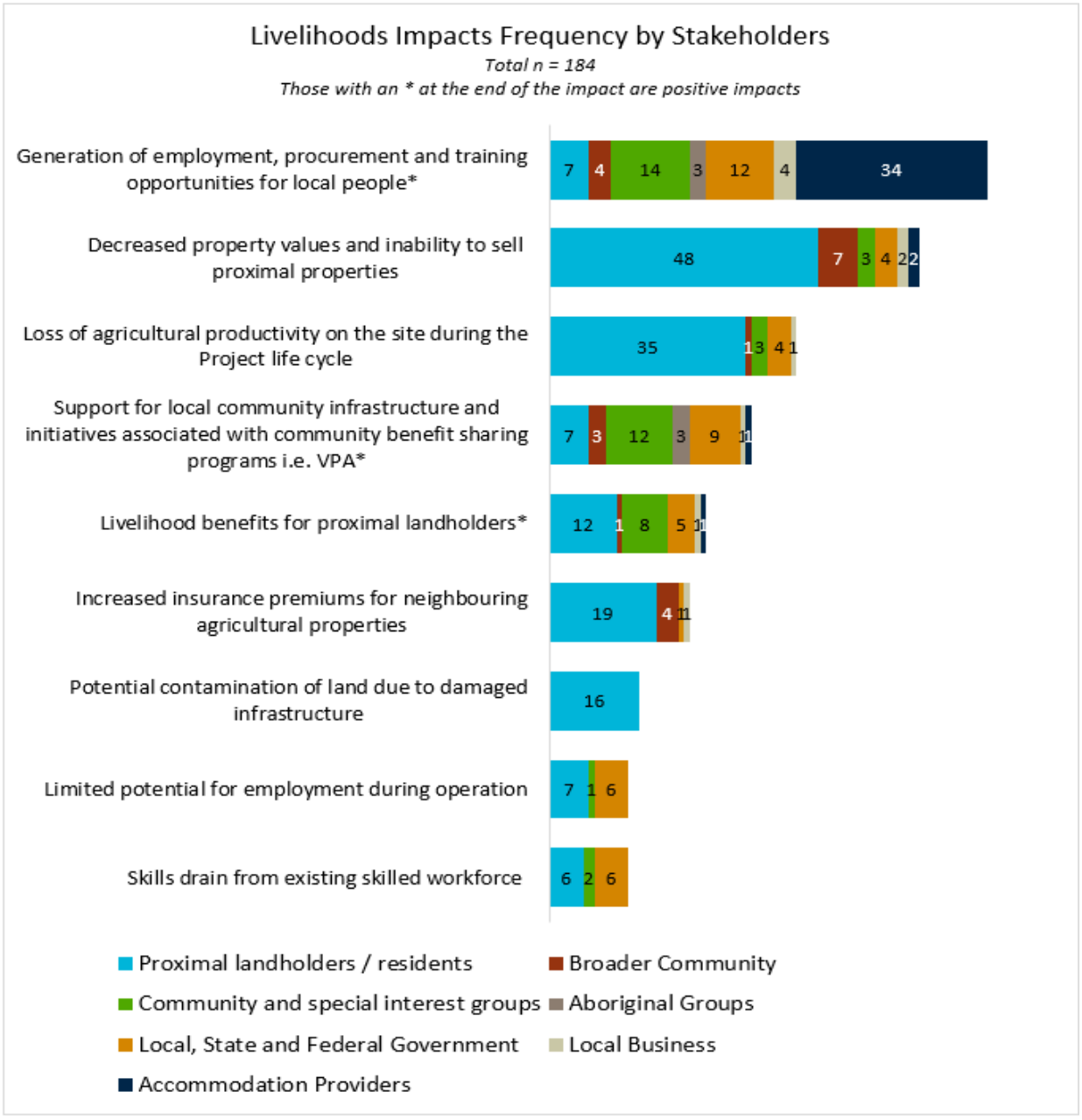


Figure 4.13 Livelihoods Impacts – Frequency by Stakeholder Group

Source: (Umwelt,2022 to 2024).

4.3.1 Employment, Procurement and Training Opportunities

During engagement, stakeholders identified local employment opportunities and economic benefits associated with the Project, particularly the opportunity for training and skills development within the renewable energy sector. As is shown in **Figure 4.13**, these positive impacts were most frequently raised by accommodation providers (n=34), community groups (n=14) and Government agencies (n=12), then community residents (n=4). Multiple stakeholders raised the potential opportunities to partner with local schools, the TAFE, and the Country University Centre to build required skills, develop human capital and increase community resilience. There was a concern that many courses were no longer being offered locally, and that further development of renewable energy in the region could assist in expanding education and skills training relevant to the sector, providing pathways for secondary students and school leavers, and enabling youth to remain in their communities rather than leave to find employment.

> *There must be opportunities for upskilling the Goulburn workforce via education and training. If Goulburn is to become a renewable energy hub, involvement of Universities and Research Institutes would be advisable to enable Goulburn to become a specialist provider of expertise in this field. – Community Group*

In relation to local procurement, some stakeholders expressed concern as to how such benefits may be realised, commenting that local businesses and contractors may be unlikely to apply for short term contracts or have the capacity to service the Project due to constraints in tendering processes. Others noted that while construction relied on a large workforce, there were very few jobs associated with the operation of the Project, questioning the ongoing benefit to the local and regional economy.

> *Ongoing employment isn't there, similar to the wind farms. – Community Organisation / group*

Stakeholder interviews with representatives of Regional Development Australia- Southern NSW & ACT (RDASNA) and local service providers also highlighted the cumulative impact on local labour markets that were currently being experienced due to concurring SSD projects, resulting in a skills-drain from existing industries such as construction and trades, and impacting the viability of small to medium businesses. Similarly, representatives from the neighbouring council of Queanbeyan-Palerang also acknowledged that many of their skilled workforce were now travelling out of their area to work on large scale construction projects in Canberra.

> *Theres a lack of workforce locally already, I can't get a plumber or a builder anytime soon – Proximal landholder / resident*

The broader economic benefits to the local, regional and NSW economy has been documented in the Economic Impact Assessment (EIA) for the Project prepared by Ethos Urban Pty Ltd (2024), in accordance with the SEARs.

The EIA notes that overall, the Project will involve approximately $650 million in investment during the construction phase (of which approximately $98 million will be retained in the Study Area[7] during construction).

[7] Study Area as outlined in the EIA includes the LGA boundaries of Goulburn Mulwaree, Upper Lachlan Shire, Wingecarribee Shire, Queanbeyan-Palerang Regional and Yass Valley. This represents the same geographical area as the social locality for the SIA and AES.

The current Project's construction period is planned to take 18-24 months, commencing in early 2026. The construction of the Project is expected to generate employment opportunities for a workforce of 400 FTE (this includes an average of 155 direct FTE jobs and 245 indirect FTE jobs) and a peak workforce of 250 FTE (over a nine-month period). The operational phase of the Project is likely to generate 4 FTE roles (plus 10 indirect FTE jobs) (Ethos Urban, 2024). Further details regarding the likely relevant roles and occupations that will be sought are identified in the Accommodation and Employment Strategy (AES) (refer to **Appendix G**).

Around 75% of jobs in renewable energy over the next 15 years are likely to be available for labourers, trades and technicians and professionals, with electricians, electrical trade assistants, mechanical trades and technicians, finance, business, legal and planning professions and administrative staff generating the largest number of jobs (Briggs, Rutovitiz, Nagrath & Dominish, 2020).

The AES has assumed that the construction workforce is likely to be derived from two key sources:

1. Suitably skilled people who are currently unemployed and those that may require training.
2. Suitably skilled people who are currently employed but may transition to work on this Project in response to new job opportunities.

In summary the existing employment and business profile for the social locality demonstrates:

- Low unemployment compared to NSW (3.3%).
- A total labour force of 98, 218.
- Approximately 1,555 people unemployed.
- 9,489 people employed in the construction industry.
- 19,796 employed as labourers, trades people and technicians.
- Consultation with Goulburn Mulwaree Council to inform the AES highlighted limited local employment capacity at the present time, due to low unemployment, a tight construction market, limited skilled workforces, with local businesses currently struggling to fill roles.
- It was further suggested that a high local employment target may exacerbate current labour market issues. For instance, representatives of RDASNA explained that if local procurement was sought across the neighbouring LGAs, including the Goulburn-Mulwaree LGA, the communities most impacted by the Project may in turn see lower economic benefits.

As outlined in **Section 4.1.3** and in **Appendix F**, it is therefore considered unlikely that a significant proportion of the workforce will be able to be sourced locally given current workforce constraints, and consequently 5-20% local employment scenarios have been modelled, with the 5% local employment target considered the most realistic following engagement with local councils and other key stakeholders; despite local community residents expressing a desire to maximise local employment opportunities for young people and local community members where possible.

Table 4.9 Local* Employment Target

Scenarios	Local Employment Target	Total Local Employment	% of total unemployed[8]	% of total construction industry [9]	% of total trades, labourers and technicians [10]	Total Incoming Workforce
Base case	5%	13	0.8%	0.1%	0.1%	**237**

Source: (Umwelt, 2024).

Note: Local is defined as the host LGA of Goulburn-Mulwaree and neighbouring LGAs of Yass Valley, Wingecarribee, Upper Lachlan and Queanbeyan-Palerang which are located within a 1-hour drive from the Project Area.

Additionally, the influx of the construction workforce and the associated increased economic activity and spend in local towns, could have flow on benefits to local businesses and services. The indirect impacts on people's livelihoods, such as an anticipated increase in commercial activity for local service providers and suppliers in nearby townships during the construction period, has the potential to bring positive flow-on social benefits and improved community wellbeing.

The EIA (Ethos Urban, 2024) notes that construction workers relocating to the region would be expected to inject approximately $11.0 million in new spending into the economy over the construction phase, supporting approximately 28 FTE jobs in the service sector in the Study Area over this time.

Table 4.10 outlines proposed enhancement strategies for Lightsource bp to consider in attempting to maximise local employment and procurement opportunities.

Table 4.10 Summary of Mitigation and Enhancement Strategies – Employment, Training and Procurement

Social Impact	Community Identified Strategies	Proposed Strategies
Generation of local employment and procurement opportunities	• Engaging/hiring local people throughout the whole process of the Project • Offer smaller scopes of work to enable local businesses to service the project or enabling smaller businesses to collaborate on larger contracts. • Facilitate employment and local business opportunities for women, Aboriginal people and those with disabilities. • Establish and maintain an Expression of Interest (EOI) register for contractors and services providers in the local area in the Project planning and development phase (pre-construction).	• Establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the Project planning and development phase (pre-construction). • Advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media. • Collaborate with local employment providers to assist with the sourcing of local employment and procurement. • Establish and maintain working relationships with key industry and government stakeholders in the region.

[8] Proportion of local employment target scenario of the total number of people unemployed in the social locality.
[9] Proportion of local employment target scenario of the total number of people employed in the construction industry in the social locality.
[10] Proportion of local employment target scenario of the total number of people employed as trades, labourers and technicians in the social. locality.

Social Impact	Community Identified Strategies	Proposed Strategies

	• Advertise and promote local employment and procurement opportunities through targeted engagement collateral, local sources, industry engagement, and local media.
	• Collaborate with local employment providers and business chambers to source local residents and businesses within the locality.
	  ○ Establish and maintain working relationships with key industry and government stakeholders in the region.
	  ○ Encourage workers from outside the area to spend money in Goulburn.
	• Hire permanent maintenance employees on site.
		• Provision of accessible opportunities and working with relevant First Nations training and employment groups.
		• Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies.
		• Consideration of a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project.

Ability to enhance human and economic capital through skill development and training opportunities.	• Proactive support for the establishment of programs that encourage and incentivise re-skilling and upskilling of local workers within the region. • Development of training programs to facilitate skills development in the Renewable Energy Sector and which provide ongoing employment pathways e.g. apprenticeships, traineeships. • Partnerships with educational institutions e.g. secondary and tertiary to develop relevant training programs and scholarship opportunities. • Development of programs to facilitate employment of women and First Nations people – this will require specific engagement approaches and tailored training opportunities through dedicated resourcing and prioritisation. • Research, Development, Innovation and Education to support desired outcomes both for Lightsource bp and the Goulburn LGA at large.	• Partner with the local TAFE and other education providers to facilitate training in renewable energy employment opportunities. • Provide apprenticeships and trainee opportunities with ongoing work experience. • Employment of women and First Nations people will require specific engagement approaches and tailored training opportunities through dedicated resourcing and project prioritisation. • Develop and commit to clear pathways between training / upskilling and job opportunities on the Project. • Work with local service providers, education providers and procurement stakeholders. • Targeted female training opportunities.
Increased economic activity and spend in local towns, benefiting local businesses and services	• Accommodate workforce in Goulburn, not surrounding LGAs.	• Consideration of a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project. • Implementation of measures and recommendations within the AES (refer to **Appendix G)** such as: • Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies.

Social Impact	Community Identified Strategies	Proposed Strategies
		• A dedicated project member located within the local community who facilitates relationships with contractors, local workforces, and service providers to provide Project related opportunities.
Skills drain from existing skilled workforce	• Provide training opportunities to upskill local workforce.	• Develop and commit to clear pathways between training / upskilling and job opportunities on the Project. • Collaborate with local stakeholders including Council and local industry associations to manage any adverse effect on the local labour market.

4.3.2 Decline in Land and Property Values

Stakeholders raised concerns during consultation regarding the impact of the Project on nearby property and land values (n=66), with this a particular concern for neighbouring landholders and those with a view of the Project. There was concern that the proximity of properties to the Project would result in property/land devaluation and would impact on landholders' ability to sell their property, causing significant stress and anxiety for some landholders. Several proximal landholders outlined that they had put their property on the market to sell, however buyers were pulling out when they became aware of the proposed Project. One landholder indicated that their property had been on the market for a year without any interest.

> *Decrease the ability to sell our property. – Proximal landowner / resident*

> *The decision to sell or stay has been stressful, not sure if we could sell the house now, it's probably too late. If we did sell it, it would be a reduced rate anyway – I would have sold it earlier if I knew. But it's too late now. – Proximal landowner / resident*

> *We also gained from the drop-in session, there is no regard for property values, and that again causing a lot of stress, NO ONE is able to admit property values are affected, despite examples being given of properties having to be removed from market due to the proposed solar farm. Buyers stating that was the reason for withdrawal of interest. How much proof do you need?. – Proximal landowner / resident*

> *My neighbours place is for sale, and it's not selling. I am a bit worried about this, and what the project might do to my ability to sell – Proximal landowner/ resident March 2024*

Several proximal landholders and residents indicated in March 2024 at the Community Drop-in sessions that they were having their properties privately valued, to provide a baseline from which they could monitor property value in relation to the Project. There was a strong belief, however, that property values would decrease.

> *[We are] getting private valuers, who will be giving us an indication of how much our properties will devalue – Proximal landowner/ resident March 2024*

We have been told that properties will lose 30 to 50% of their value because of the Project – Proximal landowner/ resident

We were a real estate agency in Goulburn for 30yrs – the evidence was that some people wouldn't buy [properties neighbouring wind farms]. Wind farms wouldn't affect the prices, just limited the number of buyers. There is no evidence of solar farms impacting property values – yet anyway. – Local real estate agent

Approximately 14 properties, proximal to the proposed Project Area, have been sold between April 2022 and May 2024 on Cummins Close, Kooringaroo Road, Mclaughlin Rd, Mountain Ash Road, Shaws Creek Road, and Windellama Road. Properties ranged from less than 1 hectare to 144 hectares, with a median sale price of $910,000, as prices ranged from $4,313 to $2,850,000 (Average sale price $1,430,122.36) (Valuer General 2024).

The NSW Valuer General outlines that the Goulburn Mulwaree LGA experienced a moderate increase in property prices between July 2022 and July 2023. Market drivers supporting this increase include the proximity of the local government area to Sydney and Canberra, the ongoing local economic growth and affordability of residential properties located within the Council's villages. This increase was not consistent across all sectors, with the commercial and industrial sectors experiencing a stronger increase and the rural sector remaining steady (NSW Valuer General, 2023).

The Large-Scale Solar Energy Guidelines FAQ notes that:

There is no evidence to suggest that large-scale solar developments affect the land value of neighbouring properties. While the department [DPHI] acknowledges that effects on land values (positive and negative) or of great concern to the community and landholders, this is not a planning issue, and is outside the scope of what the consent authority can consider in making a determination on a DA (DPE, 2022).

There has been no significant research in Australia on the impact of utility-scale solar farms on property values of near residents. However, research undertaken in the Netherlands (Dröes & Koster, 2021) and in the United States (Gaur & Lang, 2020) has indicated that in certain cases some reduction in property values may be experienced, particularly for properties within 1 km of solar farms and in more populated suburban areas. Research conducted in Rhode Island and Massachusetts has found that, on average, houses lying within 1.6 km of solar installations sold for approximately 1.7% less post construction relative to properties located further away (Gaur & Lang, 2020).

More recently, research by Lawrence Berkley Nation Laboratory (Elmallah, Hoen, Fujita, Robson, & Brunner, 2023) analysed 1.8 million home sales located near large scale solar farms across six US states (Minnesota, North Carolina and New Jersey, California, Connecticut and Massachusetts) and found houses within 1.6 km of a utility-scale solar farm had resale prices that are, on average, were 1.5% less compared to homes located 3–5 km away (Gearino, 2023) (refer to **Figure 4.14**).

At closer distances of 0–0.25 mile, the average decline in property values experience totalled around 2.3%, with this effect decreasing at further distances, with homes 0.5–1 mile away experiencing an average of 0.8% sale price decline, and no evidence of an effect at distances beyond 1 mile (Elmallah, Hoen, Fujita, Robson, & Brunner, 2023). The study also found differences in the results by state.

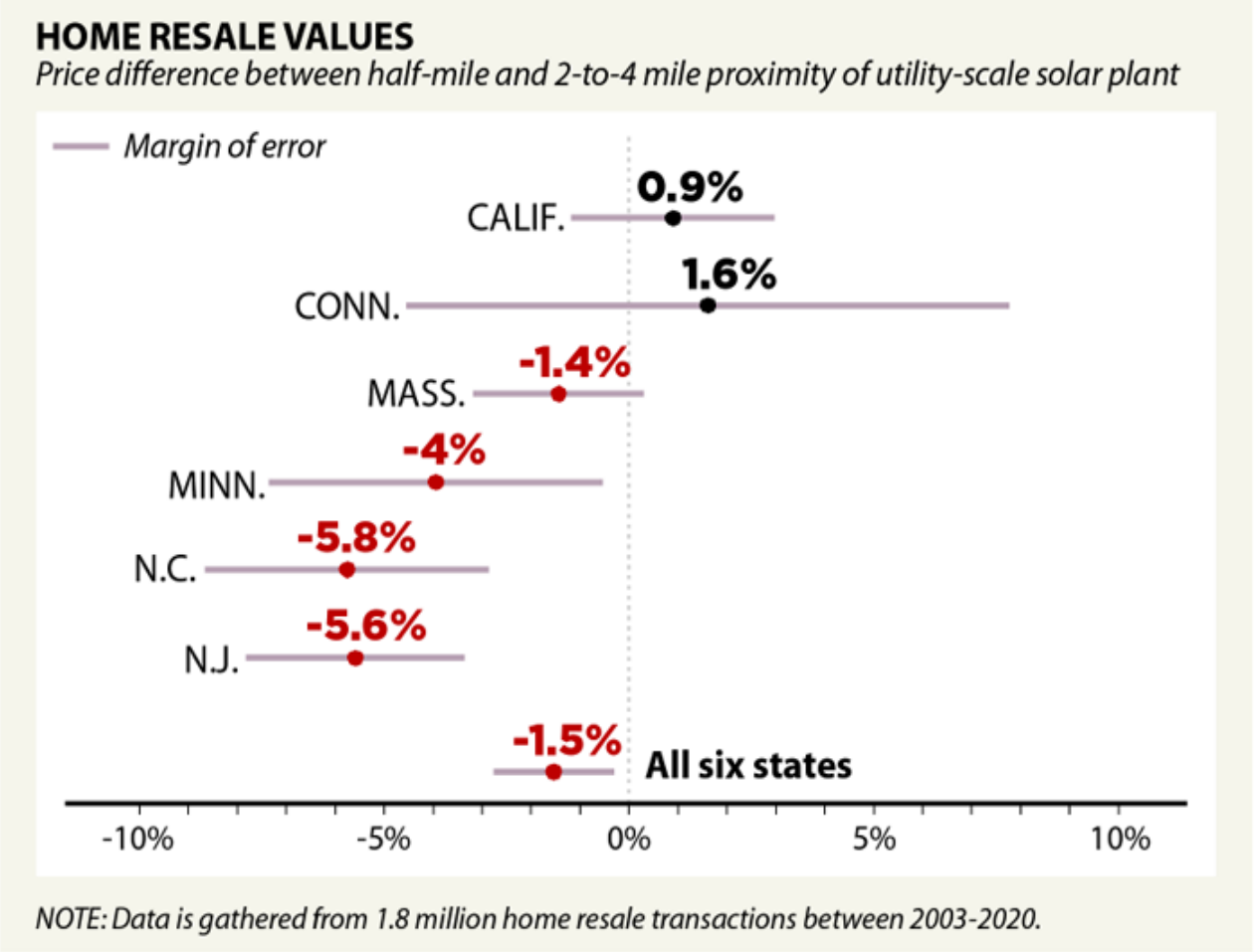


Figure 4.14 Solar's Effect on Home Resale Prices

Source: Lawrence Berley Nation Laboratory, accessed from (Gearino, 2023).

It is therefore possible that the presence of the Project may impact property prices, although this impact is likely to be specific to those properties located in closer proximity to the site.

It is important to note that it is not just the physical visual, noise or amenity impacts that impact buyer and seller behaviour. It is also the perception or anticipation of these impacts and the associated fear or anxiety that can impact property prices. The high-profile nature of the Project including its presence in media articles and in signage on Windellama Road and throughout Goulburn may contribute to increased impact of the Project on property prices.

Table 4.11 outlines potential strategies identified by community members to address impacts associated with the potential for declining property value.

Table 4.11 Summary of Mitigation and Enhancement Strategies – Property Values

Social Impact	Identified Strategies	Proposed Strategies

Livelihood impact due to decreased property values and inability to sell proximal properties	• Purchase properties that will be directly impacted by the Project at market rates before the Project was announced.
	• Lightsource bp to pay for a private valuation of neighbouring properties prior to and post construction of the Project, and compensate neighbours for any different in value should residents wish to sale their property.
	• Implement strategies to reduce or eliminate impact on residences, for example:
	  ○ Change to project design to reduce visual and noise impacts for properties where impacts are likely to be experienced.
	  ○ Visual screening around the site and on properties using native plants.
	• Provision of benefits to neighbours, including:
	  ○ Installation of home solar systems.
	  ○ Neighbour agreement payments to compensate for visual impacts (based on assessed level of impact and distance from the Project boundary.
	  ○ Neighbour payments to compensate for other amenity impacts e.g. noise.
		• The implemented design changes to reduce the visual impact of the Project.
		• It is acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.

4.3.3 Potential Contamination of Local Water Sources

In addition, livelihood concerns were raised in relation to the potential for contamination from solar panels on water and soil, affecting local farming properties e.g. dams, watercourses, and agricultural operations e.g. livestock, crops. There were concerns expressed that the presence of the project infrastructure may result in leaks, and water run-off from solar panels or broken infrastructure that would alter local watercourses, reducing safe water access for livestock and personal household use.

> *Provide evidence that the proposal will not affect the natural water courses and water supply to many communities – Community Resident*
>
> *Possible leak effecting water supply – Proximal landholder / resident*

The layers of a solar panel are laminated, and all materials are sealed inside tempered glass, the same material as car windshields, preventing exposure to the environment. Lightsource bp also requires all solar panels used on the Project to pass strict testing protocols to ensure that solar panels, even if broken, do not release harmful amounts of any hazardous materials into the environment. This means that the solar panels in the Project, during normal operations as well as in the event a solar panel is damaged, are confirmed to be safe. Additionally, any broken or non-functioning panels are promptly replaced and recycled.

Table 4.12 outlines potential strategies identified by community members to address impacts associated with the potential for water contamination to impact livelihoods.

Table 4.12 Summary of Mitigation and Enhancement Strategies – Potential Water Contamination

Social Impact	Identified Strategies	Proposed Strategies
Livelihood impacts associated with potential contamination of land due to potential for damage to infrastructure.	• Test water quality and soils for metal and any other contaminants before Project construction, and regularly throughout the Project life, sharing results with neighbouring landholders.	• Construction Soil and Water Management Plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. • Operational Environmental Management Plan (OEMP) will be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase.

4.3.4 Increased Cost of Insurance for Adjacent Property Owners

Proximal landholders raised concerns about impacts to their livelihoods due to increased insurance premiums due to the presence of solar farms.

> The *Project will increase my home insurance because of increasing risk for fire – Proximal landowner/ resident*
>
> *Our public liability insurance will increase – Proximal landowner/ resident*

A recent media article (February 2024) regarding the Culcairn Solar Farm, which is currently being constructed in the South East Riverina Region of NSW, outlines concerns from neighbouring farmers regarding increased insurance premiums.

> 'I *know that farm businesses can get up to $50 million in public liability insurance, but if fire gets away from our place and only damages 10 per cent of a $600 million investment, you are gone for at least $60 million. You could become insolvent overnight.*
>
> *'My insurance company said I could insure for as much as I like, but once you go above that $50 million, the premium costs are prohibitive. It's gone from a rural setting to an industrial setting and no insurance implications have been considered.'* (Burt, 2024)

Similar concerns have been raised by neighbouring landholders to the proposed Meadow Creek Solar Farm in Victoria who have indicated that they may face 'skyrocketing' insurance premiums if the project goes ahead as they would be liable for damage and loss of earnings if a grassfire began on their property and spread to the neighbouring development (Douthie, 2023).

In December 2023, the Glenellen Solar Farm, located approximately 20 km north of Albury, Greater Hume LGA, was approved by the IPC. In the Statement of Reasons, the IPC provided the following summary relating to insurances and liability:

The Commission received submissions from neighbouring residents raising concerns about the cost and availability of insurance, commenting that solar farms can make it difficult for neighbouring properties to continue existing agricultural pursuits because of increased insurance costs to cover liability for causing damage to the solar farm.

The Commission acknowledges that some landholders may be concerned about their ability to acquire insurance to cover potential liabilities when operating in the vicinity of large-scale solar energy developments, with specific concerns regarding fire and bushfire risks. The commission notes that issues regarding public liability insurance or indemnities are not matters that are properly the subject of conditions under planning legislation. (IPC, 2023)

A study conducted by the BMS Group in Australia found that the top insurance claims made by solar farms were linked to mechanical breakdown, fire, and flood, however it is unclear if these risks increased the insurance premiums of surrounding properties (refer to **Figure 4.15**).

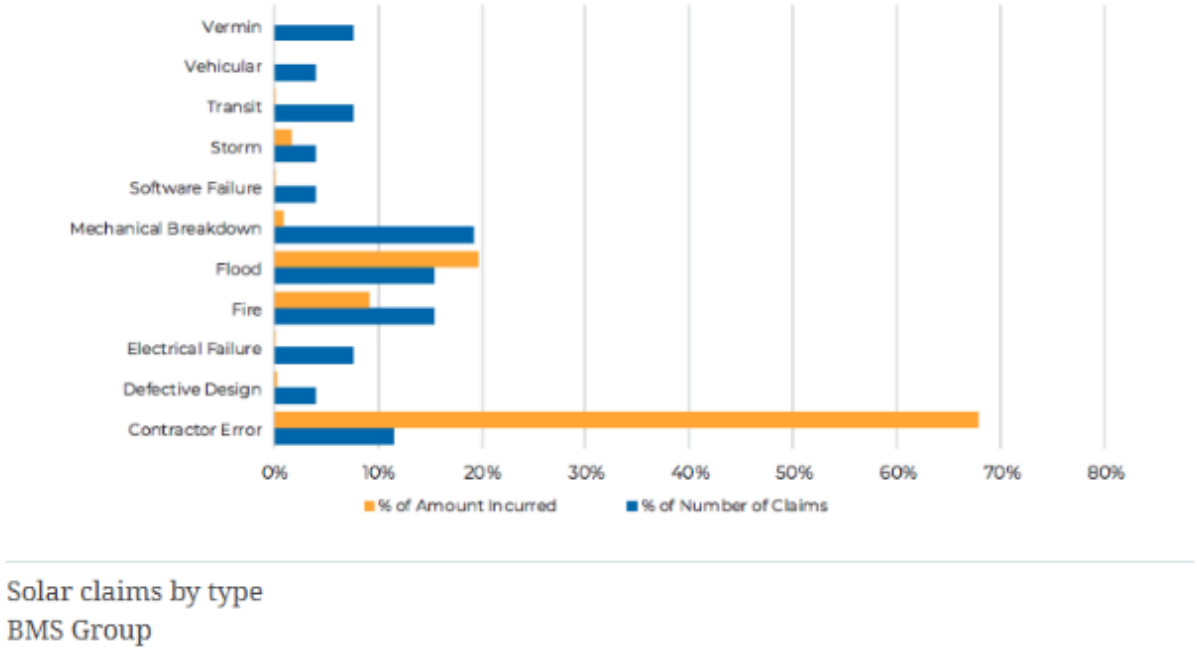


Figure 4.15 Solar Farm Insurance Claims by Type

Source: (BMS, 2021).

Public liability insurance linked to solar farms has been recently raised in the Parliament of Australia by the Hon. Sam Farraway, with concerns regarding insurance premiums of landholders neighbouring a solar farm 'quoted in excess of $250,000 per annum for an insurance premium to cover themselves in the event of a crop fire that could spread to an adjacent solar farm or solar factory'.

The potential increase in insurance raises concerns regarding the ability of neighbouring landholders to continue to live and utilise productive farmland due to increasing costs connected to neighbouring major developments (Parliament of Australia, 2023).

In 2023, the NSW Agriculture Commissioners prepared two reports regarding land use conflicts and agriculture associated with renewable energy development. In relation to fire and insurance risks the NSW Agriculture Commissioners report recommended that renewable energy project applicants should cover any additional public liability insurance cost incurred by neighbouring stakeholders as a result of proximity and risk to new energy facilities and should include clauses to compensate for any land use constraints imposed on neighbouring landowners through public liability insurance policies.

In response to these recommendations, the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner and the CEC.

Conversely, it has been reported that the Insurance Council of Australia states that the rising costs in public liability insurance is not due to renewable development, but rather are in relation to escalating costs of natural disasters, increasing values of homes, and vehicles and inflation (ABC Rural, 2024).
These statements were in relation to a landholder's concern about the amount of public liability insurance available considering a solar farm development that is proposed next to his property in Southern NSW.

Solar farms are not currently impacting or influencing the price of insurance. According to the Insurance Council, insurers have not raised concerns about rural properties neighbouring energy infrastructure, and it has not been a primary driver of claims denials (ABC Rural, 2024).

The level of impact of increased insurance premiums due to proximity to solar farm projects is difficult to ascertain. However, to address this impact, the following strategies have been proposed in **Table 4.13**.

Table 4.13 Summary of Mitigation and Enhancement Strategies – Insurance Premiums

Social Impact	Identified Strategies	Proposed Strategies
Livelihood impact due to increased insurance premiums for neighbouring agricultural properties	• Reimbursement for increased public liability insurance premiums levied to the neighbour due to the presence of the Project. • Ongoing engagement with near neighbours to discuss concerns relating to insurance costs. • Establishment of appropriate setbacks and Asset protection zones (APZs) to reduce fire risk. • Implementation of fire management procedures in line with the Bushfire Management Plan.	• Implementation of a Bushfire Management Plan, and communication of the plan details to emergency service providers and the community. • Project design includes Asset Protection Zones (APZ), which reduce the ability for bushfires to spread. • While there are no Project-specific mitigation measures proposed to address potential increase in insurance, it is acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.

4.3.5 Enhancing Social Value through Community Investment

During engagement, stakeholders noted that an opportunity associated with the Project was for Lightsource bp to develop a targeted community benefit sharing or social investment program to enhance social value for local and regional communities.

Lightsource bp need to support some local organisations. Veolia Trust gives money to local charities, which is a great benefit for the community. Has contributed $14 million so far – Community resident

Lightsource bp has committed to a Voluntary Planning Agreement with Goulburn Mulwaree Council which may be used to fund local initiatives such as affordable housing, or local community initiatives.

Key themes identified as funding priorities by local stakeholders include:

- Regenerative farming/ agricultural initiatives, planting and ground cover.
- Higher Education programs to increase skills and facilitate local employment.
- Research hubs.
- Tree planting and environmental works (including visual screening and improved environmental outcomes).
- Upgrades to local roads / highway access etc.
- Affordable housing and urban infill.
- Climate change resilience – water conservation and fire prevention.
- Post release employment for local prisoners.

Proposed and community identified strategies to enhance social value through community investment are outlined in **Table 4.14**.

Table 4.14 Summary of Mitigation and Enhancement Strategies – Enhancement of Social Value through Community Investment

Social Impact	Identified Strategies	Proposed Strategies
Improved social capital for local community infrastructure and initiatives associated with community benefit sharing programs i.e. VPA	• Establish a community development fund.	• Lightsource bp will provide ongoing financial assistance through the community shared benefit scheme (including both the Neighbourhood Benefit Sharing Program and the VPA) to ensure direct benefit from the Project is received by the local community. • Community investment initiatives to be targeted to community needs and priorities and developed in consultation with community groups. • Clear application process and publication of selection criteria for eligibility to community benefit programs/initiatives to be disseminated publicly.

4.3.6 Distributive Inequity of Landholder Agreements

The Project will deliver economic benefits to the host landholder of the Project Area through a commercial arrangement. Further, given the proximity of particular properties to the Project, households within 500 m of the Project boundary (7 households) will be offered a choice between an annual payment during construction or a rooftop solar package. Households between 500 m and 1 km (13 households) will be offered a one-off construction impact payment. A number of local landholders noted the importance of these benefits in providing financial compensation given likely experience of Project impacts.

Neighbour benefits are really important – Local resident / landholder

Lightsource bp need to make neighbour agreements for the people who are really impacted and live right next to it – Local resident / landholder

Virtually all the negative impacts can be solved by concessions to neighbours (either financial or in-kind through the supply of discounted power, installation of roof top solar or batteries) – Community Group

In relation to neighbour payments, some concerns were raised regarding the **distributive equity** of these payments and initiatives, given that some landholders noted that they already had roof top solar panels, with others querying whether payments would be taxed.

Others questioned the fairness and equity of the processes by which neighbour payments were determined and distributed and the mechanisms used to determine eligibility i.e. whether these were linked to impact. Others noted that the neighbour benefits were not enough to compensate for impacts such as a potential decline in property values.

The *neighbourhood benefits are not individualised and linked to impacts. Individualised compensation for neighbours is really important – Proximal landowner/ resident*

Due to the property being outside the 500 m (number redacted), we will not be compensated anything, which is unfair. – Proximal landowner/ resident

Disgraceful 'compensation' for neighbourhood benefits, (Lightsource bp) should put it up front. If you gave me $100 k, which is how much property value I have lost, then I would shut up – Proximal landowner/ resident

The land value is your superannuation, what you worked hard for your whole life and you hope this value increases. The compensation offered by Lightsource bp does not weigh up to the value potentially lost. – Broader Community

4.4 Surroundings

As outlined in the SIA Guideline (DPE, 2023), impacts relating to surroundings and social amenity can include changes in ecosystem services such as shade, pollution control, erosion control, public safety and security, access to and use of the natural and built environment and aesthetic value and amenity.

In relation to impacts to surroundings (refer to **Figure 4.16**), stakeholders most frequently raised impacts related to:

- **reduced public safety** due to increased bushfire risk (n=55), increased traffic (n=43), flooding (n=14) and glint and glare impacts (n=9) associated with the Project.

Other impacts to surroundings related to:

- **reduced social amenity** due to increased dust (n=29), noise (n=27) and temperature (n=15).

- **Intergenerational equity impacts** including concerns about decommissioning and waste management (n=47), and positive impacts relating to improve liveability due to the Project's contribution to renewable energy generation (n=31).

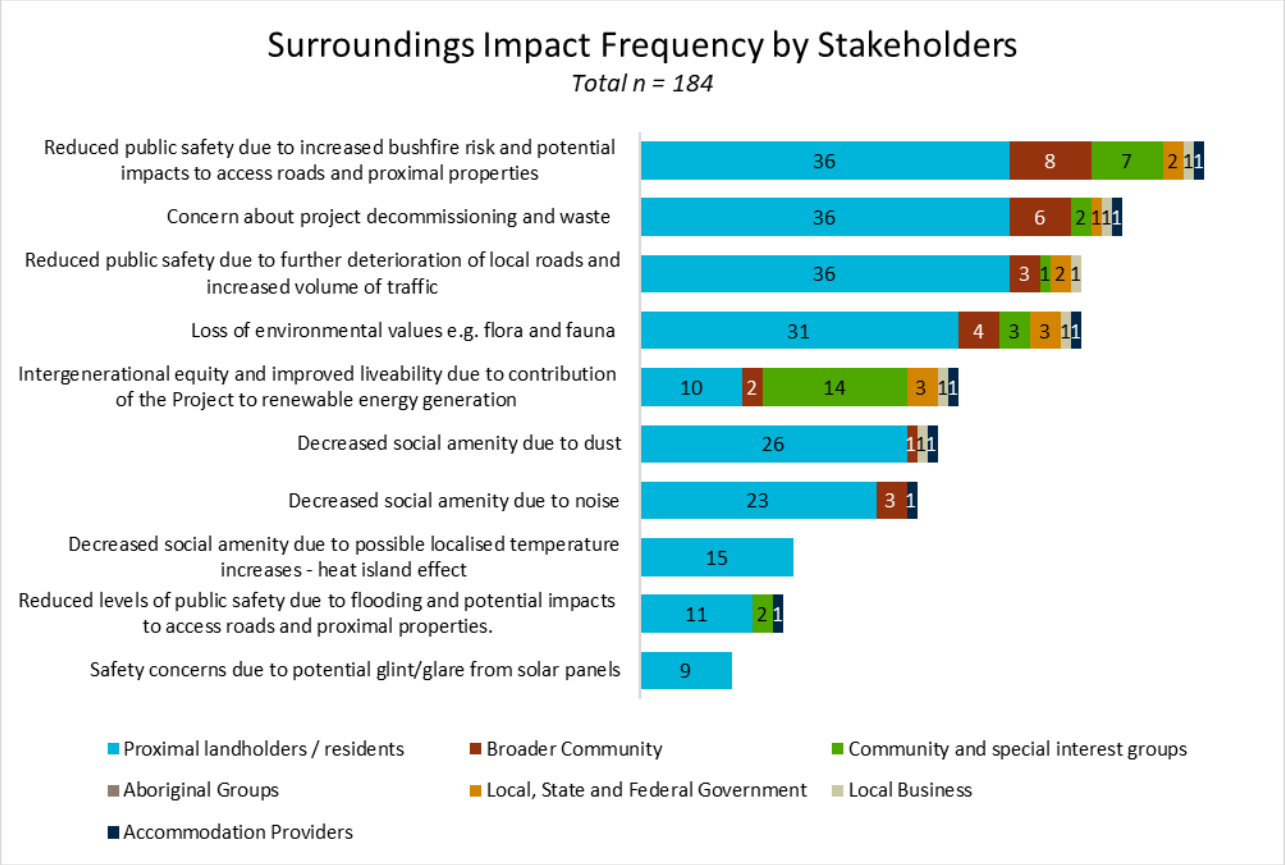


Figure 4.16 Surroundings Impact – Frequency by Stakeholder Group

Source: Umwelt 2024.

4.4.1 Reduced Public Safety

During engagement, stakeholders raised concerns relating to the impact of the Project on public safety. In particular, concerns were raised about increased fire and flood risk due to the Project, with questions arising as to how these risks will be effectively managed by Lightsource bp.

Public safety concerns were noted in relation to the potential glint and glare from solar panels, impacting road users and aircraft movements. These impacts were most frequently raised by landholders and residents in proximity to the Project.

4.4.1.1 Road Deterioration and Increased Traffic

Residents and landholders also raised concerns regarding reduced road user safety due to the increased volume of traffic likely during construction of the Project, particularly heavy vehicle traffic. Stakeholders expressed that this concern was exacerbated due to the existing poor condition of local roads and existing development in the area.

Road quality is a concern around here – Scoping Phase Community Resident

I have young kids that catch the bus, and with all the extra trucks on the road I am not going to feel like my kids will be safe getting on and off their school bus each day – Proximal landholder / resident

A lot of lifestyle blocks along Kooringaroo Rd are being built on, meaning the traffic has significantly increased on weekends. Three- fold. – Proximal resident / landholder in March 2024

A number of concerns were also raised in relation to the proposed access routes to the Project Area, with participants frequently noting that local roads were currently unsuitable for heavy vehicle traffic and would not be able to cope with additional traffic volumes, resulting in increasing traffic congestion, delays and safety issues.

The construction and operation of the Solar Farm could create the risk of serious accidents occurring due to the higher volume of traffic – Scoping Phase Proximal landholder / resident

Conversely, road upgrades that may be undertaken as part of the Project were also raised as an opportunity to improve safety and access for road users.

Road upgrades could be a good thing to come out of it all. – Proximal resident / landholder

The Project Area is located on Windellama Road, with the proposed access routes to the site outlined in **Figure 4.17**.

Major solar and BESS components would be delivered to either Port Botany in Sydney or Port Kembla south of Wollongong and transported to the Project Area via the Hume Highway (refer to **Figure 4.17**). Two access routes off the Hume Highway have been proposed (Option 1 and Option 2) (refer to **Figure 4.17**).

The Traffic Impact Assessment (TIA) prepared by The Transport Planning Partnership Pty Ltd (TTPP) for the Project, indicates that the addition of construction traffic related to the Project will not adversely impact on the operation or Level of Service at any of the key intersections along both the northern (Option 1) and southern (Option 2) transport routes. The TIA therefore concludes that the road network can satisfactorily accommodate additional traffic associated with the peak construction period for the proposed Project.

It is expected that a total of 10 over size over mass (OSOM) two-way vehicle trips (i.e. 5 OSOM vehicles) would be required during the construction period, with these vehicles typically associated with the transportation of battery components to the Project Area. Swept path analysis indicated that the existing road geometry between the Hume Highway and the Project access on Windellama Road can adequately accommodate general construction heavy vehicles (19 m semi-trailers) and 38 m OSOM vehicles without the need for road upgrades. Noting this, Council indicated a preference for the construction traffic to utilise Option 2, specifically the southern Hume Highway exit and Garroorigang Road and Sloane Street (south) to access Bungonia Road and onto Windellama Road. Option 2 will avoid schools and a higher number of residential properties. Option 1 will provide an alternative route (outside school zone times) for delivery of large battery and substation components as it is a designated Oversize Over Mass (OSOM) route. The swept path analysis for the largest OSOM vehicle (50 m) indicated that minor temporary works at Braidwood Road / Bungonia Road intersection and traffic control will be required to accommodate the OSOM vehicles. These works may include temporary removal of street furniture (such as signage), streetlights and/or medians. No Project related construction traffic (heavy) will utilise Option 1 during school zone hours of operation (8 am–9:30 am and 2:30 pm–4 pm on school days).

Regarding road safety, the TIA notes that the proposed Project Area access arrangements at Windellama Road meet with the design requirements and safe intersection sight distances as defined by Austroads, providing a safe environment for the entry and exit of vehicles to and from the Project Area.

The TIA completed an analysis of historical crashes within the vicinity of the Project Area which indicated that the rate of crashes along Windellama Road is relatively low, with systemic crash locations or accident types that would indicate a particular safety issue that would be adversely impacted with additional construction traffic associated with the Project.

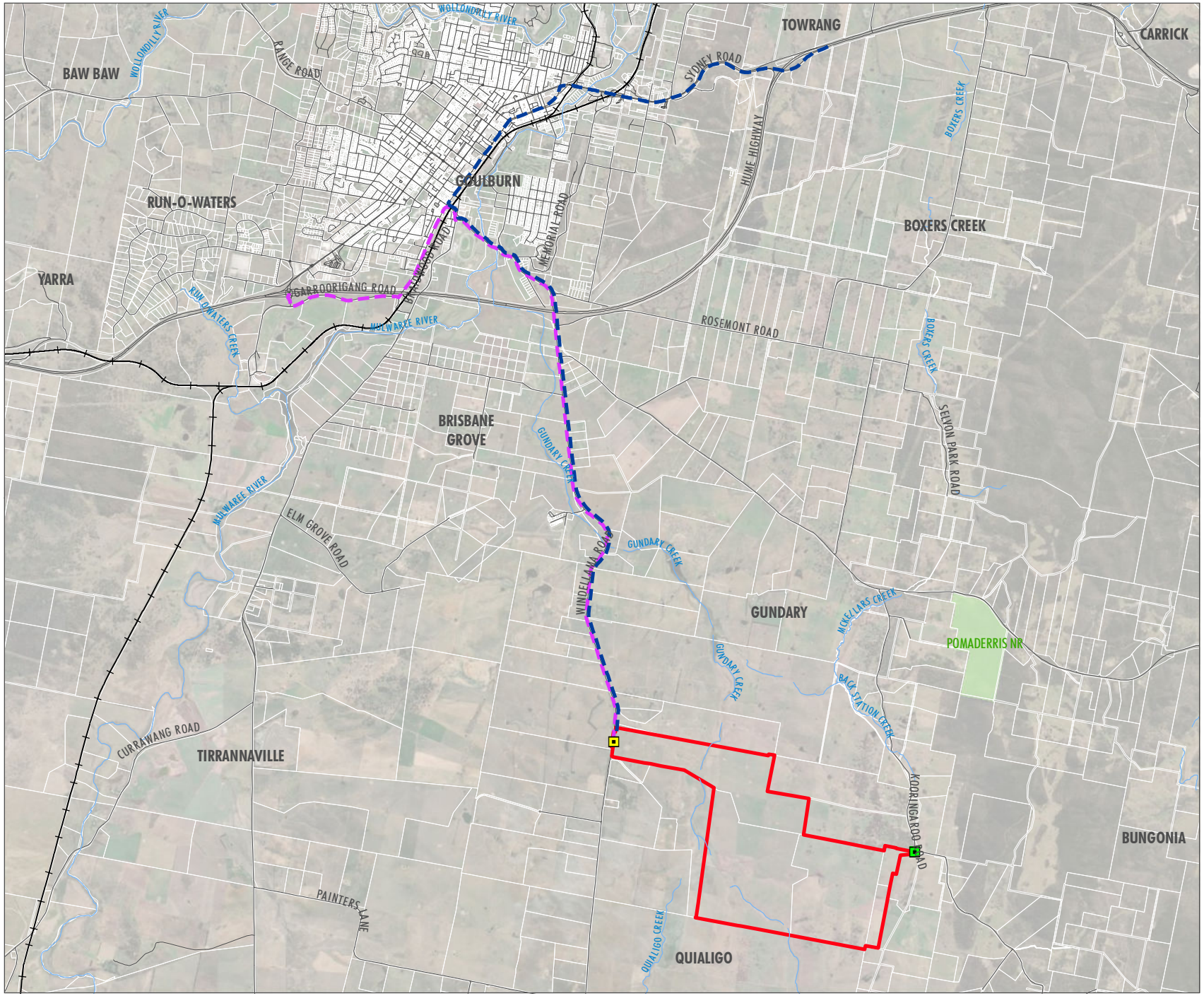
Operational traffic for the Project will relate to monitoring activities by on-site staff (e.g. safety management, environmental condition monitoring, landowner management, routine servicing, malfunction rectification and site inspections). The TIA identified that the level of traffic generation during operation would readily be absorbed into the spare capacity of the existing road network.

Traffic generation during decommissioning is estimated to be approximately 30% less than the peak traffic generation during construction. Based on the assessment of the road capacity during the construction phase, it is envisaged that road network impacts would be minimal.

The cumulative analysis within the TIA indicated that all key intersections along the transport routes for construction vehicles will continue to operate satisfactorily with acceptable levels of service. The analysis did highlight a noticeable change to the level of service at the Sloane Street / Braidwood Road intersection for the scenario where all construction traffic from both Gundary and Merino Solar Farm Projects utilises the northern route (Option 1). This suggests that should both the Gundary and Merino solar farm projects undertake peak construction concurrently, then the southern transport route (Option 2) would be the preferred route for Gundary Solar Farm to reduce potential congestion at the Braidwood Road / Sloane Street intersection.

FIGURE 4.17

Transport Route Options



- Primary Access
- Emergency Access
- Project Area
- Cadastre Boundaries
- Roads
- Railway
- Watercourses

Proposed Access Route

- Option 1: Hume Hwy – Sydney Road – Sloane Street – Braidwood Road – Bungonia Road – Windellama Road
- Option 2: Hume Hwy – Hume Street – Garroorigang Road – Sloane Street – Braidwood Road - Bungonia Road – Windellama Road

0 2,000 4,000

Meters

Scale: 1:0 at A4
GDA 1994 MGA Zone 55

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Image Source: ESRI Basemap (2023) | **Data Source:** NSW DFSI (2023)

Proposed strategies to address social impacts relating to public safety from increased road traffic and road deterioration are outlined in **Table 4.15**, including strategies identified during engagement.

Table 4.15 Summary of Mitigation and Enhancement Strategies – Public Safety (Traffic)

Social Impact	Community Identified Strategies	Proposed Strategies
Reduced public safety due to further deterioration of local roads and increased volume of traffic	• Road maintenance. • Upgrade and/or widening of relevant roads. • Work with councils to ensure required road upgrades, to improve the local road network and road conditions. • Communication with proximal residents regarding timing of OSOM expected traffic. • Large and OSOM transportations to avoid school bus timetables, to reduce risk to children accessing the school bus from Windellama Road.	• Project access intersection upgrade works on Windellama Road to accommodate heavy vehicle turning movements into and out of the Project Area. • Notification and communication with community regarding traffic movement timing and key activities. • Construction vehicles not to utilise the northern route (Option 1) during School Zone times. • Implementation of appropriate traffic control measures and plans for OSOM vehicle movements, including temporary works at Braidwood Road / Bungonia Road intersection and traffic control. This shall include the movement of OSOM vehicles over the Lansdowne Bridge on Bungonia Road. • Implementation of the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area. • Preparation and implementation of a detailed Construction Traffic Management Plan (CTMP) detailing how works to the site access and ongoing construction works will be undertaken. The CTMP shall be prepared by the proponent with the works contractor in consultation with Council. • Deliver a shuttle bus service from key population centres such as Yass and/or Goulburn to the site, where possible. It is expected that this will assist local residents engage in employment opportunities who otherwise would not be able to reach site, as mentioned in the AES. • Dilapidation surveys covering the pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and local Councils for the proposed transport routes before and after construction. Regular inspections and consultation with local Councils. It is expected that any damage resulting from construction traffic, except normal wear and tear, would be repaired.

Source: (Umwelt, 2024).

4.4.1.2 Glint and Glare

During engagement with landholders and residents, public safety concerns were raised regarding the potential for glint and glare reflection from solar panels to impact road users on Windellama and Ringwood Roads, and also pilots flying in and out of Gundary Airport.

A glint and glare assessment has been prepared to inform the EIS (Moir Landscale Artchitecture, 2024). Engagement with relevant aviation stakeholders and assessment of the potential for glint and glare impacts on flight paths to, and originating from, Goulburn Airport, found that there would be no glare impacts affecting aviation receptors. The assessment focused on the impact of 'yellow' glare from the Project, or glare that has the potential for temporary after-image.[11]

However, in relation to the impacts of glint and glare on proximal properties, approximately 7 properties were identified as having the potential for low impacts of yellow glare (less than 10 hours per year), with Kooringaroo Road assessed as having the potential to experience 'yellow' glare that exceeds the acceptable threshold of 10 hours per year. No yellow glare impacts were predicted for Windellama Road given existing scattered vegetation along the road that will likely obscure potential views toward the Project (Moir Landscape Architecture, 2024).

Table 4.16 outlines the community identified and proposed strategies to mitigate the social impact of reduced safety due to glint and glare.

Table 4.16 Summary of Mitigation and Enhancement Strategies – Reduce Public Safety (Glint and Glare)

Social Impact	Identified Strategies	Proposed Strategies
Safety concerns due to potential glint/glare from solar panels	• Diversion of flight routes if they will be impacted. • Screening of Project, along Windellama and Kooringaroo Road for drivers. • Consultation with the Goulburn Airport to ensure specific flight paths are not impacted.	• Trees planted for Visual Screening along Windellama Road. • Additional landscape screening will be established along the north-eastern boundary of the Project to further enhance screening and reduce potential glare towards Kooringaroo Road. • Ongoing information sharing and engagement with Goulburn Airport about Project updates and plans.

4.4.1.3 Bushfire Risk

Public safety concerns due to bushfire risk was a key concern for landholders and residents proximal to the Project including those residing along Kooringaroo Road. Concerns related to personal safety, as well as risks to property given the potential for flammability of solar panels, substation and batteries on the Project Area and a history of grass fires in the area. Concerns were particularly heightened for residents along Kooringaroo Road, who were unsure of how they would evacuate in the event of a fire, due to the road being a dead-end which abuts dense bushland.

In addition, residents and landholders were concerned that the Project could impact on the ability of landholders and emergency services to effectively respond to and attend a bushfire in the Project Area, or the locality. There was a perception that the RFS would be unable or unwilling to enter the site should a fire occur.

[11] Other types of glare include red glare which can cause retinal burn and is not expected for solar panels and green glare which was low potential to cause after-image and is deemed negligible.

> Bushfire *in the area is a concern, the grass fires move very quickly. Brigade would not be able to enter site and put the fire out. – Proximal landholder/ resident*
>
> *I can't fight the fire if it comes towards me, the RFS won't either. I am surrounded by bush, it's terrifying – Proximal landholder/ resident*
>
> *RFS will not fight the fire. Will Lightsource bp reimburse neighbours for what stock they will lose in these fires? Also, for the increase in their insurance premiums? A dry summer, and a windy day will be deadly. Not to mention the lightning strikes, they are fire starters too.– Community resident*
>
> *Fire specialists will not put out these fires, what does that mean for the surrounding area and grass fires? Wind spreads these fires very quickly in this area. Especially in scrub areas. The locals, RFS and Fire and Rescue will not have the capacity/resources to put it out. – Community resident*

Landholders expressed that the Project Area would require additional water on site, with better tank placement, larger asset protection zones (APZs) and clear emergency response plans.

> *The 20,000L water tanks are a joke. People around here have tanks that are double that size. We don't want to be supplying water for the solar farm when you run out – Proximal landholder/ resident*
>
> *Saying the project was a low risk for bushfire is not good enough, we need to know what will be done in case there is a fire. Bushfire measures proposed not good enough i.e. more water should be on site for firefighting, APZ should be 30 m, water tank placement not good. – Proximal landholder/ resident*

During engagement with the Fire and rescue NSW Goulburn, and RFS – Gundary Brigade feedback was provided regarding site access in case of fire (including gate width, fencing and turning bays) and size and location of water tanks on site. This feedback has been incorporated into the Project design where possible to ensure emergency services can access the site if needed.

A bushfire threat assessment for the Project has been prepared by Peak Land Management (2024), which includes an assessment of potential bushfire hazards applicable to the Project Area and which outlines the proposed bushfire management for the Project.

The assessment found that, due to the presence of grassland, the majority of the Project Area is identified as 'Category 3' bushfire prone land, which includes vegetation that poses a 'medium' bushfire risk. However, there are pockets of remnant vegetation in the vicinity of the Project Area, and along Kooringaroo Road, that are classified as 'Category 1' bushfire prone land, which includes 'high' risk vegetation, such as forest, woodlands, heaths, forested wetlands, and timber plantations. Category 1 vegetation has the highest combustibility and likelihood of forming fully developed fires.

The assessment concluded that the bushfire threat for the Project is considered low, as the landscape within the Project Area and surrounds is predominantly grazed agricultural land, which reduces grassland fuel loads and bushfire potential. Bushfire risk is confined to along the north-eastern Project boundary, where remnant vegetation is present.

While the assessment concluded that the bushfire risk to be low, Lightsource bp acknowledge that this is a key concern for the community and is therefore proposing additional measures to minimise bushfire risk and to improve access in case of emergency. These include:

- 10 m APZ around the perimeter of the Project Area
- dedicated non-combustible water tanks located throughout the Project Area with a combined capacity of 180,000 L
- supplementary site access via Kooringaroo Road for emergency access only
- additional emergency accesses via gates along the perimeter fencing to allow access points to the Project Area in case of an emergency
- access tracks on the Project Area to be designed as to provide safe access for emergency services personnel.

Potential strategies to address public safety and property associated with bushfire risk are outlined in **Table 4.17**.

Table 4.17 Summary of Mitigation Strategies – Public Safety (Bushfire Risk)

Social Impact	Community Identified Strategies	Proposed Strategies
Reduced public safety due to increased bushfire risk and potential impacts to access roads and proximal properties	• Develop a bushfire management plan in collaboration with the local RFS, Fire and Rescue and proximal landholders. • Undertake upgrades or safety improvements to Kooringaroo Road. • Maintenance of Kooringaroo Road and management of roadside verges to reduce bushfire risk. • Ensure multiple access/fire escape routes from the Project Area. • Increase capacity of water tanks on site (beyond the proposed 20,000 L tank). • Support 'Hazards near me NSW' app to notify neighbours of fires or lightning strikes. • Consider facility shut down on high risk fire danger days. • Graze sheep on Project Area to manage weeds and reduce bushfire risk	Project design to include: • 10 m APZ around the perimeter of the Project Area. • Total of 180,000 L of water in tanks on the Project Area. This has been increased from a total of 2x 10,000 L tanks on site since the scoping phase in response to community and stakeholder feedback. • Supplementary site access via Kooringaroo Road for emergency access only, as well as emergency accesses along the perimeter fencing. • Access tracks on the Project Area to be designed to provide safe access for emergency services personnel. • A Bushfire Emergency Management and Operations Plan, as outlined in the EIS. • Intersection upgrade to improve access, as outlined in the Construction Traffic Management Plan (CTMP). • Information sharing with surrounding community regarding bushfire management protocols, as per the CSEP. • Bushfire training and site familiarisation day with RFS and Fire and Rescue NSW once the Project is commissioned.

Social Impact	Community Identified Strategies	Proposed Strategies
		• Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate. • Work with local emergency service providers.

4.4.1.4 Water Runoff and Flood Risk

Concerns were raised by stakeholders in relation to the suitability of the site for the Project, given its flood prone nature, and the potential for stormwater runoff to influence water flow on the site and within the catchment.

*There were specific concerns that the Project would alter flooding in the area, potentially limiting **people's access to their properties and roads** surrounding the Project Area during flooding events.*

> *Flooding will ruin the Project, the Hume Highway upgrade used dirt instead of a bridge which made flooding worse in the area, and will especially impact this project site – Broader community member*
>
> *Flooded access road to house, this project will cause more flooding, because the panels will mean there is less ground cover soaking in the rain. – Proximal landowner / resident Scoping Phase*

Given the key concerns from proximal landholders and residents regarding flood risks, Lighsource bp has implemented a range of Project design changes to reduce flood risk including:

- The Project's design and layout has been refined to avoid impacts to second order and higher streams traversing through the Project Area (in particular the main watercourses of Gundary Creek and Bullamalito Creek).
- The Project layout has been designed to maintain appropriate setbacks in accordance with the Guidelines for riparian corridors on waterfront land (DPE, 2012a) around second order and higher streams within the Project Area and considered areas prone to flooding.
- Installation of riparian fencing (such as a latched tube watercourse crossing) where the security fence crosses a watercourse or creek.
- Solar panels have been designed with a 500 mm freeboard for the lowest edge above the maximum 1% AEP flood event Implementation of stormwater management measures, including but not limited to: vegetated swales along the full length of downslope side of solar panel arrays.
- Bioretention basins to treat runoff from the Centralised BESS compound and the sub-station/operations and maintenance facility compound with bioretention discharge draining to vegetated swales.

The flood impact assessment for the Project prepared by WRM (2024) involved flood modelling of drainage paths through the Project Area, with and without the presence of the Project. Based on the outcomes of the flood modelling, the assessment concludes that the Project will have minimal impacts on flooding, including flow rates, velocities, and depths (WRM, 2024).

Published literature (Muller, 2023) regarding the surface water impact of PV arrays indicates that additional runoff from solar PV project is unlikely. While solar panels are wholly impervious, runoff from panels is not directly connected to the downstream drainage system and will drain onto the existing pervious landform and soils. Therefore, the modelled existing hydrologic conditions are likely to be unaffected by the Project infrastructure and consequently the Project is not predicted to cause external impacts in terms of water surface levels and peak discharges (WRM, 2024).

Relevant management plans will also be developed to manage soil and water impacts associated with construction and decommissioning works (Construction Soil and Water Management Plan (CSWMP), to outline how response to a flood will be managed through preparation of a detailed Flood Emergency Management Plan (FEMP); and development of an Operational Environmental Management Plan (OEMP) with measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase.

Outlined in **Table 4.18** are community identified and proposed mitigation strategies regarding reduced public safety due to water run-off and flood risk.

Table 4.18 Summary of Mitigation and Enhancement Strategies – Reduced Public Safety (Flood Risk)

Social Impact	Identified Strategies	Proposed Strategies
Reduced levels of public safety due to potential for flooding and impacts to access roads and proximal properties.	• To reduce flood risk, some stakeholders suggested that appropriate fencing should be installed, and floodways developed to enable water to flow freely across the site. • Floating fencing around perimeter of the Project to ensure fencing materials are flood proof.	• Project design to have project infrastructure to avoid impacts to main water courses, which have the potential to flood. • Development and implementation of relevant management plans including Construction Soil and Water Management Plan (CSWMP), Operational Environmental Management Plan (OEM), and the Flood Emergency Management Plan (FEMP). • Fencing will be designed to consider flood levels across the site through construction of floodway to reduce the likelihood of fence blockage due to loss of vegetation in storm events. • Flood training and site familiarisation day with SES once the Project is commissioned & constructed.

Source: (Umwelt, 2024).

4.4.2 Social Amenity Impacts from Dust, Noise and Heat Effects

Proximal landholders and residents raised concerns about decreased social amenity due to increased noise and dust during construction and potential heat effects during operation of the Solar Farm.

4.4.2.1 Noise

During engagement landholders and residents, particularly those living in close proximity to the project, raised concerns relating to reduced social amenity due to construction and operational noise. Participants noted that construction noise has the ability to impact on their amenity creating annoyance and disturbance to their way of life. Particular concerns noted related to:

- Construction activities – includeng drilling, possible rock hammers and machinery noise, and additional traffic and associated road noise.
- Operational noise from the substation and on-site BESS for those living near the north-west corner of the Project, with landholders and residents raising concerns that this would interrupt their sleep and daily enjoyment of their properties.

  How are you proposing to block the dull hum that will carry on every north, south, east and westerly wind to torture residents and animals in all directions? – Proximal landholder / resident

  Construction noise levels over 100dB and operation noise over 95dB every 15 minutes – Stop Gundary Solar Farm

  The noise will be so loud, will a rock hammer need to be used on site (during construction)? The ground is hard and rocky. – Proximal landholder / resident

As noise was raised as a particular concern during the Scoping Phase, there have been key Project design changes to reduce noise impacts for proximal residents and landholders, including refinements to the layout and design, such as relocation of the centralised AC Battery Energy Storage System (BESS), removal of some decentralised DC BESS units, and incorporation of noise walls/barriers.

A Noise and Vibration Impact Assessment (NVIA) has been prepared by Umwelt (2024) to assess the potential noise and vibration impacts associated with the construction, operation and decommissioning of the Project, and to recommend mitigation measures where required. The NVA predicts that the construction Noise Management Levels (NMLs) at 21 residences may be exceeded (>45 dB(A)) while works are conducted at the Project Area. The NVIA outlines a range of noise management and mitigation strategies to mitigation potential construction noise impacts. The NVIA notes that vibration impacts from construction activities are anticipated to be negligible.

During operation, the NIVA predicts that all project noise trigger levels can be met for day, evening and night-time periods, with all residences experiencing noise levels of 35 dB or lower.

Proposed mitigation measures to reduce social amenity impacts because of noise are outlined in **Table 4.19**.

4.4.2.2 Dust

Local landholders / residents raised concerns about potential dust generation from construction activities, and during operation, especially for those in proximity to the Project Area boundary. Feedback included fears that dust would blow off the construction site and land on nearby house roofs and be washed into water tanks. Stakeholders noted that this may require them to clean their water tanks and change their filters more regularly so that the quality of their drinking water is maintained.

A qualitative assessment of the Project's potential air quality impacts has been undertaken to address concerns raised by the community in relation to dust generated during construction. The assessment found that the main source of emissions to the air during construction would involve dust and air borne particles generated from construction activities, including site preparations (construction) or demolition work, as well as vehicle, plant and equipment and exhaust emissions. These emission sources are temporary in nature for the duration of the construction and decommissioning phases.

Exhaust emissions from vehicles and machinery have the potential to impact on human health, as well as contribute to greenhouse emissions and leave residues on private properties. The use of heavy vehicles, equipment and machinery would be largely limited to the construction period and emissions would be localised.

The nearest non-associated dwelling is approximately 137 m to the north of the Project Area. Given the temporary nature of the construction activities, it is expected that any impacts from dust and exhaust emissions would be minimal to surrounding residences. The air quality assessment notes that with the following measures in place, it is expected that the construction and decommissioning activities would have a negligible impact on local air quality.

Proposed mitigation measures to reduce social amenity impacts because of noise and dust are outlined in **Table 4.19**.

Table 4.19 Summary of Mitigation and Enhancement Strategies – Social Amenity (Noise & Dust)

Social Impact	Community Identified Strategies	Proposed Strategies
Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance and irritation.	• Lightsource bp to finance or compensate near neighbours for more regular filter changes and tank cleaning during construction and ongoing during operation.	• Implemented refinements to the layout and design, such as relocation of the centralised AC Battery Energy Storage System (BESS), removal of some decentralised DC BESS units, and incorporation of noise walls/barriers. • Additional implementation of mitigation and management plans to control and minimise construction noise should these occur. • Preparation of a Noise and Vibration Management Plan (NVMP) as part of the Construction Environmental Management Plan (CEMP). • Where feasible and reasonable, construction to be carried out during the standard daytime working hours. Work generating high levels of noise will be scheduled during less sensitive time periods. • As part of the CEMP, protocols will be developed and implemented to minimise the air emissions during the construction, including: • Water suppression on all exposed areas, unsealed roads and stockpile area when required (i.e. if visible dust emissions are observed). • The location and scale of dust generating activities would be modified and limited during periods of dry and windy weather. • Engines to switch off when not in use for prolonged periods.

Social Impact	Community Identified Strategies	Proposed Strategies
		• Development of a complaints procedure to identify and respond to complaints. • Areas within the Project Area which have been temporarily disturbed by construction and operational activities will be rehabilitated. • Once construction has been completed, ground cover to be established and maintained in accordance with the OEMP. • Implementing the CSEP in communicating Project construction plans and timing with all relevant stakeholders. • Standard construction hours will apply.

Source: (Umwelt, 2024).

4.4.2.3 Temperature Increases

The potential for the Project to increase the temperature in the area was also raised as a concern during engagement particularly by landholders/residents in proximity to the Project, as there was a perception that the presence of solar panels can cause localised temperature increases which contribute to the heat island effect, impacting on social amenity for near neighbours.

Some proximal landowners had visited another solar farm in NSW and referenced the 'heat haze' they saw rising from the panels, sharing their concern for the extent of heat radiation that would be experienced on a 35 degree day, and subsequent impacts on proximal properties.

> *Local temperature increase means greater heat stress in summer or in drought. I understand surrounding properties will be subject to a 5% increase in temperature due to the scale of these developments. I also understand this cannot be mitigated. – Proximal landholder / resident, Scoping Phase*

> *Sun Glare and reflection and heat. The panels will reflect massive amounts of sun which will impact our environment and potentially raise temperatures. – Proximal landholder / resident, Scoping Phase*

While solar panels do generate power and electricity, increases in temperature within the locality are very unlikely to occur. Solar panels are designed to absorb as much solar energy as possible and are known to reflect less than 3% of the sunlight. Consequently, PV solar farms are known to produce less glare than other natural and man-made features.

Heat build-up under single axis tracking (SAT) technology, the technology planned to be used for the Project, is even more unlikely than other solar technologies. SAT systems are elevated with the axis of rotation typically around 1.2 m–1.8 m off the ground and rows are typically spaced at least five meters apart, providing significant spacing between panels. This elevation and panel spacing means that heat build-up under the panels is very unlikely, and if anything, there is a slight decrease in temperature underneath the panels due to shading.

4.4.3 Intergenerational Equity

Intergenerational equity is the idea of applying fairness or facilitating distribution of well-being between/across generations, preserving natural resources and/or caring for the environment for the benefit of future generations. 'A sustainable world is one in which human needs are met equitably without sacrificing the ability of future generations to meet their needs' (Summers and Smith, 2014: 718).

Intergeneration equity impacts included concerns about decommissioning and waste management (n=47), and positive impacts relating to improve liveability due to the Project's contribution to renewable energy generation (n=31).

4.4.3.1 Projects Contribution to Renewable Energy Generation

During engagement, participants noted the positive impact that the Project would have on climate change, affording provision of renewable energy and reducing reliance on other energy generation sources such as coal mining. Similarly, this positive impact was also raised by broader community members during the telephone survey with 17% (n=34) identifying the positive impacts associated with the Project and renewable energy generation more broadly.

For some members of environmental groups in the region, the Project represented an opportunity to work towards broader Zero Emissions goals. For others, renewable energy was considered as an important alternative to more polluting energy sources, such as mining and coal-fired power plants. Broader community residents also noted that while they would prefer to see Australia transition to nuclear power, renewable energy offers a good alternative.

The introduction of large-scale renewable energy projects was also identified as a positive change in sense of place by some Goulburn Mulwaree community members, with stakeholders noting that the Project could benefit the broader Goulburn Mulwaree LGA in contributing to the development of the area as a renewable energy hub, increasing the profile and reputation of the Goulburn Mulwaree community.

There is evidence that local community members are already financially and emotionally invested in building renewable energy competency and resources in Goulburn. There are several robust existing networks in the Goulburn region that place a strong emphasis on renewable energy, climate change and transitions away from fossil fuels. For example, the group Community Energy for Goulburn (CE4G) own Goulburn Community Solar Farm, a co-operative community-led solar project which is currently being built. For some, the presence of the Project represented an opportunity to further build regional strengths in the region.

In a local media article, titled 'Professor Andrew Blakers to speak in Goulburn about renewable energy potential', there is reference to Goulburn being a great location for renewable energy provision (Goulburn Post, 2023).

A [The Goulburn Group] TGG spokesman said the group believed Goulburn could leverage its advantage in renewable energy to become 'a centre of excellence in the technology needed to address climate change and thereby build a strong economic future.' 'Together with Community Voice for Hume (CV4H), TGG wants to ensure that there are significant benefits from hosting solar farms in terms of jobs, training, cheaper electricity and a community benefit fund that provides ongoing support for local sporting, arts, environmental and other volunteer groups and for the disadvantaged,' the spokesman said.

[The Project is] a good social and intellectual development for the LGA. Goulburn has for far too long been immersed in mediocrity. With the wind farms in the adjoining LGAs, and some development in Goulburn, the level of mediocrity is changing. The solar farm will make the parents appreciate what the children in the LGA already know. – Community Resident

Will be important for Lightsource bp to show there is power for the locals, and also benefits for the local communities – Community Resident

Australia is far away from nuclear energy, so this is a good alternative until we are. – Community Resident

4.4.3.2 Waste Management and Decommissioning

In relation to waste management and decommissioning, concerns raised by stakeholders in both the scoping and SIA/EIS assessment, related to:

- waste generated when solar infrastructure requires repair or at the end of the Project life
- decommissioning and removal of solar infrastructure
- the capacity of local waste management infrastructure to support the Project.

Residents expressed concern regarding the short life cycle of the Project, indicating that they were concerned about proponent commitment to decommissioning and removal of infrastructure from the site when the Project is complete, is upgraded, or when equipment is damaged.

Where will they [solar panels] go if they break? Goulburn tip? Hailstorms happen here and would break panels. – Local resident / landholder

Are they going to leave all the equipment on the site for me to look at? – Local resident / landholder

The historical psychiatric hospital 'Kenmore Hospital' has gone through various owners. It is now owned by [a company] which doesn't look after it, they don't mow the grass or maintain the property. This will be the case for this project if a fund is not put aside with the department in order to rehab the site. – Community resident

The Project is proposed to have an operational life of at 40 years. Decommissioning of the Project will occur at the end of its useful life, or it may be extended, or repowered, with equipment being replaced. Despite this, it is a common misconception in Australia and overseas that the decommissioning of solar farms will become the responsibility of the landowner, rather than the solar farm owner (Centre for Energy Education, 2023). This fear reduces trust in the likelihood of successful decommissioning and waste management being undertaken.

Currently, about 80 million solar PV panels are installed in Australia, 90% of which are silicon solar panels. By 2030, these panels are projected to generate a cumulative waste volume exceeding 500,000 tonnes, which will increase to over 1.1 million tonnes by 2040 due to growing adoption of solar power in homes and solar farms (Energy Magazine, 2022).

To address this challenge, various mitigation measures have been implemented across different Australian states, including landfill bans for solar panels in Victoria, panel recycling, and serial number tracking to monitor panel life cycle(Energy Magazine, 2022). Recently, experts have emphasised the need for sophisticated technologies to extract valuable metals, the establishment of recycling centres, and the development of a product stewardship scheme for photovoltaics (The Guardian, 2024). The Australian Centre of Advanced Photovoltaics recommends creating large waste facilities in major cities to manage the anticipated 100,000 tonnes of photovoltaic waste annually by 2030, emphasizing the importance of innovative solutions for sustainable management of decommissioned solar panels (UNSW Sydney Newsroom, 2014).

As outlined in the EIS, a qualitative waste assessment was undertaken for the Project in accordance with the Solar Guideline. The assessment found that most of the waste would be generated during the construction and decommissioning stages of the Project, with minor quantities of waste to be generated in day-to-day operations. The EIS provides further detail on the likely waste streams generated during construction and operation and recommended measures to manage, reuse, recycle and dispose of waste in accordance with relevant guidelines.

During engagement, local residents noted that they would like Lightsource bp to make a public and formal commitment to recycle all panels and infrastructure waste at the time of decommissioning; and to demonstrate their commitment to provide an upfront bond, that would be held by government, akin to the rehabilitation bonds that apply to the mining sector:

In light of the emerging business models for development and operation in the large-scale renewables sector – which is characterised by significant offshore ownership, frequent bankruptcies and/or asset recycling – it is a scandal that state and federal governments do not insist as a condition of approval the costs of remediation of impacted land be paid upfront by developers into a government-managed fund that will guarantee remediation in the future. (The Australian, 2024).

The PV Module Recycling Contractor, engaged by Lightsource bp, will be required to recycle all damaged, defective, or underperforming PV modules by an approved module recycling vendor. In collaboration, Lightsource bp and the assigned contractor will determine storage, packaging, shipping, and other related costs associated with recycling of damaged, defective, or underperforming PV modules.

Table 4.20 outlines community identified and proposed strategies to manage concerns related to waste and decommissioning, and which enhance intergenerational equity and liveability benefits of the Project.

Table 4.20 Summary of Mitigation and Enhancement Strategies – Intergenerational Equity

Social Impact	Community Identified Strategies	Proposed Strategies
Intergenerational equity and improved liveability due to the Project's contribution to renewable energy generation	• Lightsource bp to provide the community with a comprehensive overview of the Project and how impacts are to be managed and enhanced. • Lightsource bp to identify and deliver other capacity building programs in the region, through partnerships with local schools, TAFE or universities.	• VPA and any other social investment initiatives under the AES could further fund development of renewable energy skills development in the Goulburn Mulwaree LGA. This could include sponsorship, training and education opportunities for local people wishing to work in the renewable energy sector, or students and young people.

Social Impact	Community Identified Strategies	Proposed Strategies
	• Community benefit fund initiatives to focus on investment in the areas of education and training, sporting groups, local charities, local agricultural and community farming initiatives and community battery programs. • Involvement in local renewable energy events and initiatives, such as local conferences, school outreach programs, sponsorship of local festivals and involvement in local presentations and skills and capacity building exchanges.	
Concern regarding ability to effectively rehabilitate land for agricultural use post solar farm use e.g. removal of all infrastructure.	• Company to commit an appropriate amount of money to the State Government to cover decommissioning costs, to ensure that through potential different ownerships of the Project, decommissioning will be funded appropriately. • Committed bond funds to increase, in a similar way that superannuation funds increase, so that the funding amount is suitable for the future. • Recycle/reuse the materials. • Contribute to research on recycle methods.	• Implementation of a Waste Management Plan (developed as part of the EIS). • Implementation of a Decommissioning and Rehabilitation Management Framework (DRMF). • CSEP to include communication and information regarding Lightsource bp's decommissioning commitments and plans with all stakeholders.

Source: (Umwelt, 2024).

4.4.4 Loss of Environmental Values

Through the engagement program, the importance and value of the environment in and surrounding the Project Area was highlighted by stakeholders consulted. Stakeholders raised concerns regarding impacts to natural environmental values, including soil and local biodiversity (flora and fauna) as a result of construction and operation of the Project. In this regard, proximal landholders/residents raised concerns that animals and birdlife could be injured or killed during construction of the Project or may relocate to a different area due to construction activities and its impacts e.g. noise, presence of workforce on the site. In addition, concerns were raised that the Project would result in a loss of trees from the Project Area.

> *What about the wombats in their holes, they burrow down when they are scared, which might mean bulldozers will destroy their homes and potentially kill them. – Proximal landholder / resident*

> *All the animals, like goannas, echidnas, eagles, and koalas, that use the site will go away and it will take over 30 years for them to come back. – Proximal landholder / resident*

> *It is hard to get trees to grow in this area, would be a shame to see these trees knocked down – Proximal landholder / resident*

The panels going from 5 m to 3 m tall is worse for Kangaroos, emus and sheep. – Proximal landholder / resident

However, a number of opportunities for the Project to improve environmental values within the Project Area were also noted, with a request for involvement of relevant environmental groups in these activities.

Management of the wetland area within the site. Landcare would like to be involved in planning and approval of rehabilitation of this area for flood mitigation and rehydration. – Community Group

Addressing environmental offsets within the impacted Gundary region, not the broader Goulburn Mulwaree region. – Proximal landholder / resident

Opportunity to enhance soil carbon sequestration and to offer locally grown produce to the residents of Goulburn through the development of an agrovoltaic project at the site. – Community Group

The Gundary floodplain has been allowed to degrade over generations from highly productive and fertile alluvial soils to low fertility/low soil carbon, low pH soils, so opportunity to improve. – Community Group

Lightsource bp has strategically located the Project infrastructure within already disturbed areas to avoid areas of high biodiversity value and reduce impacts to remnant vegetation and any species or communities listed under either the Commonwealth or the State legislation. Of note, the Project will avoid 27.89 ha of NSW listed threatened ecological communities and 37.96 ha of Commonwealth listed ecological communities by altering the solar array layout in the central and southern parts of the site, to avoid habitat for threatened species identified during targeted ecological surveys.

A detailed assessment of the biodiversity values and the likely biodiversity impacts of the Project in accordance with the *Biodiversity Assessment Method* (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR) prepared by Umwelt to support the EIS. This assessment identified that the Development Footprint for the Project contains 498 ha of previously disturbed areas, with approximately 14 ha of native vegetation comprised of native pasture, low condition primary grassland and paddock trees. Aquatic habitats within the Project Area are predominantly associated with Gundary Creek and Bullamalito Creek, including their unnamed ephemeral tributaries and farm dams across the Project Area. The creeks throughout the Project Area are degraded as a result of the historical and current agricultural practices and potential impacts to aquatic habit is expected to be limited.

Whilst the BDAR identified one threatened flora and one threatened fauna species within the Project Area, these species locations and habitat areas have been avoided in the Project layout and design. Following the application of appropriate avoidance and mitigation measures, the Biodiversity Assessment Method (BAM) assessment has identified that there are no biodiversity credits required to offset the biodiversity impacts of the Project.

Since the early design phase of the Project, the layout has been strategically designed to avoid areas of high biodiversity value and remnant vegetation and includes setback buffers around 2nd order and higher watercourses. Retention of remnant vegetation along the northern and southern boundaries of the Project Area, including a realignment of the security fencing, improves wildlife connectivity with areas of remnant vegetation located adjacent to the Project boundary.

With the above strategies, including creating wildlife corridors and connectivity, as noted in **Section 4.1.1,** other opportunities exist to improve biodiversity on the site through use of native grasses and groundcovers, further protecting creeks and riparian zones, developing habitat clusters and utilising appropriate species selection (Building Better Biodiversity on Solar Farms, May 2024).

In addition to Project design changes, the proposed and community identified measures to reduce impacts to important environmental values are outlined in **Table 4.21**.

Table 4.21 Summary of Mitigation and Enhancement Strategies – Environmental Values

Social Impact	Community Identified Strategies	Proposed Strategies
Loss of environmental values e.g. flora and fauna	• Construction management plan to include protocol which ensure an ecologist is on site at all times to monitor and manage any wildlife on site and ensure activities are undertaken in a safe manner. • Strategically designing the Project to avoid infrastructure located in high biodiversity constraint areas. • Development of a management plan to protect local wildlife. • Development of a land-based biodiversity offset plan to offset any impacts on biodiversity. • Avoiding remnant vegetation and newly planted trees. • Addressing environmental offsets within the impacted Gundary region, not the broader Goulburn Mulwaree region. • Ensure native wildlife flora and fauna are preserved and protected. • Test the soil periodically and monitor the levels of heavy metals in the ground. Communicate these results to neighbouring landholders. • Revitalise the floodplain by improving microbiology and fungi for soil health and habitat biodiversity for pollinators. • Conduct an Environmental Impact Assessment for Bungonia National Park.	• Implementation of a biodiversity management plan to further reduce and mitigate impacts on biodiversity. • Workforce education and training in environmental management plan for construction. • Ecologist pre-clearance surveys and supervision of works. • Erosion and sedimentation control measures. • Weed management. • Fencing, access control and fauna exclusion measures.

Source: (Umwelt, 2024).

4.5 Health and Wellbeing

Health and wellbeing impacts include impacts to both physical and mental health and may include psychological stress resulting from uncertainty, financial and/or other pressures, as well as anticipated changes to individual and public health.

During the engagement process, participants raised concerns about the Project's impact on their health and wellbeing, particularly their mental health, given stress and anxiety experienced since public notification of the Project. Key concerns related to uncertainty (n=55) and cumulative impacts as a result of multiple developments within the locality (n=38). In addition, concerns were raised regarding potential physical health impacts from potential water contamination (n=24) (noted in **Section 4.4.1.1**), potential exposure to electromagnetic fields (EMF) generated from solar panels and health impacts relating to perceptions around personal safety due to environmental risks such as bushfire and flood (refer back to **Section 4.4.1** for further discussion of safety impacts).

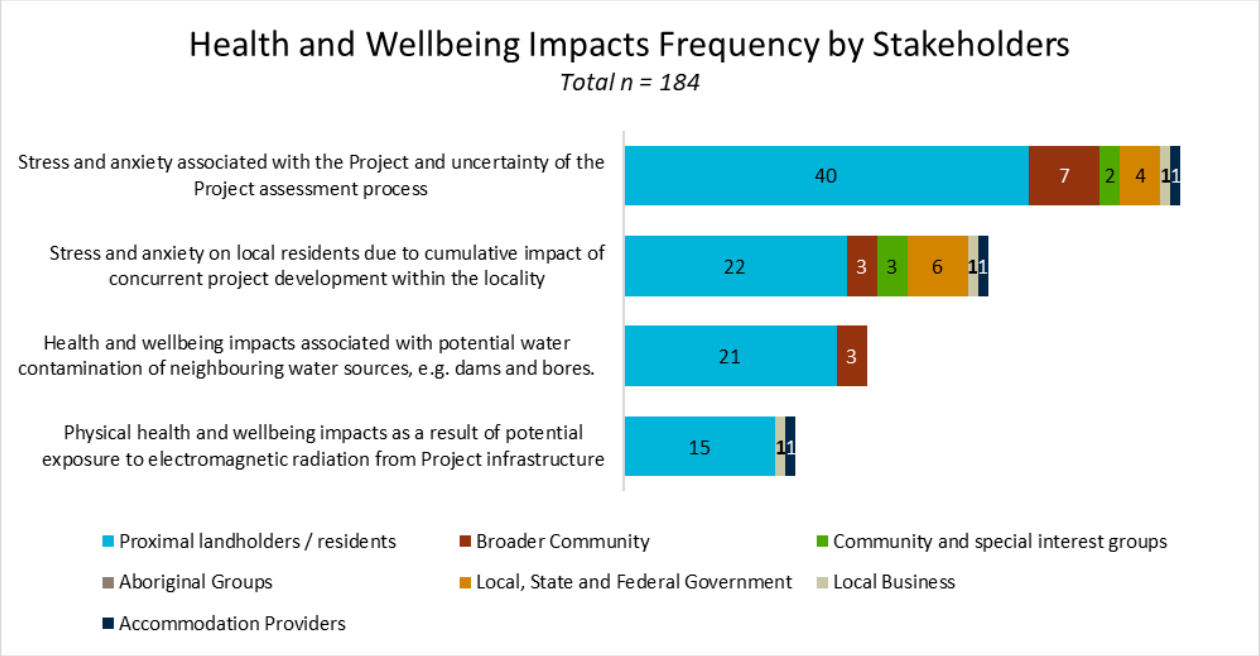

Figure 4.18 Health and Wellbeing Impacts – Frequency by Stakeholder Group

Source: (Umwelt, August 2022 to November 2023).

4.5.1 Mental Health and Wellbeing

In relation to mental health, there is an increasing focus on mental health impacts due to multiple project assessment programs across the state. Many landholders appear dissatisfied with engagement approaches and a lack of focus by proponents on building constructive and trusted relationships with key stakeholders likely to experience project impacts. A recent engagement review (Andrew Dyer, 2023) undertaken by Andrew Dyer (Commonwealth Energy Infrastructure Commissioner) has identified landholders' frustration with the time taken for renewable energy projects to progress through the planning process. Dyer explains that through his research, it is the uncertainty about whether a project would proceed (and if so, when), that has a negative impact on landholders, and project opponents' mental health (Andrew Dyer, 2023).

In relation to the Project, concerns raised included the uncertainty associated with the assessment process, construction, operation and decommissioning of the solar farm, with landholders/residents outlining that their lives had been put on hold as a result of the project. Other factors that were seen to contribute to greater levels of stress and anxiety, included a lack of readily available project information and project updates on the Project website.

With regard to the types of impacts experienced, some stakeholders noted that their sleep patterns had been disrupted given their levels of concern, with others noting that the levels of stress evoked had resulted in disruption to their personal relationships. One participant had withdrawn from involvement with the Project as they felt it was too overwhelming and stressful to deal with.

> *Mental health is not and has not been addressed. Stress and Anxiety are only minor compared to what some people are facing, and there has been NO help. Stress and anxiety lead to a multitude of health issues, both physical and mental. But some families are battling everyday with much greater problems. Several persons have serious health and mental health issues, from cancers, suicidal ideation, sleep deprivation which in turn causes ongoing health issues along with stress and anxiety and you're not doing anything, and don't seem to have a clue what to do. Is it going to take one or more families to be minus a member before anything is done? It would be catastrophic if this were to happen, and it is possible. – Proximal landowner / resident*
>
> *The unknown within the planning process is causing a lot of stress. – Proximal landowner / resident*
>
> *I would also like to acknowledge the enormous amount of stress the proposed solar farm has created for my family. – Proximal landholder / resident*
>
> *I feel like my life is on hold, there is no resolution and no decision made after years of finding out about this Project. – Proximal landholder / resident*
>
> *(Concern for) …strain on relationships, and mental health that is impacted by the stress (in relation to the project) – Broader community.*

Stress and uncertainty can affect quality of life, and for individuals with an existing vulnerability to mental health issues, are added stressors. Regular sleep disturbance is also known to affect health outcomes. Research confirms that the impacts of major projects on those that oppose development can result in increased stress levels, a sense or feeling of things being out of one's control and distress induced by change (Albrecht 2007).

Psychosocial disruption may have a wide array of impacts that can affect individual wellbeing (e.g., psychological distress, fear, grief, and mental and physical health), project acceptance (e.g., attitudes, potential for division, trust), capacity to adapt to change (e.g., coping mechanisms) and community wellbeing (e.g., family relations and community support networks) (Grupe DW, 2013). Psycho-social impacts, as noted, can have real and negative consequences for individuals and local populations, as has been frequently noted in media articles associated with the renewable energy transition more broadly across the country.

While engagement on the Project has been extensive, including on-going information sharing, personal and neighbour meetings, online and telephone surveys, community drop-in sessions, technical expert visits, and telephone calls, emails, letters, in an attempt to reduce uncertainties in relation to the Project and to share information with potentially impacted landholders and broader community stakeholders; the assessment process, with its defined phases, is not quick and thus communities are often exposed to assessment and decision making processes that are lengthy and protracted, often extending over many years.

Engagement that provides genuine opportunity for feedback, acknowledges impacts raised by community members and provides timely updates on how feedback has been incorporated in Project planning and decision making can assist in reducing uncertainty and subsequent stress and anxiety associated with project development processes. The rate and scale of the energy transition, required to meet targets set by the NSW and Commonwealth governments, however, provides a further layer of urgency that does little to reduce uncertainty, fear and anxiety as community members in certain areas manage multiple project developments within their home localities and regions.

Proposed and community identified mitigation strategies to reduced pressures on social services are outlined in **Table 4.22**.

Table 4.22 Summary of Mitigation and Enhancement Strategies – Health and Wellbeing

Social Impact	Community Identified Strategies	Proposed Strategies
Stress and anxiety due to cumulative impact of concurrent project development within the locality.	• Provision of information to provide a more comprehensive understanding of the project and impacts likely to be experienced by local residents. • Provide greater detail on timelines for development and clarity around next steps in the government's decision-making process. • Ensure engagement opportunities are advertised through multiple channels and with sufficient time for community members to be able to be involved and participate meaningfully.	• Lightsource bp to collaborate with other local developers to minimise where possible cumulative social impacts associated with renewable energy development in the area. • Lightsource bp to continue to engage with local landowners and residents regarding Project implementation and information provision. • Share and connect people to local services to support mental health.
Stress and anxiety associated with the Project and uncertainty of the Project assessment process		

Source: (Umwelt, 2024).

4.5.2 Physical Health and Wellbeing

Physical health and wellbeing impacts associated with the Project were largely raised by proximal landholders/residents and related to:

- potential exposure to electromagnetic fields from solar farm infrastructure e.g. panels, batteries, substation
- respiratory health impacts due to dust generated during construction and hazardous fumes, should a bushfire break out on the site
- potential water contamination from solar panel water run-off affecting local water sources e.g. watercourses, dams and impacting water use of livestock and households.

Some proximal landholders indicated their concern with the potential effects of electromagnetic field (EMF) exposure from solar farm infrastructure. This was of particular concern for those landholders/residents located in proximity to the solar farm and who had existing health issues.

Others consulted raised concerns regarding the potential for Project infrastructure to become damaged, by hail, lightning or fire, resulting in the generation of hazardous fume or contamination that may impact environmental ecosystems (air, water) and as a result indirectly impact their personal health and wellbeing.

Hazardous gasses released during fire – Proximal landholder/ resident

May impact water runoff to the Sydney Catchment – Proximal landholder / resident

Power lines, electrical wiring, and electrical equipment all produce electromagnetic fields (EMFs) (National Institute of Environmental Health Sciences, 2022). EMFs consist of waves of electric and magnetic energy moving together through space. An example of electromagnetic radiation is visible light. Electromagnetic fields associated with electricity are a type of low frequency, non-ionizing radiation, and they can be generated from both natural and man-made sources (US Environmnetal Protection Agency, 2022).

Most of the infrastructure at solar generating facilities, including the solar panels and cabling, produce direct current (DC) electricity, which does not produce an EMF. In a solar farm, the type of equipment that produces EMFs includes inverters, transformers, AC cabling and the substation; with rates well below Australian and International standards. EMF is considered in the safety design process for any BESS site. The BESS for the Project will be designed in accordance with electrical safety standards and codes, the general public would be excluded from any exposures from these sources. Further, EMFs drop off extremely rapidly with distance from the source. For substations and transformers, the magnetic fields at distances of 5–10 m away are generally indistinguishable from typical background levels in the home (Australian Radiation Protection and Nuclear Safety Agency, 2022).

There are current sources of EMF on the Project Area. These are:

- existing 330 kV transmission line traversing the north west corner of the Project Area
- house-hold items (such as televisions, microwave ovens, computers, Wi-Fi)
- existing electrical wiring in residences.

In Australia, electrical devices and infrastructure such as transmission lines and substations, operate at a frequency of 50 Hz which falls within the Extremely Low Frequency (ELF) range of EMF between 0 Hz and 300 Hz.

A qualitative assessment of the risks associated with potential EMF from solar infrastructure and the proposed grid connection has been undertaken as part of the EIS, and suitable safeguards and mitigation measures have been proposed to reduce any potential risks. The electrical equipment for the Project will adhere to international and Australian standards to regulate EMF generation and exposure.

The Project layout has been designed with the proximity of nearby receivers in mind to reduce the risk for EMF exposure. The closest sensitive receiver is approximately 137 m to the north of the Project Area, and about 272 m away from the nearest Project infrastructure (i.e. solar panels).

As a result of the low EMF levels associated with the solar arrays, temporary nature of the construction and decommissioning phases and the separation distances between EMF sources and receivers, exposure levels will be below the recommendations for general public and occupational exposure. It is therefore concluded that there will be low to negligible potential for EMF impacts upon human health throughout the construction and decommissioning of the Project.

With the implementation of management measures outlined below, it is considered that the EMF risk of the Project can be appropriately managed during the construction and decommissioning.

Proposed and community identified mitigation strategies to reduced physical health and wellbeing impacts are outline in **Table 4.23.**

Table 4.23 Summary of Mitigation and Enhancement Strategies – Physical Health

Social Impact	Community Identified Strategies	Proposed Strategies

Physical health and wellbeing impacts as a result of potential exposure to electromagnetic radiation from Project infrastructure	• Provision of information regarding:
	  ○ likely generation of EMFs by different solar farm infrastructure
	  ○ how predicted rates compare to national and international standards
	  ○ mitigation strategies utilised to reduce electromagnetic radiation.
		• All project infrastructure will be designed in accordance with relevant industry standards.
		• All relevant procedures in relation to a high voltage installation will be adhered to throughout the life of the Project.
		• Public access will be restricted throughout the life of the Project.

Health and wellbeing impacts associated with potential water contamination of neighbouring water sources, e.g. dams and bores.	• Regular maintenance of infrastructure. • Regular testing on soils on the Project site and for neighbouring properties.	• Construction Soil and Water Management Plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. • Operational Environmental Management Plan (OEMP) will be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase. • Operation maintenance on Project infrastructure.

Source: (Umwelt, 2024).

4.6 Cultural Values and Impacts

Impacts or changes to culture include effects on people's shared beliefs, customs, values, language, and dialect, as well as their local culture, heritage, and ability to access cultural resources.

In relation to Aboriginal cultural values and sites of importance, Aboriginal stakeholders noted concerns that the Project Area may contain specific values and artefacts of importance to the community.

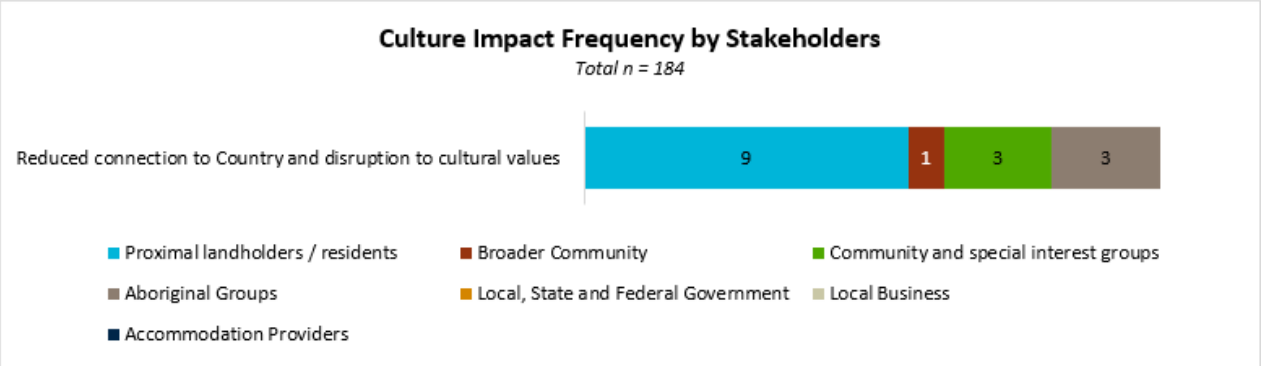

Figure 4.19 Culture Impact – Frequency by Stakeholder Group

Source: (Umwelt, 2022 to 2024).

The Social Locality is an area with contested traditional ownership including lands of the Wiradjuri Nation, the Gandangara and the Ngunawal peoples, however the Project Area falls within the Pejar LALC area. An Aboriginal Cultural Heritage Assessment (ACHA) has been undertaken for the Project's EIS in consultation with Registered Aboriginal Parties (RAPs) to investigate the presence of Aboriginal objects within the Project Area. The ACHA identified that Goulburn is understood to be a boundary and meeting place between two different, but linguistically closely related, language groups: Ngunnawal and Gandangara. Ngunnawal connections to Gundary can be linked to the present-day RAPs that were involved in fieldwork undertaken as part of the ACHA.

The earliest archaeological evidence of occupation in the Goulburn region is the Birrigai rock shelter in the northern foothills of the Australian Alps, approximately 80 km south-east of the Project Area. Radiocarbon dates obtained from charcoal deposits at the site have established that Aboriginal people have lived in the region for at least 21,000 years (Flood, 1996).

As mentioned in **Appendix B**, the plains and Wollondilly River provided native game and fish for a number of the traditional Aboriginal peoples including: Mulwaree, Tarlo, Burra Burra, Wollondilly, Wiradjuri, Gundungurra, Dharrook, Tharawal, Lachlan, Pajong, Parramarragoo, Cookmal and Gnunawal. The Goulburn region was known as a meeting place for all these groups, it wasn't inhabited by just one group of people (Aboriginal Housing Office, NSW Governemnt, 2024).

Archaeological investigations have included a survey and a test excavation program of the Project Area, both undertaken in consultation with RAPs. As a result of the test excavation, the final number of Aboriginal sites across the Project Area totals nineteen (19) with sites comprising surface or subsurface stone artefacts. The ACHA has determined that the majority of the sites recorded during the survey have a low scientific significance as they are either isolated finds, in disturbed contexts, or not particularly rare (in terms of type and cultural material). Two sites (GSF-UMW-6 and GSF-UMW-9) to be impacted by the Project are relatively uncommon and have been assessed as having moderate significance. Overall, the Project will avoid impacts to three sites with the remaining 16 sites being partially or totally impacted. The three sites that will be avoided include GSF-UMW-3 (four silcrete and two quartz artefacts found in an exposure), GSF-UMW-4 (one black chert artefact flake located on an erosion scar) and GSF-UMW-5 (three quartz artefacts, three silcrete artefact and two chert artefacts located along highly eroded creek bank).

Consultation with RAPs as part of the ACHA indicated that further archaeological excavation (post-development consent, should the Project be approved) be undertaken to mitigate impacts of the Project. The RAPs identified that, should this occur, they would be supportive of the Project proceeding (in terms of Aboriginal cultural heritage). The ACHA notes that salvage excavation of the two moderately significant sites would mitigate impacts caused by the Project, by gathering a representative sample of local archaeological record for analysis and interpretation and would benefit the local Aboriginal community with opportunities to use the sample as a cultural values educational tool.

Some proximal landholders indicated concerns that the Project could impact historic heritage values in the area, with one proximal property referenced by landholders/residents as holding historic significance, despite not being registered as of local or State heritage value. The concerns raised relate to the fact that the Project will be able to be seen from the residence, thus impacting on its historical value.

The Historical Heritage Assessment (HHA) found that no historical heritage items within the Project Area are listed on the statutory heritage register, with the closest listed heritage site being the Pelican Homestead, approximately 4 km west of the Project Area. The HHA found that the Project is unlikely to impact the visual significance of any heritage listed items in the vicinity of the Project Area.

Proposed and community identified mitigation strategies to reduce impacts to cultural heritage are outlined in **Table 4.24.**

Table 4.24 Summary of Mitigation and Enhancement Strategies – Cultural and Historic Heritage

Social Impact	Community and SIA Identified Strategies	Proposed Strategies
Reduced connection to Country and potential disruption to Aboriginal cultural values	• Ongoing engagement with the Aboriginal community through construction and operations. • Involvement of Registered Aboriginal Parties in Project development, assessment and design. • Development of training and skills development programs for Aboriginal groups and individuals. • Provide opportunities for employment of First Nations peoples in the construction phase of the Project.	• Development of an Aboriginal Cultural Heritage Management Plan) in consultation with the RAPs and DPHI (with input from Heritage NSW). The ACHMP will include an unanticipated finds protocol, unanticipated skeletal remains protocol, protocols related to heritage inductions for work crews, and long-term management of any Aboriginal sites being impacted. • Aboriginal sites GSF-UMW-3, GSF-UMW-4 and GSF-UMW-5 to be fenced off prior to construction commencing.

Social Impact	Community and SIA Identified Strategies	Proposed Strategies
		• Staged salvage excavation to occur prior to the construction of the Project for GSF-UMW-6 and GSF-UMW-9. • All sites with surface stone artefacts within the Development Footprint to be collected from the ground surface (including sites that will be subject to salvage excavation) by qualified archaeologists and RAP representatives. • Lightsource bp to continue preventative management measures for historic heritage as outlined in Section 6.5 of the EIS.

Source: (Umwelt, 2024).

4.7 Decision Making Systems

Impacts relating to decision-making systems refer to whether stakeholders are able to provide input to the planning and assessment process and have the opportunity to proactively inform project design. This refers to whether those engaged experience procedural fairness, are provided with information to facilitate meaningful input, are able to influence outcomes and decisions in relation to the Project, as well as being clear as to how they can access complaint, remedy, and grievance mechanisms.

In relation to this social impact category, identified several concerns relating to engagement and decision-making, specifically **a perceived lack of trust in the Project assessment and planning process** and issues relating to the extent/degree of **community participation and information provision** relating to the Project.

As outlined in **Figure 4.20**, stakeholders consulted, particularly proximal landholders/residents, expressed that there were heightened levels of community outrage at a local community level in Gundary due to a perceived lack of ability to inform the state government's project planning and decision making process (n=61). There was also a perception, that given the scale and rate of change required as part of the energy transition that projects would just be approved, irrespective of the impacts experienced at a local level.

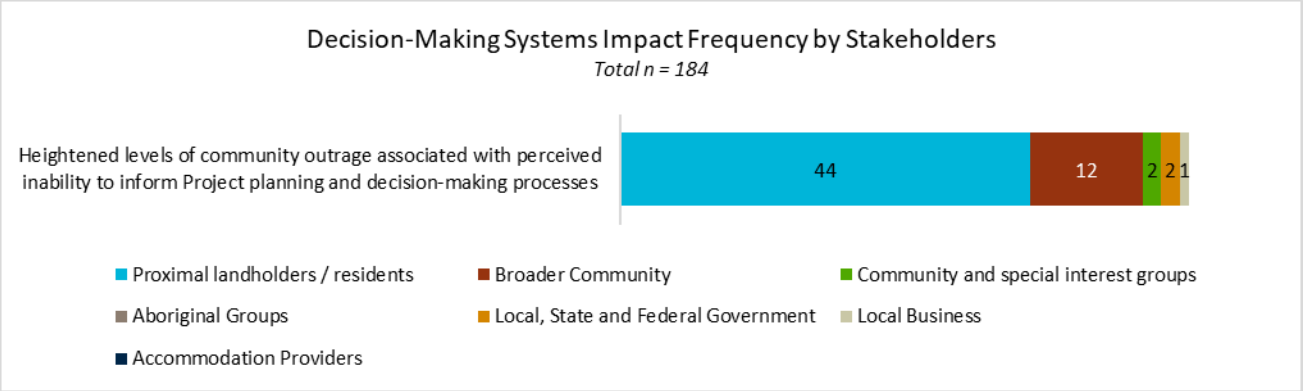

Figure 4.20 Decision-Making Systems Impact – Frequency by Stakeholder Group

Source: (Umwelt, 2022 to 2024).

4.7.1 Information Provision, Engagement and Community Agency

Effective community engagement and SIA can improve Project design, resulting in improved community/social and environmental outcomes and the potential, if undertaken appropriately and respectfully. Such engagement practice is based on the premise that people have a right to be involved and have a voice in decisions that may directly affect them; and can result in the incorporation of important local knowledge and the development of improved strategies to address negative and enhance positive impacts. The 4th Annual State of Infrastructure and Engagement Report (2020-2021) indicates that the stakeholder and community concerns and pressure is the second most impactful factors on project delays. Similarly, this report highlights the importance of high-quality community engagement for project delivery (Bice, Sanchez, & O'Connell).

Lightsource bp undertook extensive community engagement, and information sharing since early Project planning phases, as outlined in **Section 2.3**. These include, but are not limited to hundreds of emails, phone calls and meetings with proximal landholders / residents, broader community members, local community groups, and special interest groups and local businesses and service providers.

In response to community feedback received during engagement with key stakeholders, and the outcomes of technical assessments undertaken to address key environmental and social matters, Lightsource bp has listened to feedback and has adopted a range of Project design changes and strategies to reduce and mitigate impacts where possible. For example, measures such as the implementation of Neighbour Benefit Sharing Scheme, community benefit sharing fund structure, landscape and visual screening strategies and commitments to collaborate with key local stakeholders in relation to management strategy development have been informed by engagement with impacted stakeholders.

During engagement, however, there was evidence to suggest that many stakeholders felt disempowered in the engagement process and felt that their voices had not been adequately heard or their ideas incorporated.

> *Actually listen to the residents rather than forcing something upon them, we feel helpless. Actually engage and implement our ideas. – Proximal landowner / resident*

Stakeholders raised concerns about the legitimacy and impartiality of engagement and impact assessment processes, given that technical assessments are commissioned by proponents. These feelings of disempowerment and distrust can fuel disengagement, increase anxiety and generate greater levels of community outrage.

There were also views expressed relating to a lack of direct engagement with Lightsource bp, with stakeholders disappointed that more regular meetings and conversations with the company had not been realised.

> *Reach more people via door knocking, stalls at markets and community events – Community group / organisation*

> *Lightsource bp need to be engaging more, doesn't feel like there have been enough meetings – Proximal landowner / resident*

Other near neighbours noted that Lighsource bp could have been more transparent and open in their engagement approach.

Lightsource bp need to be more fair dinkum about being a business and building the project because it will make them money. They need to stop pushing how they are doing the project for the greater good, they need to just be honest about the commercial intentions. – Proximal resident / landholder

Local community organisations, local residents and landholders have expressed their concern for Lightsource bp having a lack of empathy when engaging with the community, especially those members of the community who will potentially be negatively impacted. They needed to be more human. – Proximal resident / landholder

Initial conversations between Lightsource bp and neighbours have left a sour taste in the mouth. No empathy from Lightsource bp. – Community group / organisation

Some stakeholders were satisfied with the level of engagement and information shared by the company, with some expressing disappointment that given the level of conflict within the community, there hadn't been greater opportunity for positive, and less adversarial, opportunities to engage on the Project.

Good amount of information – Broader community member

Provide more positive press and opportunities to engage – Community Resident

Given the level of community concern, particularly amongst proximal landholders/residents to the Project, some community residents have formed an action group specifically to oppose the Project – The Save Gundary Plains Action Group.

The action group has developed its own website and Facebook page (currently with 406 followers, as of May 2024) and has held a number of group campaigns about the Project at Community information sessions organised by Lightsource bp (November 2022 and March 2024) and at the monthly Goulburn Rotary Market. Group members also participated in the large rally held by farmers and members of regional communities who gathered in Canberra to protest against renewable project developments (CNBS News, 2024).

Save Gundary Action Group members including Stan Moore have had a regular stall at the Rotary markets each month. Picture by Louise Thrower.

Figure 4.21 Save Gundary Action Group Pictured at Local Market in Local Newspaper

Source: (Goulburn Post, 2024).

A number of Councillors (8) from the Goulburn Mulwaree Council have also publicly noted their opposition to the Project, outlining that it would result in:

- A loss of agricultural land, with a lack of evidence to support (proposed) agrovoltaics.
- A 'lack of proven data on its contribution to the energy grid.'
- 'Excessive impact on nearby residents' and their physical and psychological wellbeing.'
- Impacts on biodiversity.
- 'Increased risk of bushfire due to access limitations and the presence of battery installations.'
- 'The potential impediment to the council's delivery of its Urban and Fringe Housing Strategy.' (Goulburn Post, 2024).

In contrast, support for the Project has been voiced by 'The Goulburn Group' (TGG), who have highlighted the benefits and opportunities that the Project may bring – [the Project provides] '*unprecedented opportunities for our region in terms of jobs, contracts, improved infrastructure, including roads, and many other benefits for the local community*' (Goulburn Post, 2024; Goulburn Post, 2024)

The group is said to have urged the council to negotiate community benefits rather than oppose the project, with the president of TGG indicating that Lightsource bp should 'substantially improve' their proposed community benefit program (Goulburn Post, 2024).

4.7.2 Lack of Trust in the Planning and Assessment Process

A lack of trust in the planning process was also raised, particularly by those landholders/residents residing in proximity to the proposed Project Area. Stakeholders expressed that they felt that they had little or no power in the decision-making process, and that the Project would be approved regardless of the impacts due to the need to meet government '*Net Zero'* commitments.

> *The (Australian) Government is corrupt, and this is just another initiative they are pushing – Proximal landholder / resident*

> *The way information is being shared by Lightsource bp is unethical, they should have asked all the neighbours before spending so much money on the studies being done. Just like when the council is thinking of building something new, they ask all the residents. This process didn't happen with this process, they just told us 'We are doing this project and putting it here' rather than asking. – Proximal landholder / resident*

> *We don't have enough money like Lightsource bp has to pay for experts to do assessments to prove us right… I feel bullied out of my home by corporates – Proximal landholder / resident*

In relation to the assessment process specifically, some stakeholders outlined that they did not believe that the assessment being completed was independent or accurate. For example, during the March 2024 Community Information Sessions, residents/landholders expressed a lack of trust in the information shared at the session, in particular the visual impact montages and rankings, and the soil classification outcomes.

In relation to the LVIA, some proximal residents questioned the methodology employed in the government's visual assessment guideline, suggesting that the guideline does not take into consideration that the value of a view is relative, referencing the quote '*beauty is in the eye of the beholder*'. Some residents also felt that the visual montages produced did not accurately represent the views of the Project that they would experience.

> *All the information is fake, deceitful and is heavily manipulated – Proximal resident / landholder in March 2024.*

> *They [the photomontages] are stitched and cropped. They are inaccurate and dishonest – Proximal resident / landholder in March 2024.*

> *It is a misrepresentation and is a fraud – Proximal resident / landholder in March 2024.*

The LVIA undertaken for the Project was prepared in accordance with the Solar Guidelines and the Technical Supplement – Landscape and Visual Impact Assessment (the Technical Supplement) (DPE, 2022).

Ongoing, inclusive and transparent consultation will be required to support greater trust in the Project, proponent and assessment process. It will be important that interested community members and neighbouring property owners have timely access to detailed information about the Project and its progress and are involved in ongoing engagement about the Project's potential impacts and mitigations.

The Clean Energy Council's Guide to Benefit Sharing Options for Renewable Energy Projects note that 'benefit sharing can be an important contributing factor to building a positive local reputation that is built on trust and goodwill' (Clean Energy Council, 2019).

As previously mentioned, Lighsoruce bp have committed to a Neighbour Benefits Sharing Program. In addition, outlined in **Section 2.3**, Lightsource bp engaged with the community, including proximal landholders and residents, throughout both the Scoping and EIS phases of the Project, including the sharing of information about the Project, planning process and timelines.

4.7.3 Site Selection and Project Viability

The majority of landholders/residents living in proximity to the Project area outlined that they did not think that the location of the Project was appropriate, due to the number of residents that resided in proximity.

While a number of community members were generally supportive of solar farm development in the Goulburn Mulwaree LGA and the Southern Tablelands Region more broadly, they questioned the appropriateness of the Gundary Solar Farm and the supply of solar energy, suggesting that other areas may have a greater supply of solar energy.

> *The location is completely wrong, there are too many people who live around the site. Build it somewhere else – Proximal landholder / resident*
>
> *Inappropriate location - too many properties surrounding it. – Proximal landholder / resident*
>
> *Build somewhere else where there are no neighbours. – Proximal landholder / resident*
>
> *Gundary Plains is not an appropriate site for a solar farm. – Proximal landowner / resident*
>
> *We just don't want them near us – Proximal resident / landholder*

Further to the above sentiment, some stakeholders also felt that the Project was unviable and just involved 'greenwashing' and 'carbon offsetting' by bp.

> *This project is just a carbon offset for bp. They know the Project isn't going to be viable, but they don't care. It's a marketing gig for them – Proximal resident / landholder.*
>
> *I don't believe this Project is viable at all, it will just be a big waste of land. We are the ones who will have to look at all the waste when the Project falls over and the owners run out of money. – Proximal resident / landholder*
>
> *Not a viable project, not enough solar energy in the area - our (house) solar panels don't provide enough electricity through winter. – Proximal resident / landholder*
>
> *The project isn't viable and won't go ahead anyway. There are too many barriers. Project might not be viable, lack of solar in the area – Proximal resident / landholder*
>
> *I prefer coal mines, as they get the job done in terms of providing efficient' electricity. – Broader community resident*

A further proximal landholder expressed concerns in regard to ownership of the Project in a media article submitted to The Australian, in February 2024.

'Before Christmas, Lightsource BP announced that it had sold 1.04GW of Australian solar – five solar projects that comprise the -entirety of its solar portfolio – to China-based Beijing Energy International Australia as part of its 'normal' recycling of assets. It is clear that BP has no interest in owning or running large-scale electricity generators.'

Who knows which and what kind of entity will own and operate the Gundary solar installation in 2060? Some of us will be long gone – but on current form, BP will be gone possibly even before the construction finishes. Our bet is that ownership of Gundary and similar projects will change over time and by design end up in the hands of entities that have no incentive to put aside the tens – sometimes hundreds – of millions of dollars it will cost to remediate impacted Australian land. We think it's just as likely as not that without taxpayer funding in 2060, the 1.6 million 5 m-high solar panels slated by developers across a total of 15 km sq on the Gundary Plain will be left rotting in paddocks. (And let's not start on the fact it is more economic for solar panels to be disposed of in landfill than be -recycled.) (The Australian, 2024)

This reflects the view of other near neighbours who have identified that they do not trust that Lightsource bp will retain ownership of the Project in the long term; with members of the broader Goulburn community also questioning the longevity of project ownership and subsequent uncertainties.

> *If the project was sold this will completely forfeit any social licence – Community resident*
>
> *Are Lightsource bp generators, or developers, they have sold 5 projects so they might be considered just developers now. – Proximal resident / landholder*
>
> *Lightsource bp sold other projects, why wouldn't they sell this one. Do not trust that Lightsource bp will be an owner operator - it will go through 3–4 owners. – Proximal resident / landholder*

In the broader random telephone survey (n=200) (refer to **Figure 4.24** and **Section 4.9** for further detail), respondents were also asked to indicate their level of trust in the planning process and in Lightsource bp. Across the broader Goulburn community, respondents were divided with 27% agreeing to some degree with the statement *'Lightsource bp had been honest in its dealings with the community*' and 22% disagreeing with the statement. A high proportion of respondents were neutral on this issue (53%). Thirty-six percent felt that Lightsource bp were not really listening to the concerns of the community, compared to 29% who felt that the company was listening, once again a high proportion of respondents were neutral on this item.

Trust on the government's planning and decision-making process was also mixed, with around half of the sample (52%) indicating a lack of trust in the government's planning and decision-making process, with around 29% having trust in the process. Similarly, 38% did not trust Lightsource bp to consider environmental and social issues in the planning process, with the same proportion (39%) indicating trust in the company to address these issues.

However, in the broader sample, not surprisingly, there was greater agreement that the project was important in delivering renewable energy in NSW (61%) and that the benefits of the development of the Gundary solar farm project outweighed the disadvantages (57%). Proposed and community identified mitigation strategies to improve engagement and decision making should the Project be approved, are outlined in **Table 4.25**.

Table 4.25 Summary of Mitigation and Enhancement Strategies – Engagement and Decision Making

Social Impact	Community and SIA Identified Strategies	Proposed Strategies
Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes.	• Ongoing provision of information in relation to the project and opportunities to engage with the company through construction and operational phases should the project be approved. • Providing updates to the broader community about the progress of Project development in construction and operational phases. • Outlining how impacts of project development are being managed and positive impacts enhanced. • Develop a community hotline. • Offer site tours to enable key stakeholders to observe project progress. • Provide greater awareness and understanding of the project for local residents and key stakeholder groups. • Better use of local media. • Participation at local events. • Project Area tours. • Having a science competition for youth up to 18 years of age, to develop an improved solar use for the same area. What other innovation would the youth of today use at the solar farm, to benefit the power output, but also help the social welfare fabric of the LGA.	• The CSEP will be revised to address pre-construction, construction and operational phases of Project, which would include information relating to the construction period, operational phase, the company, and decommissioning. • Lightsource bp have a contact phone number, which will continue to operate throughout the construction and operational phases. If necessary, appropriate contractor/s may have additional complaints and grievance mechanisms in place.

Source: (Umwelt, 2024).

4.8 Cumulative Impact

Cumulative impacts of the Project may relate to a range of social impacts. **Figure 3.5** illustrates other project developments occurring in the area.

Table 4.26 outlines the responses of key stakeholders when asked to indicate in the online survey the potential cumulative impacts of renewable energy development in the social locality. The most common cumulative impacts noted included visual impacts (n=10, 22%), a decrease in property /land value (n=8, 18%), changes to way of life / lifestyle in the area (n=7, 16%) and a lack of project benefit locally (n=6, 13%).

Table 4.26 Perceived Cumulative Impacts associated with the Project

Do you have any concerns about the cumulative impact of having multiple renewable energy projects being developed nearby? If so, what are the cumulative social impacts that you are most concerned about based on your knowledge of these developments?		
Cumulative Impacts	**%**	**n**
Visual impacts	22%	10
Decrease in property investment / land value	18%	8
Change to way of life / lifestyle	16%	7
Preservation of agricultural land – food security	9%	4
Impact to native flora and fauna	9%	4
Large scale of the Project	7%	3
Lack of jobs for locals	7%	3
Mental health impacts on near neighbours	4%	2
Long term viability of renewable projects	4%	2
Temperature rise in the locality	2%	1
Constraints to local population growth	2%	1
Noise impacts	2%	1
Other responses to the question		
Benefits from projects not felt locally	13%	6
No concerns	9%	4
Opposed to the development	7%	3
Unspecified concerns	4%	2
Asset to Goulburn	2%	1
Unsuitability of zoned areas	2%	1
Opposed to solar farms near Goulburn	2%	1

Total sample; Unweighted; base n = 45; total n = 85; 40 missing.
Source: Umwelt, 2022.

Engagement with key stakeholders revealed some concern regarding cumulative renewable energy development in the region.

> *I won't see the other solar farm from my house but I will see it when I drive into town. We are surrounded! – Proximal resident / landholder.*

Goulburn is saturated with renewable energy projects; wind farms and solar farms, the waste to energy incinerator to burn Sydney's rubbish, and the TransGrid Hume Link project – one of New South Wales's largest infrastructure venture – which will connect these renewable energy projects. – Broader community
The land is zoned for rural uses and this development will trigger more development in these sensitive locations potentially opening this area up to more projects like this. – Community group / organisation
As outlined in **Section 4.1.4,** renewable energy development is permissible under the land zoning for the Project area, with the Project Area in a location identified by local, regional and state policy documents as a priority area for renewable energy development.

As detailed in the AES (**Appendix G**), there is potential for the Project's construction activities to overlap with nine other renewable energy developments in the region, which could result in cumulative impacts to local communities. It is noted that the overlap of construction timings with the Project is likely to lessen as the construction period progresses. The cumulative social impacts of these projects combined may include:

- Significant competition for short-term and rental accommodation, current short-term accommodation and rental constraints in the region would be further exacerbated by nine possible concurrent renewable energy project construction phases.
- Increased competition for local labour, resulting in labour being sourced from outside of the region and likely interstate or overseas. The AES acknowledges the current and future challenges faced in the region regarding workforce procurement due to cumulative demand for labour form large infrastructure projects.
- Additional construction traffic along major transport routes and local roads that will be shared by construction traffic. As part of the Traffic Impact Assessment a Traffic Management Plan will be developed which accounts for the potential cumulative traffic impacts and suitable mitigation measures.
- Demands to other services in key townships e.g. health, food services/ facilities and education facilities. With several possible concurrent construction phases for just renewable energy projects in the region there may be a strain on current services to meet the demands of large population influxes causing significant strain on the availability of services for those communities. This can also enhance economic outcomes for local businesses due to the increased commercial activity, spending and revenue generation from workforces accessing and utilising these businesses or services within the townships.
- A change in sense of place due to the changes in land use, including the loss of agricultural land, changes in visual amenity and landscape character, especially for those who live within the vicinity of the Gundary Solar Project and the Merino Solar Project, as outlined in **Section 4.1.1**.
- Changes to the local population, and community composition, due to the temporal incoming workforces and changes to workforces in the region, as described in **Section 4.1.3**.

In addition, a Cumulative Impact Assessment has been undertaken during the EIS phase in accordance C*umulative Impact Assessment (CIA) Guidelines for State Significant Projects* (DPIE, 2021).

The cumulative impact assessment focussed on identified projects (refer to Section 6.17.3 of the EIS) and the relevant cumulative impacts, including the potential biodiversity, agriculture, visual, glint and glare, noise and vibration, transport, hazards and risks, and social and economic cumulative impacts. Other cumulative impacts from other perspectives include:

- Biodiversity: including the loss of habitat connectivity, removal of hollow-containing trees and clearing of vegetation used for shelter or food resources.
- Agriculture: loss of agricultural land, reduced local and secondary productivity and loss of agricultural support services.
- Visual: low potential of visual impacts for private and potential future receiver viewpoints, and travellers using both Painters Lane and Windellama Road.

- Noise and Vibration: Cumulative impacts are likely minimal with one project (Merino Solar Farm-located within 1 km), with construction noise for proximal neighbours near Windellama Road. A collaborative approach to managing potential construction noise impacts may be necessary at times to minimise potential noise impacts at the sensitive receivers nearest to both projects.

- Transport: There is potential for both the Project and Merino Solar Farm to create cumulative traffic impacts during peak periods at the Sloane Street/Braidwood Road intersection in the situation if all construction traffic for both projects were to use the Option 1 transportation route. If the Gundary and Merino solar farm projects undertake peak construction simultaneously, the Option 2 route will be the preferred route for the Project, which will reduce potential congestion at the Sloane Street/Braidwood Road intersection.

- During community consultation undertaken, strategies raised to potentially mitigate and manage cumulative impacts of the multiple nearby projects included the continuation of communication with the community regarding Project timing and plans as construction nears, and the suggestion that proponents coordinate and collaborate with each other to mitigate the potential cumulative impacts.

Section 7.0 of the EIS outlines the Environmental Management Framework which will be implemented to minimise the cumulative impacts of the Project. These measures are considered adequate to address both the individual Project impacts and any cumulative impacts.

4.9 Broader Community Perspectives

As outlined in **Section 2.3.2**, the random telephone survey was undertaken to obtain the views/perspectives of residents residing within the broader Goulburn Mulwaree LGA, reaching a sample of 200 respondents (refer to **Appendix D** to view the survey instrument) The telephone survey questions asked were the same as those in the online survey with two notable differences:

- Instead of asking participants to rank pre-written positive and negative impacts as was the case in the online survey, the telephone survey asked respondents to provide unprompted responses to the question of '*Can you think of any positive impacts or opportunities associated with the Gundary Solar Farm? What are they?*' and '*Can you think of any negative impacts or concerns associated with the Gundary Solar Farm? What are they*?' These questions were adapted to enable a faster survey completion time and to reflect additional survey fatigue associated with telephone surveys where respondents are unable to view written prompts.

- Respondents were also not asked to provide feedback on a series of photos used in the online survey to gain insight into the visual character of the area surrounding the Project. These were removed as the telephone survey did not facilitate the sharing of visual content with respondents.

Table 4.27 outlines the characteristics of the survey sample obtained compared to the broader LGA statistics, identifying where the survey sample either under or over-represented the broader LGA population.

As **Table 4.27** outlines, the survey sample obtained a higher representation of females and people aged over 55 years than currently exists within the Goulburn Mulwaree LGA population (ABS, 2021). This is a common sampling bias in telephone surveys (Glass, et al., 2015), and reflects a higher likelihood of older people and women consenting to respond to telephone surveys. Telephone number sampling deliberately over-sampled households in closer proximity to the Project, given that these households are more likely to experience impacts of the Project given their geographic location.

Table 4.27 Telephone Survey Sample difference in Comparison to the LGA

Indicator	Survey Sample	Goulburn-Mulwaree LGA	Survey +/- % difference
Age			
18–34	12%	42%	-30%
35–54	25%	24%	1%
55–64	27%	13%	-14%
65+	37%	21%	-16%
Gender			
Female	57%	50%	7%
Male	44%	50%	-6%
Aboriginal and Torres Strait Islander			
Aboriginal and/or Torres Strait Islander	7%	5%	2%
Non-Indigenous	94%	89%	5%
Town of Residence (SAL) [12]			
Goulburn [13]	64%	75%	-11%
Gundary	10%	1%	9%
Quialigo	9%	1%	8%
Tirrannaville	6%	1%	7%
Boxers Creek	2%	1%	1%
Brisbane Grove	2%	0.5%	1.5%
Bungonia	2%	1.5%	0.5%

'Total sample; Unweighted; base n = 200.
Source: (Taverner Research Group, Dec 2022 to Jan 2023), (ABS, 2021).

[12] Of the 200 respondents, only 164 answered the question of which suburb they lived in, therefore, the % of survey sample are the % of 164.Those suburbs not listed, as they had a response rate of 1% or less include Greenwich Park, Lake Bathurst, Marulan, Run-O-Waters, Tarago & Yarra.

[13] Goulburn Suburbs and Localities (SAL) 2021 shares the same boundary as the Goulburn Urban Centers and Localities (UCL) (ABS, 2021).

4.9.1 Levels of Awareness and Acceptance of the Project

Telephone survey respondents were asked to rank their level of awareness of the project on a scale of 1, being very little knowledge, to 7, being a high level of knowledge. The average response obtained was 4 out of 7, with 42% of respondents rating their knowledge as 5 or higher, as shown in **Figure 4.22.** It is notable that 38% of respondents indicated a lower degree of awareness of the Project, with rankings of 3 or less. Unsurprisingly, respondents residing in Gundary had a significantly higher level of awareness than respondents in Goulburn (5.1 and 3.6 out of 7 respectively) (t(25)=3.711, p <0.001)). This is reflective of the more intensive engagement undertaken with proximal landholders to the Project.

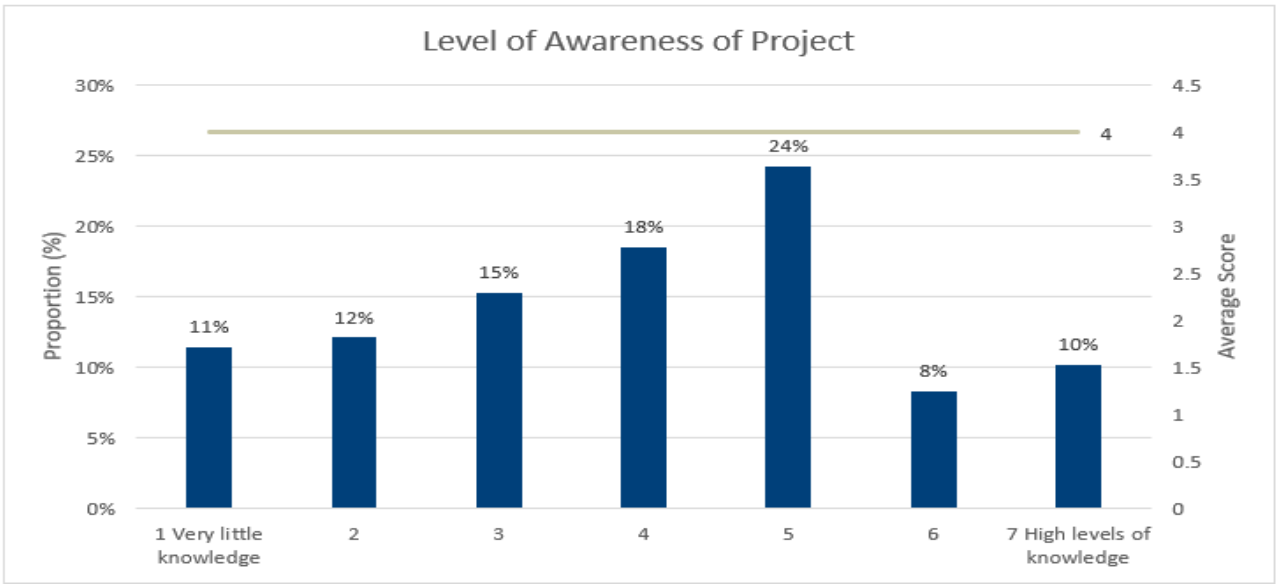

Figure 4.22 Level of Awareness of Project

Source: (Taverner Research Group, Dec 2022 to Jan 2023).
[1]Total sample; Unweighted; base n = 157; total n = 200; 43 missing.

To understand attitudes towards the Project and solar farms in general, respondents were asked to rank their level of acceptance of solar farm development from 1 (a low level of acceptance) to 7 (a high level of acceptance). Respondents were asked to rank levels of acceptance towards solar farm development in the Southern Tableland region generally, solar farm development in the Goulburn Mulwaree LGA, and the Gundary Solar Farm Project itself.

As outlined in **Figure 4.23**, there were slightly higher levels of acceptance of solar farm development in the Southern Tablelands Region (with an average acceptance level of 4.7 out of 7) and the Goulburn Mulwaree LGA, with an average acceptance level of 4.5 out of 7. The level of acceptance for the Gundary Solar Project was slightly lower at 4.3 out of 7. The potential or perceived impacts to place identity have been explored in **Section 4.1.1**.

The acceptance level of the Gundary Solar Project for Gundary respondents (2.5) was significantly lower than for those respondents residing in Goulburn (4.8) - t(21)=-3.901, p <0.001).

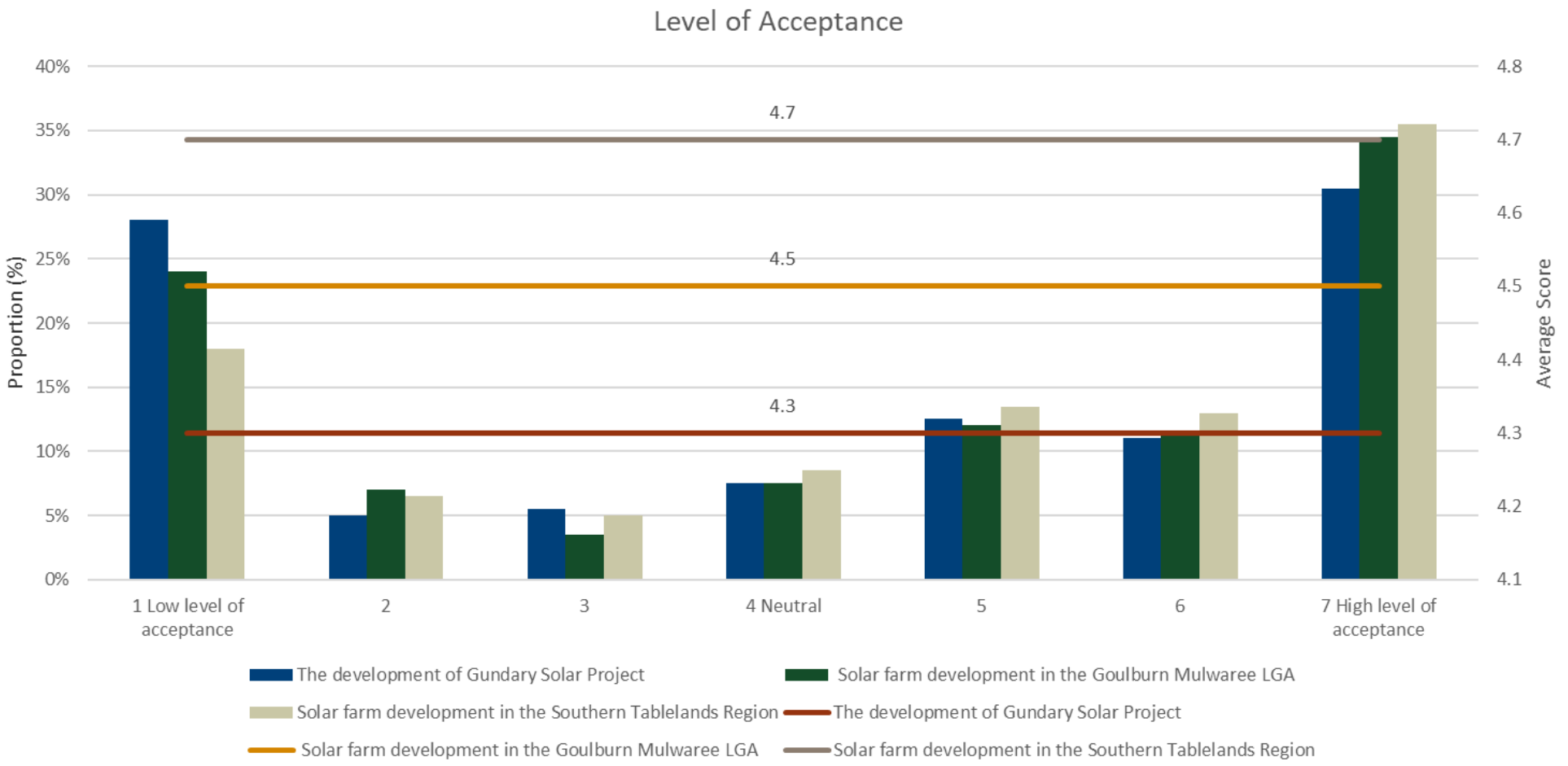

Figure 4.23 Level of Acceptance of Solar Farm Development

Source: (Taverner Research Group, Dec 2022 to Jan 2023).
'Total sample; Unweighted; base n = 200.

Figure 4.24 provides insight into the degree of Social Licence associated with the Project and with Lightsource bp, as was noted in **Section 4.1.2.3** and **Section 4.7**. Survey respondents were asked to indicate their level of agreement with the statements listed in **Figure 4.24**, on a 7-point Likert scale, with 1 being strongly disagree, and 7 being strongly agree.

It is notable that there are relatively high levels of support for the Gundary Solar Farm, with 61% and 56% of respondents respectively agreeing to some degree that the Project is '*important in delivering renewable energy in NSW*' and '*the benefits of the development of the Gundary Solar Farm are likely to outweigh the disadvantages*.' However, there is a significantly higher level of agreement with the statement '*the benefits of the development of the Gundary Solar Farm are likely to outweigh the disadvantages',* in Goulburn than in Gundary (with an average agreement score of 5 out of 7 compared to 2.5 out of 7 respectively).

Levels of trust in the planning process and in Lightsource bp, however were lower, with only 28% of respondents agreeing to varying degrees that they '*have trust in the NSW Government's planning and assessment process*' and who believe that '*Lightsource bp is listening to concerns raised by the community*.' Similarly, 38% of respondents agreed that they '*trust Lightsource bp to consider environmental and social issues appropriately in their project planning*.'

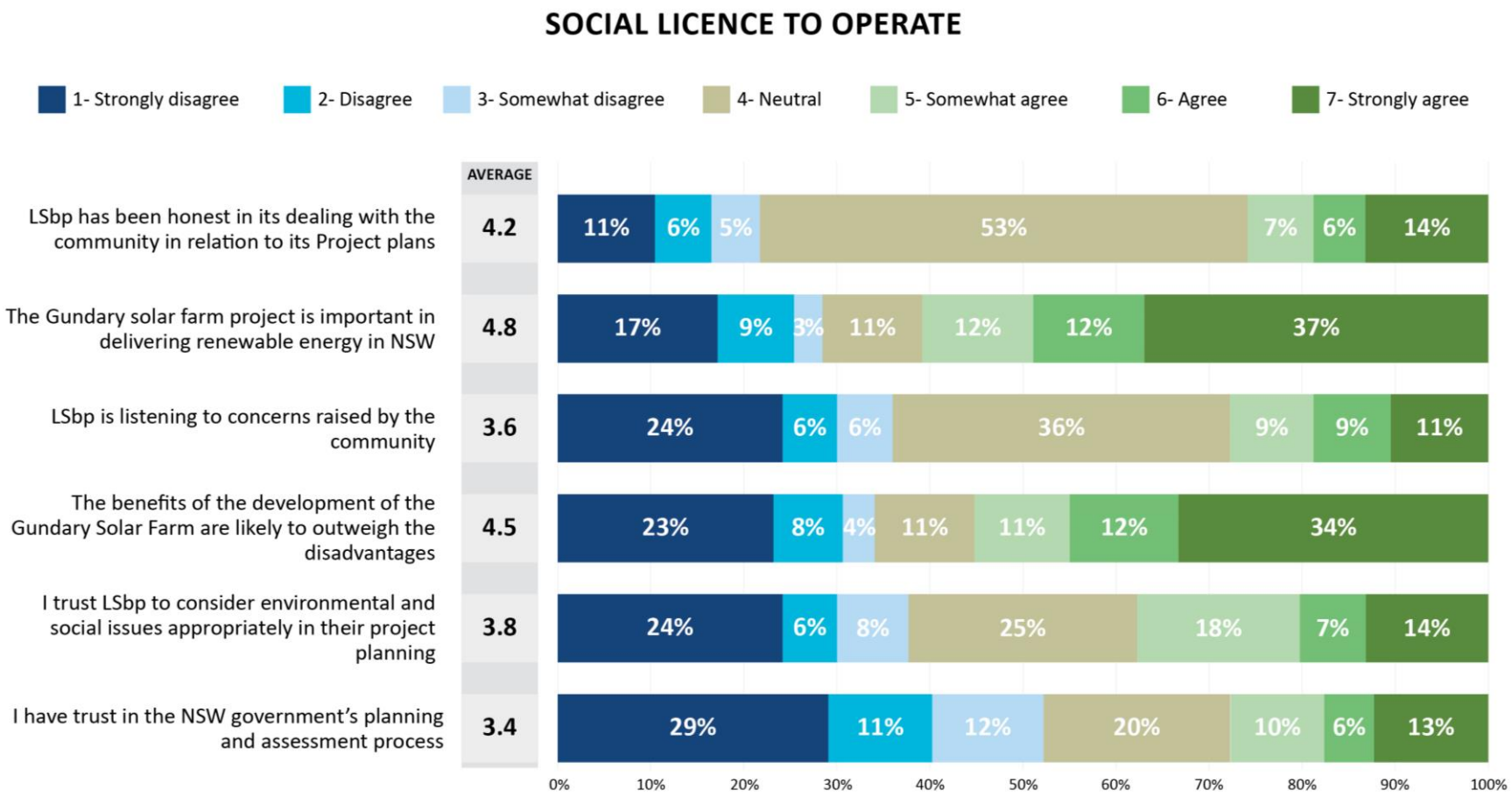

Figure 4.24 Social Licence to Operate – Broader Community

Source: (Taverner Research Group, Dec 2022 to Jan 2023)
'Total sample; Unweighted; base n = 200

4.9.2 Project Impacts and Benefits

The difference in level of acceptance highlights the distributive inequity of how impacts and benefits are being perceived and experienced within the community between stakeholders. This can be seen in the key issues of concern for residents residing in Gundary and surrounding suburbs, in comparison to those residing further afield from the Project in Goulburn.

Residents in Gundary were more concerned about impacts on the visual amenity and natural landscape values in the locality and a potential decline in property values, whilst residents in Goulburn were also concerned about visual amenity, they also focused on the reduction in land currently used for agricultural purposes and the potential for increased traffic during construction. Overall, the most frequently mentioned negative impacts from the project, as illustrated in **Figure 4.25**, related to impacts on surroundings, way of life, accessibility and livelihoods.

For impacts related to surroundings, visual amenity and natural landscape values in the locality (36%, n=71) and impacts on flora and fauna in the area (15%, n=30) were the most commonly noted. Respondents indicated that the areas of greatest visual significance to them included grazing and cropping land (n=18), neighbours and friends' properties on Windellama Road (n=16) and the Goulburn Airport (n=6). Respondents identified the Rocky Hill / War Memorial as the most significant lookout in the area (n=140). Due to the high number of responses identifying the lookout as significant, Envisage (LVIA specialist) undertook further visual assessment from this location. The assessment concluded that the Project would not be visible from the lookout.

Suggestions for mitigating negative impacts included relocating the Project (34%, n=34), and undertaking landscaping / planting to reduce visual impact (9%, n=9).

Concerns about impacts on way of life related to the reduction of land currently used for agricultural purposes (32%, n=63). Respondents raised the opportunity to facilitate Agrisolar, specifically the co-location of sheep grazing, as one way of addressing this concern.

Concerns relating to people's livelihoods encompassed potential impacts on property values (16%, n= 32) and scepticism about the limited potential for employment generation during in the Project operations phase (7%, n=13). Some respondents (4%, n=8) raised a desire to see appropriate compensation for nearby residents for any property value experienced due to the presence of the Project.

Other mitigation strategies raised to address negative impacts of the Project included improving engagement with the community, such as greater information sharing to increase awareness of the Project (16%, n=16), engaging closely with the nearby residents (5%, n=5), and open and honest communication (4%, n=4) (refer to **Figure 4.25**).

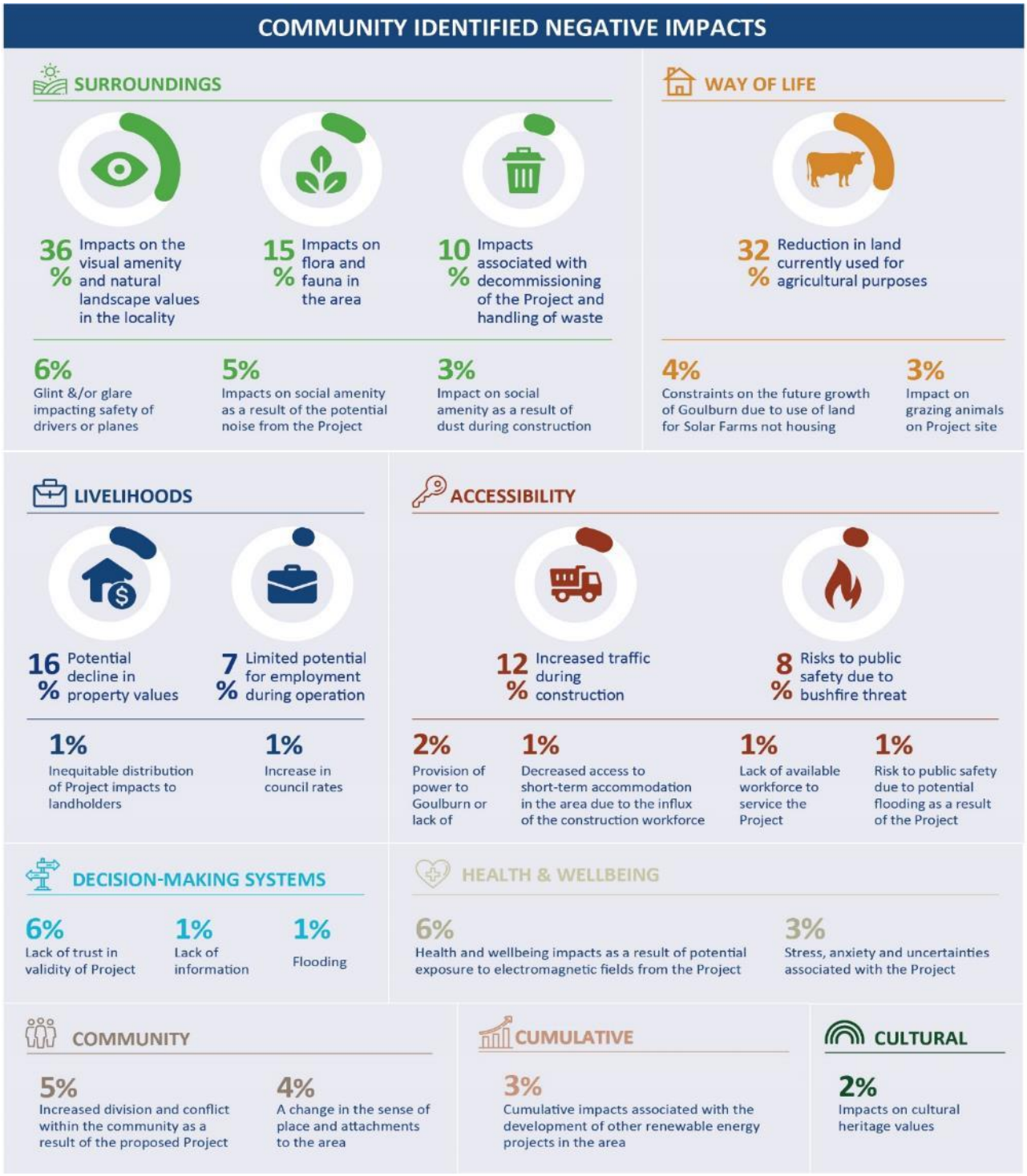

Figure 4.25 Negative Impacts associated with the Project (identified by Telephone Survey respondents)

Source: (Taverner Research Group, Dec 2022 to Jan 2023).
Total sample; Unweighted; base n = 200.

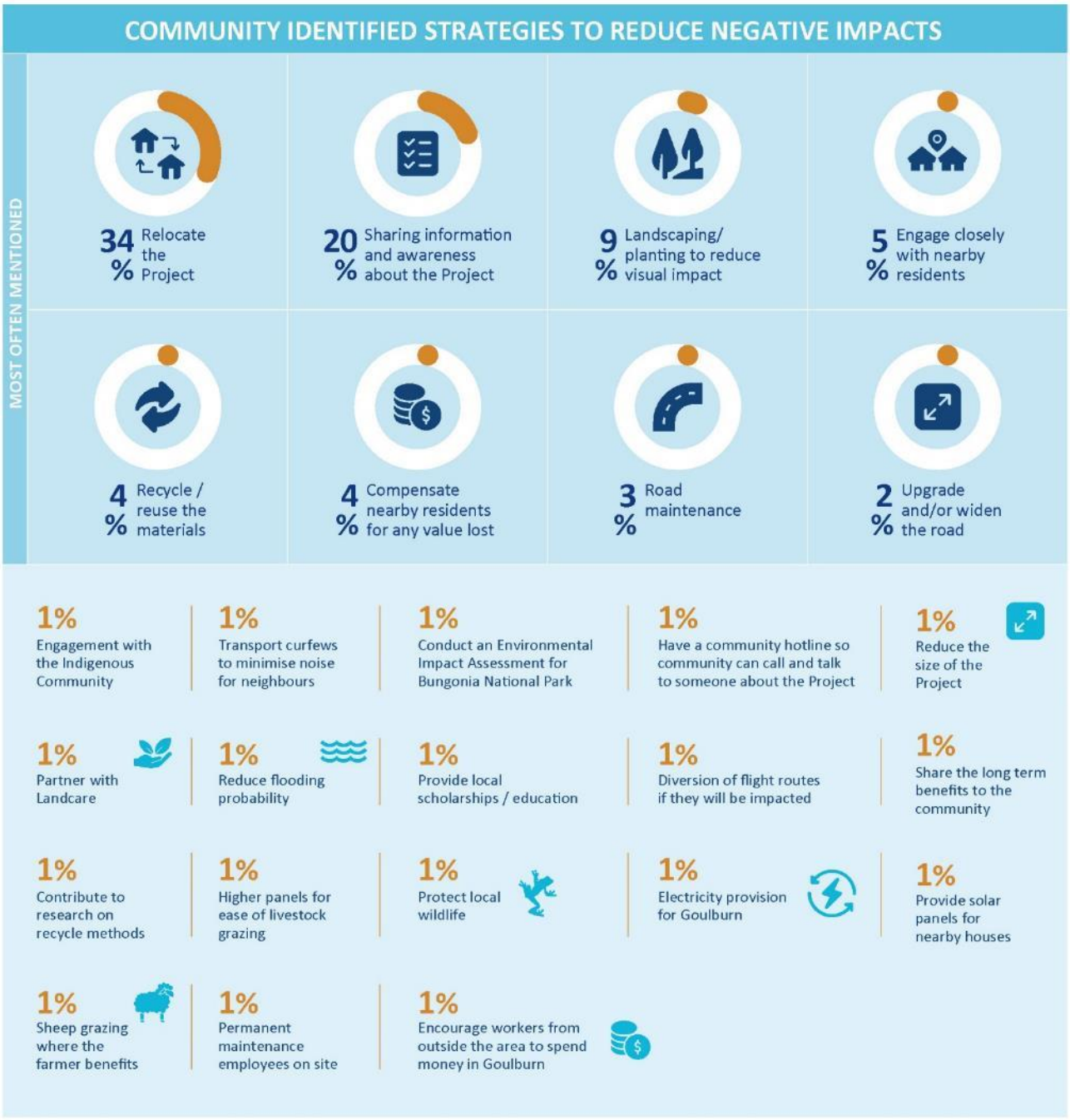

Figure 4.26 Broader Community identified Strategies to Reduce the Negative Impacts

Source: (Taverner Research Group, Dec 2022 to Jan 2023).
Total sample; Unweighted; base n = 101; total n = 200; 99 missing.

Similarly, there are key differences in the recognition of Project benefits across the social locality, with a larger number of respondents in Goulburn acknowledging the benefits of the Project compared to those in Gundary. Interestingly, just under a third of respondents from Gundary raised the Project's contribution to renewable energy provision in the region as a key benefit of the Project, compared to over half of the respondents in Goulburn raising local employment opportunities as the top benefit of the Project.

The positive social impacts that were identified across the sample are outlined in **Figure 4.27**, in order of frequency.

Key positive impacts include the local employment opportunities generated in the Project's construction and operational period (52%, n=103) with 22% of respondents calling for this benefit to be ensured through engagement of locals throughout the Project. Other Project benefits included the Project's contribution to renewable energy provision in the region (32%, n= 63), contribution to the development of the Goulburn locality as a renewable energy hub (19%, n=38), addressing climate change impacts associated with other energy resources (17%, n = 34) and the Project's contribution to local energy security (13%, n=26). Many of the key suggestions for enhancing positive impacts related to information provision (refer to **Figure 4.28**), with suggestions focused on promoting understanding of the Project, sharing information through a media campaign, communication of Project benefits and attendance at community events.

Another key positive impact of the Project identified by the broader community referred to maximising the opportunity for co-existence with other land uses e.g., sheep grazing, cropping, horticulture etc. (11%, n= 21). This was echoed by other stakeholders who indicated this would be a great benefit and or assist in mitigating other negative impacts.

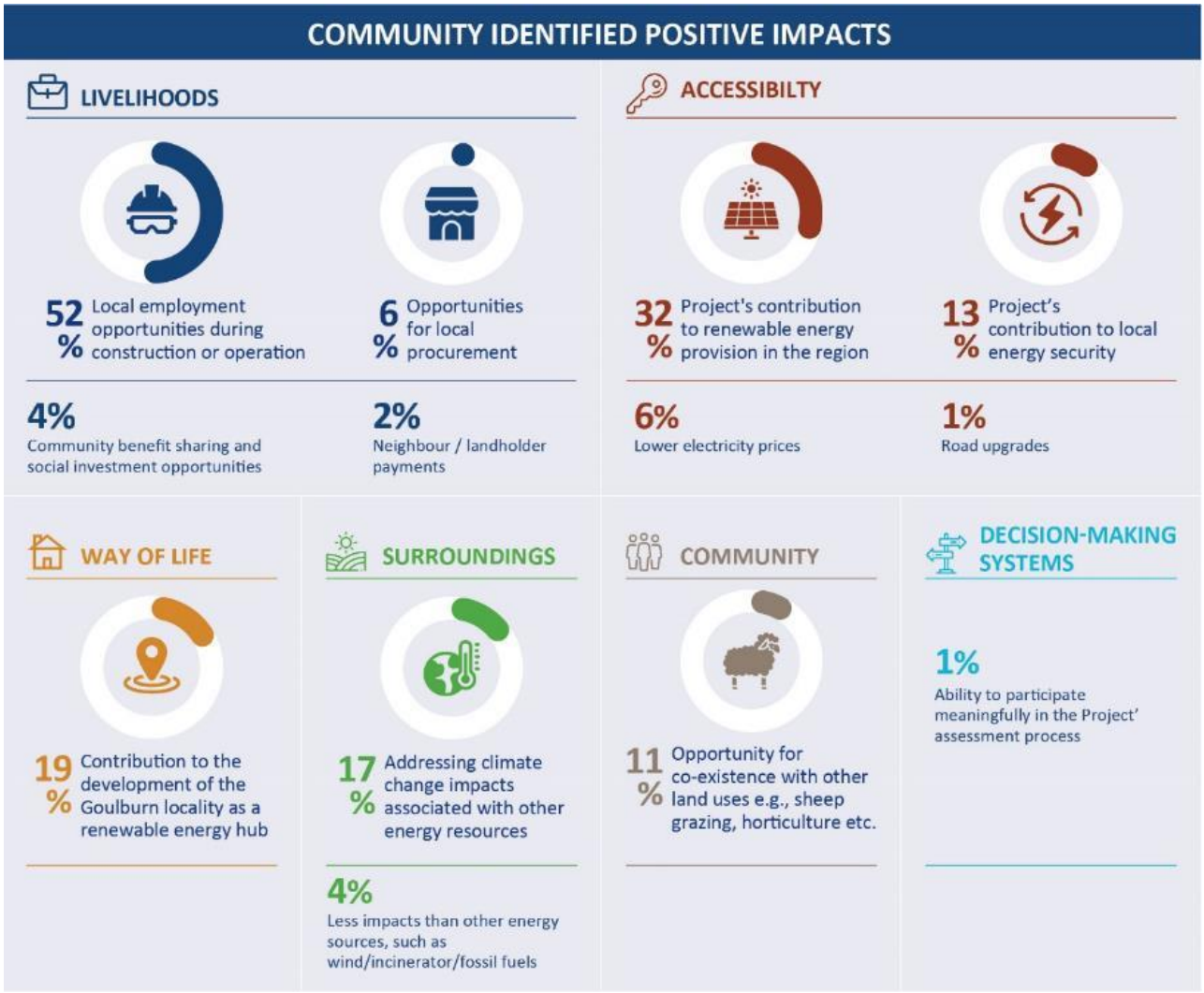

Figure 4.27 Positive Impacts and Benefits of the Project Identified by Telephone Survey Respondents

Source: (Taverner Research Group, Dec 2022 to Jan 2023)Total sample; Unweighted; base n = 200.

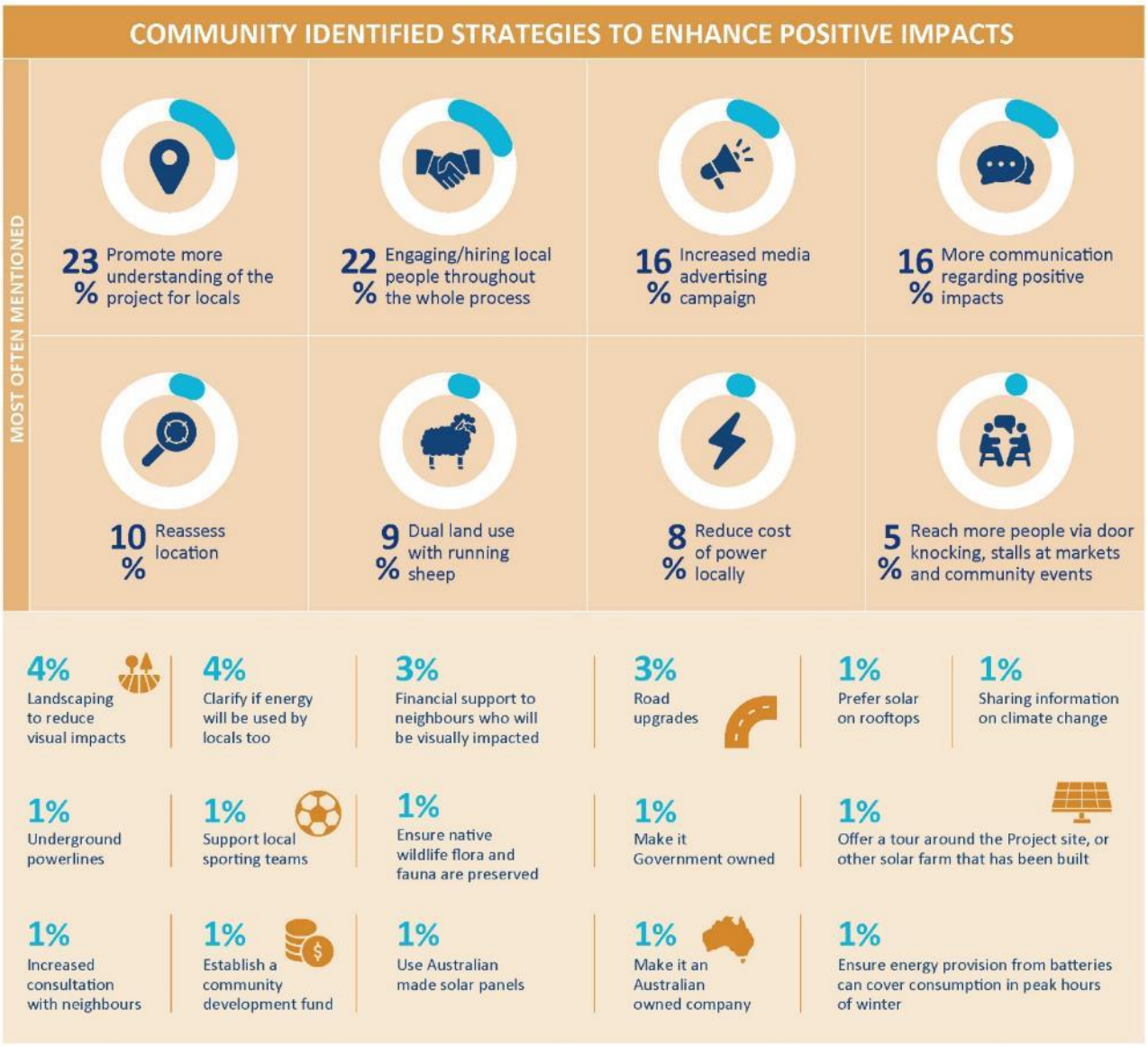

Figure 4.28 Broader Community Identified Strategies to Enhance Positive Impacts

Source: (Taverner Research Group, Dec 2022 to Jan 2023).
Total sample; Unweighted; base n = from 79 to 80; total n = 200; 121 missing.

5.0 Summary of Social Impact Evaluation

This section provides a summary of the social impacts that have been identified in relation to the Project, with the aim of assessing the anticipated changes to the existing social baseline context, due to the Project proceeding. Supplementary secondary insights have also been compiled to further contextualise, benchmark, and qualify the matters raised to inform the evaluation of each social impact, in line with the significance ratings outlined in the SIA guideline (DPE, 2023).

As outlined in **Section 2.4**, a range of perceived social impacts have been identified in relation to the Project, that require prioritisation for assessment and appropriate management and/or enhancement. It should also be noted that social impacts are often not mutually exclusive, with higher order impacts such as population change, resulting in second order impacts such as impacts on sense of community and service provision.

As noted in the SIA Guideline, the definitions and scale assigned to each of the likelihood and magnitude categories need to be relevant to the impact that is being evaluated and justified in the SIA; and where possible the consequence scale should be based on established measures and standards.

Table 5.1 presents a summary of the social impact evaluation with proposed management and enhancement strategies also noted. The colour blue has been used to represent the Significance Rating of impacts, while light shades of red and green have been used to indicate if an impact is negative or positive, respectively.

The following table outlines social impact evaluation for the Gundary Solar Farm Project. Abbreviations and definitions used in the table include:

- **Affected Parties:** Proximal landholders / residents refer to those who live within 4 km of the Project boundary, including abutting landholders.
- **Duration:** P = Planning phase, C = Construction phase, O = Operational Phase and D = Decommissioning Phase.
- **SIA Rating: '**-'= Negative impacts, '+' = Positive impacts. These have been highlighted to quickly show the differences, with negatives highlighted in a light red colour, and positives highlighted in a light green colour.
- **Perceived stakeholder significance:** Perceived stakeholder significance reflects level of stakeholder concern gathered via engagement.
- **Significance Rating** (Pre-Mitigation and residual): L = Likelihood, M = Magnitude and S = Significance. These ratings are defined in the Social Impact Assessment Guideline, Technical Supplement (DPIE, 2023). The social significance matrix used to evaluate social impacts (refer to **Figure 5.1**), considers both the magnitude of the potential social impact (minimal, minor, moderate, major and transformational) and the likelihood of the impact occurring (very unlikely, unlikely, possible, likely and almost certain) to determine an overall evaluation of impact as 'low', 'medium', 'high' or 'very high'. As shown in **Figure 5.1** and **Table 5.1,** the colour blue has been used to represent the Significance Rating of impacts, with lighter shades for lower ranked impacts, and darker shades for higher ranked impacts.

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

Figure 5.1 Social Impact Significance Matrix

Source: (DPIE, 2023).

Due to high levels of interest in the Project from those who are identified as proximal landholders / residents, the social impacts which relate to proximal landholders / residents have been highlighted in grey for ease of navigation throughout the table.

Table 5.1 Impact Evaluation

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Community	**Project construction and operation**	Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape.	Proximal landholders with a view of the site	C, O & D	-	Very high	A	4	VH	• Targeted on site visual screening through perimeter landscaping, with the draft landscape plan finalised in collaboration with Goulburn Mulwaree Council, Greening Australia and Goulburn Landcare. • Visual screening on individual landholder's properties may also be appropriate for some residences, with some stakeholders requesting tree planting on their respective properties. However, the topography and view lines surrounding the Project may reduce the efficacy of this solution for some landholders. • One proximal landholder is subject to an impact agreement based on assessed level of visual impact (Moderate), developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder.	B	3	H
			Broader community	C, O & D	-	Low	C	2	M	Targeted on site visual screening through perimeter landscaping, with the draft landscape plan finalised in collaboration with Goulburn Mulwaree Council, Greening Australia and Goulburn Landcare.	C	1	L
	Project construction and operation	Changes in sense of place due to loss of agricultural nature of land	Proximal landowner / residents	C & O	-	High	B	4	H	• Potential establishment of agrisolar initiatives once construction has been completed, subject to further engagement with the landholders and / or regulatory authorities. It is Lightsource bp intention to have a local farmer run their sheep on the Project Area, as a means to coexist with the local agricultural farming sector. • Research opportunities to be potentially explored around agrisolar, and different ways for project to coexist with agriculture initiatives.	B	2	M
			Broader community	C & O	-	Low	C	3	M	As above	D	2	L
	Reduction of agricultural land capability due to Project infrastructure	Loss of agricultural productivity on the site during the Project life cycle	Regional agriculture Industry	C, O & D	-	Low	D	2	L	As above	E	1	L
	Project construction and operation	Reduced sense of community and cohesion due to influx of transient construction workforce and change in population composition	All stakeholders	P & C	-	Low	C	2	M	• Provision of accessible opportunities and working with relevant First Nations training and employment groups. • Targeted training opportunities for reskilling or upskilling local workforces. • Work with local service providers, education providers and procurement stakeholders. • Work with local emergency service providers, such as the police, during the construction period and as needed. • Implement a standardised workforce code of conduct, including all contractors. This includes expectations of workforce behaviour outside of work hours. • Provide traineeship opportunities. • Targeted female training opportunities.	D	2	L
	Project establishment, planning, approval, construction, and operation	Reduced sense of community and cohesion due to differing attitudes and feelings towards renewable energy development in	All stakeholders	P, C, O & D	-	High	A	3	H	• Continued implementation of the CSEP for the Project during construction, operation, and decommissioning phases. • Lightsource bp to continue to proactively involve and collaborate in existing multi-stakeholder forums, state and federal government initiatives and engage with key representative groups relating to the energy transition, especially those within the vicinity of the Gundary Solar Project (Goulburn), and in relation to the Gundary Solar Project.	A	2	M

[14] Duration: P = Planning phase, C = Construction phase, O = Operational Phase and D = Decommissioning Phase.
[15] L = Likelihood (A: Almost Certain, B: Likely, C: Possible, D: Unlikely, E: Very Unlikely); M = Magnitude (1: Minimal, 2: Minor, 3: Moderate, 4: Major, 5: Transformational); S = Significance rating (L: Low, M: Medium, H: High, VH: Very High).

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
		the local community and region											
	Project establishment, planning, approval, construction, and operation	Increased conflict and reduced cohesion between neighbouring landholders given inequitable distribution of social impacts	Proximal landholders	P, C, O & D	-	High	A	3	H	• One proximal landholder is subject to an impact agreement based on assessed level of visual impact (Moderate), developed in accordance with the Solar Guidelines and through agreement between Lightsource bp and the affected landholder. • Neighbourhood Benefit Sharing Program.	C	2	M
			Community and special interest groups, Local Government the broader community	P, C, O & D	-	Medium	A	2	M	VPA to be negotiated with Council to facilitate social investment in the broader community.	C	2	M
	Manufacturing of solar panel infrastructure	Supply chain and human rights issues associated with solar energy infrastructure component sourcing and manufacture	Overseas workforce sourcing and manufacturing solar infrastructure.	C & O	-	Low	C	2	M	Lightsource bp adheres to the relevant Human Rights Policy and supply chain standards (Lightsource bp, 2022).	C	2	M
Accessibility	**Incoming temporary workforce**	Reduced access to affordable housing and accommodation due to construction workforce influx into the region	Local businesses/ service providers (including accommodation providers, and emergency housing services)	C	-	Low	B	3	H	• Continued workforce and employment planning in the pre-construction phase. • Prioritise use of local service providers e.g. accommodation/housing, education, employment etc. • Operate a Housing and Accommodation Expression of Interest Register. • Implementation of recommendations and strategies in the Project AES, including distribution of workforce accommodation across the social locality to reduce impacts on vulnerable groups. • Provision of a Voluntary Planning Agreement to Goulburn Mulwaree Council to support the funding of social infrastructure and other community programs/initiatives. • Explore opportunities to partner with accommodation providers in the local area to minimise use of broader housing.	C	2	M
			Those accessing emergency / crisis accommodation	C	-	Low	B	3	H		C	2	M
			Tourists visiting the area	C	-	Low	B	2	M		D	2	L
			Broader community	C	-	Low	B	2	M		D	2	L
		Increased pressure on local health care, facilities, and emergency services due to incoming construction workforce	Goulburn health and emergency service users & providers	C	-	Low	B	2	M	• Always have an appropriate amount of First Aid qualified people on site during construction and operation. • Implementation of the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area.	C	2	M

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Livelihoods	**Workforce associated with construction.**	Generation of local employment and procurement opportunities	Broader community and local job seekers	C	+	Low	B	1	L	• Establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the Project planning and development phase (pre-construction). • Advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media. • Collaborate with local employment providers to assist with the sourcing of local employment and procurement. • Establish and maintain working relationships with key industry and government stakeholders in the region. • Provision of accessible opportunities and working with relevant First Nations training and employment groups. • Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies. • Consideration of a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project.	B	2	M
			Local businesses	C	+	Medium	B	2	M		B	3	H
			Broader community, local job seekers and local businesses	O	+	Low	B	1	L		B	2	M
	Project establishment, construction, operation, and decommissioning	Ability to enhance human and economic capital through skill development and training opportunities.	Unemployed residents looking for training opportunities (Underrepresented groups include women, young people, Aboriginal and/ or Torres Strait Islander peoples, people with a disability) and job seekers looking to work in the RE sector	C	+	Low	D	2	L	• Partner with the local TAFE and other education providers to facilitate training in renewable energy employment opportunities. • Provide apprenticeships and trainee opportunities with ongoing work experience. • Employment of women and First Nations people will require specific engagement approaches and tailored training opportunities through dedicated resourcing and project prioritisation. • Develop and commit to clear pathways between training / upskilling and job opportunities on the Project. • Work with local service providers, education providers and procurement stakeholders. • Targeted female training opportunities.	B	2	M
			Local businesses	C	+	Low	C	2	M		B	2	M
	Project construction	Skills drain from existing skilled workforce.	Broader community	C & O	-	Low	D	2	L	• Develop and commit to clear pathways between training / upskilling and job opportunities on the Project. • Collaborate with local stakeholders including Council and local industry associations to manage any adverse effect on the local labour market.	C	1	L
	Project establishment, planning, construction, operation and decommissioning	Livelihood impact due to decreased property values and inability to sell proximal properties	Proximal landowner / resident	P, C, O & D	-	Very High	B	3	H	• The implemented design changes to reduce the visual impact of the Project. • The implemented design changes to reduce noise impacts of the Project. • It is acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.	C	3	M
	Presence of Project infrastructure	Livelihood impacts associated with potential contamination of land due to potential for damage to infrastructure.	Proximal landowners	O	-	Medium	C	3	M	• Construction Soil and Water Management Plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. • Operational Environmental Management Plan (OEMP) will be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase.	C	2	M
			Broader community	O	-	Low	D	2	L		D	1	L

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
	Presence and flammability of the Project Infrastructure	Livelihood impact due to increased insurance premiums for neighbouring agricultural properties	Adjacent landowner / residents	C & O	-	High	C	3	M	• Implementation of a Bushfire Management Plan, and communication of the plan details to emergency service providers and the community. • Project design includes Asset Protection Zones (APZ), which reduce the ability for bushfires to spread. • While there are no Project-specific mitigation measures proposed to address potential increase in insurance, it is acknowledged that the NSW Government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian Energy Infrastructure Commissioner, NSW Agriculture Commissioner and the Clean Energy Council.	C	3	M
	Community investment	Improved social capital for local community infrastructure and initiatives associated with community benefit sharing programs i.e. VPA	Local Government - Goulburn Mulwaree Council and communities	C & O	+	Low	B	2	M	• Lightsource bp will provide ongoing financial assistance through the community shared benefit scheme (including both the Neighbourhood Benefit Sharing Program and the VPA) to ensure direct benefit from the Project is received by the local community. • Community investment initiatives to be targeted to community needs and priorities and developed in consultation with community groups. • Clear application process and publication of selection criteria for eligibility to community benefit programs/initiatives to be disseminated publicly.	B	3	H
	Increased spending in the area during construction phase	Increased economic activity and spend in local towns, benefiting local businesses and services	Local business and service providers in Goulburn and surrounds	C	+	Low	B	2	M	• Consideration of a local spend strategy, where local workforces are encouraged to access services such as food and recreational activities within the vicinity of the Project. • Implement measures and recommendations within the AES, such as: ○ Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies. ○ A dedicated project member located within the local community who facilitates relationships with contractors, local workforces, and service providers to provide Project related opportunities.	A	2	M
Surroundings	**Project related traffic.**	Reduced public safety due to further deterioration of local roads and increased volume of traffic.	Proximal landowner / residents	C	-	Medium	B	3	H	• Site access intersection improvement works at Windellama Road to accommodate turning movements to and from the site. • Notification and communication with community regarding traffic movement timing and key activities. • Utilisation of the southern transport route (Option 2) as the primary transport route. Construction vehicles not to utilise the northern route (Option 1) during School Zone times. • Implementation of appropriate traffic control measures and plans for OSOM vehicle movements. This shall include the movement of OSOM vehicles over the Lansdowne Bridge on Bungonia Road. • Implementation of the Drivers Code of Conduct detailing expectations for driver behaviour for travel to and from the Project Area. • Preparation and implementation of a detailed Construction Traffic Management Plan (CTMP) detailing how works to the site access and ongoing construction works will be undertaken. The CTMP shall be prepared by the proponent with the works contractor in consultation with Council. • Deliver a shuttle bus service from key population centres such as Yass and/or Goulburn to the site, where possible. It is expected that this will assist local residents engage in employment opportunities who otherwise would not be able to reach site, as mentioned in the AES. • Dilapidation surveys covering the pavement, drainage, and bridge structures will be undertaken in consultation with TfNSW and local Councils for the proposed transport routes before and after construction. Regular inspections and consultation with local Councils. It is expected that any damage resulting from construction traffic, except normal wear and tear, would be repaired.	C	3	M

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							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
			Road users, School Bus users and those that live along the transport route.	C	-	Medium	B	3	H	As above.	C	3	M
	Project operation	Safety concerns due to potential glint/glare from solar panels	Road users of Windellama and Ringwood Roads	C & O	-	Low	C	2	M	• Trees planted for Visual Screening along Windellama Road. • Additional landscape screening will be established along the north-eastern boundary of the Project to further enhance screening and reduce potential glare towards Kooringaroo Road.	D	2	L
			Pilots on flight paths to/from Gundary Airport	C & O	-	Low	E	1	L	Ongoing information sharing and engagement with Goulburn Airport about Project updates and plans.	E	1	L
	Presence of project infrastructure and operation	Reduced public safety due to increased bushfire risk and potential impacts to access roads and proximal properties.	Proximal landowner / residents, especially those residing on Kooringaroo Rd	C & O	-	Very High	B	3	H	• Project design to include: ○ 10 m APZ around the perimeter of the Project Area. ○ Total of 180,000 L of water in tanks on the Project Area. This has been increased from a total of 2x 10,000 L tanks on site since the scoping phase in response to community and stakeholder feedback. ○ Supplementary site access via Kooringaroo Road for emergency access only, as well as emergency accesses along the perimeter fencing. ○ Access tracks on the Project Area to be designed to provide safe access for emergency services personnel. • A Bushfire Emergency Management and Operations Plan, as outlined in the EIS. • Intersection upgrade to improve access, as outlined in the Construction Traffic Management Plan (CTMP). • Information sharing with surrounding community regarding bushfire management protocols, as per the CSEP.	C	3	M
			Broader community	C & O	-	Medium	C	2	M	As above.	D	2	L
			Emergency service workers	C & O	-	Medium	B	2	M	• Bushfire training and site familiarisation day with RFS and Fire and Rescue NSW once the Project is commissioned. • Notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate. • Work with local emergency service providers.	D	2	L
	Project construction and operation around existing flood prone areas	Reduced levels of public safety due to potential for flooding and impacts to access roads and proximal properties.	Proximal landowner / residents	C & O	-	Medium	C	1	L	• Project design to have project infrastructure to avoid impacts to main water courses, which have the potential to flood. • Development and implementation of relevant management plans including Construction Soil and Water Management Plan (CSWMP), Operational Environmental Management Plan (OEM), and the Flood Emergency Management Plan (FEMP). • Fencing will be designed to consider flood levels across the site through construction of floodway to reduce the likelihood of fence blockage due to loss of vegetation in storm events.	C	1	L
			Windellama Road users	C & O	-	Low	C	2	M	As above.	C	1	L
			Broader community	C & O	-	Low	D	2	L	As above.	D	1	L
			Emergency service workers	C & O	-	Medium	C	2	M	Flood training and site familiarisation day with SES once the Project is commissioned & constructed.	C	1	L

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
	Project construction activities on site	Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance and irritation.	Proximal landholders/residents to the site, BESS and substation (n=X)	C	-	High	A	3	H	• Implemented refinements to the layout and design, such as relocation of the centralised AC Battery Energy Storage System (BESS), removal of some decentralised DC BESS units, and incorporation of noise walls/barriers. • Additional implementation of mitigation and management plans to control and minimise construction noise should these occur. • Preparation of a Noise and Vibration Management Plan (NVMP) as part of the Construction Environmental Management Plan (CEMP). • Where feasible and reasonable, construction to be carried out during the standard daytime working hours. Work generating high levels of noise will be scheduled during less sensitive time periods. • As part of the CEMP, protocols will be developed and implemented to minimise the air emissions during the construction, including: o Water suppression on all exposed areas, unsealed roads and stockpile area when required (i.e. if visible dust emissions are observed). o The location and scale of dust generating activities would be modified and limited during periods of dry and windy weather. o Engines to switch off when not in use for prolonged periods. o Development of a complaints procedure to identify and respond to complaints. • Areas within the Project Area which have been temporarily disturbed by construction and operational activities will be rehabilitated. • Once construction has been completed, ground cover to be established and maintained in accordance with the OEMP. • Implementing the CSEP in communicating Project construction plans and timing with all relevant stakeholders.	B	2	M
	Construction related traffic	Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance and irritation	Landholders/residents located along the transport route and in proximity to the BESS and substation	C	-	Medium	B	3	H	Standard construction hours will apply.	B	2	M
			Broader community	C	-	Medium	C	2	M	As above.	D	2	L
	Project operation	Intergenerational equity and improved liveability due to contribution of the Project to renewable energy generation.	All stakeholders	O	+	Medium	A	3	H	VPA and any other social investment initiatives under the AES could further fund development of renewable energy skills development in the Goulburn Mulwaree LGA. This could include sponsorship, training and education opportunities for local people wishing to work in the renewable energy sector, or students and young people.	A	3	H
	Decommissioning commitment and responsibility	Concern regarding ability to effectively rehabilitate land for agricultural use post solar	Proximal landowner / residents	C & O	-	Very High	C	3	M	• Implementation of a Waste Management Plan (developed as part of the EIS). • Implementation of a Decommissioning and Rehabilitation Management Framework (DRMF). • CSEP to include communication and information regarding Lightsource bp's decommissioning commitments and plans with all stakeholders.	D	2	L
			Broader community	C & O	-	High	C	2	M	As above.	D	2	L

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
		farm use e.g. removal of all infrastructure.											
	Site clearing for construction	Loss of environmental values e.g. flora and fauna.	All stakeholders	C & O	-	High	B	3	H	• Implementation of a biodiversity management plan to further reduce and mitigate impacts on biodiversity. • Workforce education and training in environmental management plan for construction. • Ecologist pre-clearance surveys and supervision of works. • Erosion and sedimentation control measures. • Weed management. • Fencing, access control and fauna exclusion measures.	C	2	M
Health and Wellbeing	**Project establishment, construction, operation, and decommissioning**	Stress and anxiety due to cumulative impact of concurrent project development within the locality.	Proximal landowner / residents, community and special interest groups, Aboriginal stakeholders, Local Government the broader community	C, O & D	-	Medium	A	3	H	• Lightsource bp to collaborate with other local developers to minimise where possible cumulative social impacts associated with renewable energy development in the area. • Lightsource bp to continue to engage with local landowners and residents regarding Project implementation and information provision. • Share and connect people to local services to support mental health.	B	3	H
	Project establishment, construction, and operation	Stress and anxiety associated with the Project and uncertainty of the Project assessment process.	Proximal landowner / residents	P	-	Very High	A	3	H		B	3	H
			Broader community and community and special interest groups	P	-	High	A	2	M	As above.	B	2	M
	Presence of project infrastructure and operation	Physical health and wellbeing impacts as a result of potential exposure to electromagnetic radiation from Project infrastructure	Proximal landowner / residents	C & O	-	Low	E	1	L	• All project infrastructure will be designed in accordance with relevant industry standards. • All relevant procedures in relation to a high voltage installation will be adhered to throughout the life of the Project. • Public access will be restricted throughout the life of the Project.	E	1	L
			Project operational workers	C & O	-	Low	E	1	L	As above.	E	1	L
	Damaged solar panel and battery infrastructure	Health and wellbeing impacts associated with potential water contamination of neighbouring water sources, e.g. dams and bores.	Proximal landholders	O	-	Medium	C	3	M	• Construction Soil and Water Management Plan (CSWMP) will be prepared to outline measures to manage soil and water impacts associated with the construction and decommissioning works. This would include regular water testing and communication with proximal landholders regarding results. • Operational Environmental Management Plan (OEMP) will be developed for the Project and will include measures to address potentially adverse impacts on the receiving environment surface water quality and flooding during the operational phase. • Operation maintenance on Project infrastructure.	D	2	L
			Broader community	O	-	Low	D	2	L	As above.	D	2	L

SIA Impact Category	Project Aspect	Social Impact	Affected Parties	Duration [14]	+/- rating	Perceived Significance	Significance Rating Pre-Mitigation [15]			Refinements, Mitigation or Enhancement Measures	Residual Significance Rating 15		
							Likelihood	Magnitude	Significance		Likelihood	Magnitude	Significance
Culture	**Project establishment, construction, operation, and decommissioning**	Reduced connection to Country and disruption to cultural values	Traditional Owners and Aboriginal community	P, C, O & D	-	Medium	C	3	M	• Development of an Aboriginal Cultural Heritage Management Plan) in consultation with the RAPs and DPHI (with input from Heritage NSW). The ACHMP will include an unanticipated finds protocol, unanticipated skeletal remains protocol, protocols related to heritage inductions for work crews, and long-term management of any Aboriginal sites being impacted. • Aboriginal sites GSF-UMW-3, GSF-UMW-4 and GSF-UMW-5 to be fenced off prior to construction commencing. • Staged salvage excavation to occur prior to the construction of the Project for GSF-UMW-6 and GSF-UMW-9. • All sites with surface stone artefacts within the Development Footprint to be collected from the ground surface (including sites that will be subject to salvage excavation) by qualified archaeologists and RAP representatives. • Lightsource bp to continue preventative management measures for historic heritage as outlined in Section 6.5 of the EIS.	C	3	M
Decision-making systems	**Project site selection, design, planning and community engagement to inform assessments.**	Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes.	Proximal landowner / residents,	P	-	Very High	A	3	H	• The CSEP will be revised to address pre-construction, construction and operational phases of Project, which would include information relating to the construction period, operational phase, the company, and decommissioning. • Lightsource bp have a contact phone number, which will continue to operate throughout the construction and operational phases. If necessary, appropriate contractor/s may have additional complaints and grievance mechanisms in place.	B	3	H
			Community and special interest groups, Aboriginal stakeholders, Local Government the broader community	P	-	High	A	3	H	As above.	B	3	H

6.0 Social Impact Management Framework

Throughout the planning process for the Project, neighbouring and proximal landholders/residents have expressed concern regarding some aspects of the Project design and layout, especially relating to visual, noise and bushfire hazards. The Project team identified these concerns early in the process and have made amendments to the Project layout and design to mitigate and/or reduce some of these impacts.

Furthermore, the community has also identified a number of strategies that may assist in reducing impacts of the Project, which have been summarised in **Section 6.1**.

6.1 Early Design Changes

In relation to the changes that have occurred in project design and layout, these are summarised in **Table 6.1** and outlined in **Figure 4.7**.

Table 6.1 Project Design Changes

Impact	Design/Layout Change
Amenity – Visual impacts of solar farm infrastructure	• Removal of approximately 50 ha of solar array in the north-west corner of the Project Area, to minimise noise and visual impacts to sensitive receivers. • Strategically located landscape screening to minimise glint and glare and visual impacts. • Relocation of the centralised BESS approximately 1.2 km to the east, and away from sensitive receivers located on the northwest, to reduce noise and visual impacts.
Amenity - due to Noise from substation and BESS	• Strategically locating noise attenuation around noisy equipment to reduce operational noise impacts. • Removal of 20 decentralised BESS units located nearest to sensitive receivers, to reduce noise and visual impacts.
Bushfire risk – of the site	• Incorporation of multiple emergency access points along the fence line (via gates) around the site, including a dedicated emergency access via Kooringaroo Road. • Additional water tanks distributed throughout the Project Area, providing a total of 180,000 l water tank capacity for firefighting.
Environmental values	• Avoidance of high value biodiversity habitats through altering the solar array layout in the central and southern parts to avoid threatened species identified during targeted surveys. • Implementing setback distances, including 10 m APZ around the perimeter of the Project within the security fencing, and 20 m to 40 m setback around second order and higher streams, in particular where these have biodiversity value. • Implementing exclusion zones, including areas with Threatened Ecological Communities and habitat for threatened species, and areas prone to flooding.
Change in Agricultural Land Use	• The Project has also been designed to be compatible with sheep grazing, with approximately 1,000 sheep expected to continue to graze the Development Footprint (secured by security fencing and managed through a Sheep Grazing Management Plan and Vegetation Management Plan).

6.2 Preliminary Social Impact Management Framework

This section provides further detail on the proposed strategies to be implemented in response to the predicted social impacts associated with the Project and relates to those impacts (both positive and negative) that have been evaluated as of moderate to high significance.

Social impact management planning is a key consideration of SIA and ensures that the impacts identified via the SIA process and through community consultation activities, are managed effectively across the life cycle of the development (Franks & Vanclay, 2013).

The strategies proposed have been developed from the mitigations and enhancement measures raised by the community as well as through industry benchmarking, consideration of the mitigation and management measures from other technical studies undertaken for this Project, and through the application of sound social performance practice.

SIA guidance (DPE, 2023) outlines that mitigation measures to respond to project impacts may be:

- **Performance-based** – identify performance criteria that must be complied with to achieve an appropriate outcome, but do not specify how the outcome is to be achieved, demonstrating why the performance criteria are appropriate.
- **Prescriptive** – that outlines actions that need to be taken or things that must be done, with justification as to why this approach is appropriate by providing scientific evidence or referencing relevant guidelines or case studies.
- **Management-based** – where potential impacts can be satisfactorily avoided or mitigated by implementing known management approaches.

A framework for social impact management is presented in **Figure 6.1**. Guiding principles and key components of these strategies are also further outlined.

Figure 6.1 Framework for Social Impact Management

The following considerations have been identified to be of particular importance when implementing social impact management strategies.

- Identify how adaptive management and mitigation measures will be used to avoid, minimise, and/or mitigate negative social impacts.
- Identify opportunities to secure and enhance positive social impacts of the development.
- Include a program to monitor, review, and report on the effectiveness of these measures.
- Identify engagement opportunities to guide the evaluation and implementation of social impact management and mitigation measures.

Table 6.2 summarises the key strategies which comprise the Social Impact Management Framework and of which have been informed from the outcomes of the assessment of social impacts. **Appendix H** further provides further detail on each of the strategies.

Table 6.2 Social Impact Management Strategies

Strategy	Aspects	Suggested Monitoring Indicators
Social Impact Management Plan	• The Social Impact Management Plan summarises the key mitigation and enhancement commitments for the Project and includes a program to monitor, review and report on the effectiveness of these actions.	• Key demographic indicators e.g. population, mobility, employment by industry. • Community sentiment towards Project and renewable energy. • Property data for surrounding localities.
Community Engagement Strategy	Lightsource bp continues to commit to the following measures to further enhance ongoing collaboration with key stakeholders: • Continue to implement CSEP throughout construction and operation, including implementation of an engagement program that is tailored and appropriate for the community and based on a thorough understanding of the social locality and stakeholders including needs, aspirations, engagement preferences. This may include plans for community consultation and communication of key project decisions. • Regularly evaluate whether the Strategy is meeting its objectives and to identify any new key stakeholders within the community that may need to be involved as the Project progresses as per the evaluation process outlined in the CSEP. • Develop long-term and recurring engagement with key stakeholders. • Further consider how Lightsource bp can work with the community to host and/or fund community events to enhance sense of community and connection, in line with community values, needs and aspirations. • Facilitate ongoing communication with host and proximal landholders to identify construction access points and enable landholders to effectively plan stock movements and farming activities. • Distribution of relevant Project information including outcomes of environmental monitoring. • Broaden identification of stakeholders within the plan, to include other local renewable energy proponents/developers where feasible in order to foster collaboration in relation to addressing cumulative impacts of project development within the local area surrounding the Project, particularly in	• Stakeholder satisfaction with engagement approach. • Community satisfaction with information provided. • Perceptions of trust and satisfaction with information provision. • Outcomes of engagement with proximal landholders and residents including sentiment and perception of impacts during construction. • Levels of Project awareness and knowledge. • Feedback and outcomes from key stakeholder meetings. • Perceptions of trust and satisfaction with information provision. • Identification of emerging issues / impacts. • Records of all meetings with local community and neighbours; annual assessment of issues and annual mitigations brought on in the next year's impact planning. • Complaints register documentation of number and details of complaints and mitigation efforts shared on webpage. • Any breaches or non-compliances shared with local community via website. • Community satisfaction with program and initiatives. • Community health and wellbeing indicators.

Strategy	Aspects	Suggested Monitoring Indicators
	regard to planning relating to workforce housing and accommodation, local employment, traffic movements, etc. • An accessible complaints management process should be prioritised as part of any community engagement strategy. Publicise and launch said community complaints mechanism to ensure it is following good practice principles in terms of access, protect, respect, remedy. • Include wellbeing indicators in community perception surveys and social baseline updates to monitor the health and wellbeing of the community periodically, throughout construction and operation. • Adopt best practice community engagement principles including having a community engagement officer who is based locally, and ensuring they meet the needs of diverse groups.	
Community Benefits Sharing Strategy	Lightsource bp will work with Council to further enhance the effectiveness of a Community Benefit Sharing Strategy and to ensure that place based, and meaningful benefits are realised across the community and particularly for those communities likely to experience impacts of the Project.	• Community satisfaction with outcomes of investment initiatives. • Alignment of investment initiatives with community needs and local government strategic plans.
Neighbourhood Benefit Sharing Program	Lightsource bp has established a Neighbourhood Benefit Sharing Program to ensure those residents living closest to the project can share in its direct financial benefits. The Program will commence if the project is approved, and construction begins. Under the Program, residences within 1 kilometre (km) of the project will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residences within 500 m of the project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program, as outlined below. The Program has been benchmarked against industry standards and takes into account the nature of the landscape surrounding the project. To further enhance the Program, it is recommended that Lightsource bp continue to engage with local landholders regarding the Program, including their satisfaction with the Program.	• Number of households who engage with the Program. • Feedback regarding household satisfaction of the Program.

Strategy	Aspects	Suggested Monitoring Indicators
Accommodation and Employment Strategy	It is recommended that Lightsource bp further considers the following strategies to increase local employment beyond the Base Case scenario of 5%, one or multiple of the below measures would need to be resourced, funded and implemented to reach higher local employment targets: • Provide apprenticeship and trainee opportunities. • Active collaboration with the local TAFE, Councils, registered training providers, local industry associations, community organisations, and employment providers to develop and organise upskilling and training opportunities or partnerships. • Develop and commit to clear pathways between training / upskilling and job opportunities on the Project. • Fund and/or deliver a local content (or employment and procurement officer) responsible for building relationships with service providers, hard to reach groups, and support local community members to upskill or re-train for the Project. It was commented during an interview that there is likely an 'untapped' section of the local labour pool of older workers who are less likely to engage with online and modern job searching methods. These group would require additional support to engage with new employment opportunities. • Funding transport (shuttle bus) from major townships to the Project site is expected to support engagement with residents who are upskilling or re-training. Discussions with key stakeholders noted that a shuttle bus is not likely to benefit workers already working in the industry due to expectations regarding car ownership and travel to site but may be beneficial to workers who are new to the industry. • Employment of women and First Nations people will require specific engagement approaches and tailored training opportunities through dedicated resourcing and project prioritisation.	• During the Project's pre-construction and construction phases, the AES would be reviewed bi-annually throughout 2025 and 2026 by the EPC Contractor to assess the effectiveness of steps taken to maximise local employment and procurement on the Project. • Engagement and employment records, including number of local employees. • Number of First Nation employees. • Establishment and operation of specific First Nation Programs. • Delivery of shuttle bus service. • Promotion of Expression of Interest (EOI) through stakeholder communication channels. • Number of people/ businesses who have expressed interest. • Number of female employees. • Number of traineeships. • Number of workers which have undertaken reskilling or upskilling. • Employment and appointment of Local Employment and Procurement Officer.

7.0 Conclusion

This Social Impact Assessment Report has documented the social baseline, social impacts and social impact management and enhancement measures associated with the Gundary Solar Farm and forms part of the EIS for the Project. This SIA has included consolidation of community consultation outcomes to inform the assessment of and evaluation of Project related social impacts and opportunities, as well as the preliminary social impact management planning. The impact evaluation has been undertaken to inform and support the refinement of Project design and plans to reduce negative project impacts and achieve greater positive project benefits and social outcomes.

The negative social impacts ranked with a residual significance ranking of high or medium include:

- Change in sense of place due to loss of visual amenity as a result of industrialisation of the landscape and the loss of agricultural nature of land.
- Reduced sense of community and cohesion due to differing attitudes and feelings towards renewable energy development in the local community and region and between neighbouring landholders given inequitable distribution of social impacts.
- Supply chain and human rights issues associated with solar energy infrastructure component sourcing and manufacture.
- Reduced access to affordable housing and accommodation due to construction workforce influx into the region.
- Increased pressure on local health care, facilities, and emergency services due to incoming construction workforce.
- Livelihood impacts due to decreased property values and inability to sell proximal properties, and increased insurance premiums for neighbouring agricultural properties.
- Livelihood impacts associated with potential contamination of land due to potential for damage to infrastructure.
- Reduced public safety due to further deterioration of local roads and increased volume of traffic and due to increased bushfire risk and potential impacts to access roads and proximal properties.
- Decreased social amenity due to construction activities on site e.g. noise, dust, causing disturbance and irritation.
- Loss of environmental values e.g. flora and fauna.
- Stress and anxiety associated with the Project and uncertainty of the Project assessment process, also due to cumulative impact of concurrent project development within the locality.
- Reduced connection to Country and potential disruption to Aboriginal cultural values.
- Heightened levels of community outrage associated with perceived inability to inform Project planning and decision-making processes.

The positive social impacts ranked with a residual significance ranking of high or medium include:

- Generation of local employment and procurement opportunities.
- Ability to enhance human and economic capital through skill development and training opportunities.
- Livelihood enhancement associated with hosting of project infrastructure.
- Improved social capital for local community infrastructure and initiatives associated with community benefit sharing programs i.e. VPA.
- Intergenerational equity and improved liveability due to contribution of the Project to renewable energy generation.

Community identified strategies to mitigate or respond to these potential negative impacts, as well as opportunities to enhance the positive impacts of the Project and contribute to the local and regional community, have been identified, with these strategies considered by Lightsource bp in the development of the social impact management framework.

A preliminary social impact management planning framework has been outlined and includes the following key components for the successful development of the Project:

- A Social Impact Management Plan: Should the Project be approved, Lightsource bp will develop and implement a SIMP. The SIMP will document the key mitigation and enhancement commitments for the Project and include a program to monitor, review and report on the effectiveness of these actions.
- A Community and Stakeholder Engagement Strategy for the pre-construction, construction and operational phases of the Project focussed on the continued proactive engagement with the community.
- A Community Benefit Sharing Strategy.
- A Neighbourhood Benefits Sharing Program.
- An Accommodation and Employment Strategy (already developed) to maximise local benefits and minimise any effect on the local housing and accommodation market.

In summary, this Social Impact Assessment documents the social baseline, impacts, and management measures associated with the Project. It informs the refinement of project design to minimise negative impacts and maximise positive benefits, while community-identified strategies contribute to a preliminary social impact management framework.

8.0 References

.idcommunity. (2021). *Goulburn Mulwaree Council area*. Retrieved from .idcommunity demographic resources: https://economy.id.com.au/goulburn/value-of-agriculture

ABC News. (2021). *Solar and wind farm sites may be restricted for major regional centres in NSW*. Retrieved from ABC News: https://www.abc.net.au/news/2021-10-15/solar-wind-farm-development-limits/100538634

ABC News. (2022). *Solar farm trial shows improved fleece on merino sheep grazed under panels*. Retrieved from https://www.abc.net.au/news/rural/2022-05-30/solar-farm-grazing-sheep-agriculture-renewable-energy-review/101097364

ABC News. (2023). *Goulburn (Key Seat) - NSW Election 2023*. Retrieved from ABC News: https://www.abc.net.au/news/elections/nsw/2023/guide/goul

ABC Rural. (2024, June 12). *Farmer fears potential public liability insurance risks living next door to Neoen's Culcairn solar farm*. Retrieved from https://www.abc.net.au/news/2024-06-12/farmer-stephen-pumpa-insurance-concerns-neoen-solar-farm/103855680

Aboriginal Housing Office, NSW Governemnt. (2024). *Goulburn.* Retrieved from https://www.aho.nsw.gov.au/applicants/era/about/chapters/locations/goulburn

About Regional. (2021). *How long can Bungonia fly under the radar?* Retrieved from About Regional: https://aboutregional.com.au/how-long-can-bungonia-fly-under-the-radar/

ABS. (2016, June). *Australian Statistical Geography Standard.*

ABS. (2016). *Goulburn Mulwaree LGA Community Profile.* Retrieved from ABS: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA13310

ABS. (2016). *New South Wales Community Profile.* Retrieved from ABS: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1

ABS. (2021). *Analysis of non-binary sex responses*. Retrieved from https://www.abs.gov.au/articles/analysis-non-binary-sex-responses#:~:text=the%202021%20Census.-,2021%20Census%20results,0.17%25%20of%20the%20Australian%20population.

ABS. (2021). Community Profiles. Australia: Australian Bureau of Statistics.

ABS. (2021). *Goulburn Mulwaree 2021 Census All persons QuickStats*. Retrieved from https://dbr.abs.gov.au/region.html?lyr=sa3&rgn=10105

ABS. (2021). *Gundary QuickStats*. Retrieved from https://www.abs.gov.au/census/find-census-data/quickstats/2021/SAL11812

ABS. (2021). *Maps of Localities.* Retrieved from https://maps.abs.gov.au/

ABS. (2021). *SEIFA Scores*. Retrieved from ABS: https://www.abs.gov.au/statistics/people/people-and-communities/socio-economic-indexes-areas-seifa-australia/2021/Suburbs%20and%20Localities%2C%20Indexes%2C%20SEIFA%202021.xlsx

ABS. (2021). *TableBuilder*. Retrieved from Australian Bureau of Statistics: https://tablebuilder.abs.gov.au/

Adapt NSW. (2017). *Enabling Adaptation in the South East.* NSW Office of Environment and Heritage.

AEIC. (2023). *Neighbour Matters*. Retrieved from Australian Government Australian Energy Infrastructure Commissioner : https://www.aeic.gov.au/observations-and-recommendations/chapter-2-neighbour-consultation-agreements

AEMO. (2022). *2022 Integrated System Plan.* Sydney: AEMO.

AEMO. (2022). *2022 Integrated System Plan.* AEMO.

Ag Econ Plus Consulting. (2018). *Southern Tablelands Regional Economic Development Strategy.* Southern Tablelands: Goulburn Mulwaree Council, Upper Lachlan Shire Council and Yass Valley Council.

AgEconPlus. (2018). *Southern Tablelands Regional Economic Development Strategy 2018-2022.* AgEconPlus Consulting.

AirDNA. (2023). *Market Report.*

AirDNA. (2023, December). *Matching Australian Cities.* Retrieved from AIRDNA.

Andrew Dyer, A. E. (2023). *Community Engagement Review Report to the Minister for Climate Change and Energy.*

ATDW. (2024, April). ATDW Accomm as at 04 April 2024. ATDW.

Australia Post. (2022). *Campaign Targeter*. Retrieved from https://campaigntargeter.com.au/customer/5881/campaigns/43565/map

Australian Government Department of Industry, Innovation and Science. (2016). Community Health and Safety Handbook, Leading Practice Sustainable Development Program for the Mining Industry.

Australian Labor Party. (2021). *Powering Australia.* Canberra: ALP.

Australian Museum Business Services. (2012). *Goulburn Mulwaree LGA Abriginal Heritage Study.* Australian Museum Business Services.

Australian Radiation Protection and Nuclear Safety Agency. (2022). *Australian Radiation Protection and Nuclear Safety Agency*. Retrieved from https://www.arpansa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/electricity

Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates. (2018). *Heritage Study Review.* Retrieved from Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates: file:///C:/Users/mbowman/Downloads/Heritage-Study-Review.pdf

BMS. (2021, January). *Renewable Energy - The Impact of claims activity on insurance market dynamics*. Retrieved from https://publications.bmsgroup.com/view/424753/7/

BOSCAR. (2023, December). *NSW Crime Tool*. Retrieved from BOSCAR: https://crimetool.bocsar.nsw.gov.au/bocsar/

Bradley, G., Deshpande, S., & Foxwell-Norton, K. (2022). *Climate Action Survey: Summary for Policy and Decision Making.* Griffith University.

Briggs, C., Rutovitz, J., Nagrath, K., & Dominish, E. (2020). *Renewable Energy Employment in Australia: Methodology.* Clean Energy Council.

Burdge, R. J. (2004). The concepts, process and methods of SIA. *The Social Ecology Press*. doi:ISBN 0-941042-35-9

Burt, M. (2024, February 19). *The Farmer*. Retrieved from Public liability insurance backs farmers into a corner: https://thefarmermagazine.com.au/public-liability-insurance/

Clean Energy Council. (2019). *A Guide to Benefit Sharing Options for Renewable Energy Projects.*

CNBS News. (2024, May). *Aussie farmers flock to capital over 'reckless' renewable energy push*. Retrieved from CNBS News: https://cnbsnews.live/politics/aussie-farmers-flock-to-capital-over-reckless-renewable-energy-push/

Coakes, S., & Sadler, A. (2011). Utilizing a sustainable livelihoods approach to inform a social impact assessment practice. In F. Vanclay, & A. M. Esteves, *New Directions in Social Impact Assessment.* Edward Elgar.

Collector Wind Farm. (2022). *Collector Wind Farm*. Retrieved from https://www.collectorwindfarm.com.au/

Community Energy 4 Goulburn. (n.d.). *Community Energy 4 Goulburn*. Retrieved from Community Energy 4 Goulburn: http://www.ce4g.org.au/about.php

Community Power Agency. (2024). *Building Better Biodiveristy on Solar Farms: A regenerative guide to nature-positive solar farming.*

Connor L, A. G. (2004). Environmental change and human health in Upper Hunter communities of New South Wales, Australia. *EcoHealth*, SU47–SU58.

Dennett, H., & Neale, H. (2022, June 24). *Migration to ACT surrounds swells: Regional Australia Institute and Commonwealth Bank reports*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7793846/goulburn-sees-rise-in-migration-report-finds/

Department of Primary Industries. (2022). *Agricultural Mapping*. Retrieved from https://www.dpi.nsw.gov.au/agriculture/lup/agricultural-mapping

Department of Regional NSW. (2018). *Renewable Energy Pipeline.* Retrieved from Department of Regional NSW: https://www.regional.nsw.gov.au/__data/assets/pdf_file/0005/665528/REM2018_web_side2.pdf

Destination Southern NSW. (2020, July). *Tablelands Destination Development Plan 2020 to 2025.* Retrieved from https://www.yassvalley.nsw.gov.au/assets/2021/Council-Documents/20200713-DSNSW-Tablelands-DestinationDevelopmentPlan-Final-Web.pdf

Devine-Wright. (2011). Place attachment and public acceptance of renewable energy: A tidal energy case study. *Journal of Environmental Psychology*, 336-343.

DFID. (2001). *Sustainable Livelihoods Guidance Sheets.*

Doyle, M.-A. (2014). Labour movements during the resources boom. *REserve Bank of Australia Bulletin*.

DPE. (2022). *Landscape and Visual Impact Assessment - Technical Supplement.*

DPE. (2022). *Large-Scale Solar Energy Guideline.* NSW Department of Planning and Environment.

DPE. (2022). *Large-Scale Solar Energy Guideline - Frequently Asked Questions.*

DPE. (2023). *Draft Benefit Sharing Guideline.*

DPE. (2023). *Social Impact Assessment Guideline.* Department of Planning and Environment.

DPE. (2023). *Social Impact Assessment Guideline.* Department of Planning and Environment.

DPE. (2023). *Social Impact Assessment Guideline. State significant projects.* Sydney: NSW Department of Planning, Industry and Environment. Retrieved April 23, 2021, from https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00+-+Planning+Portal+Exhibitions/SIA/SIA+Publication+for+Publication+Online+20201022.pdf

DPE. (2023). *Social Impact Assessment Guideline. State Significant Projects.* Sydney: NSW DPE. Retrieved April 23, 2021, from https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00+-+Planning+Portal+Exhibitions/SIA/SIA+Publication+for+Publication+Online+20201022.pdf

DPHI. (2023). *Draft Benefit Sharing Guideline: Guidance for state significant renewable energy devlopment.*

DPI. (2023, March 1). *NSW Government response to the NSW Agriculture.* Retrieved from Department of Primary Industries: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/1452244/db75af5a68535d9d58f5ed390850c1cac6cc1b7c.pdf

DPIE. (2023). *Technical Supplement - Social Impact Assessment Guideline for State Significant Projects.*

Economy ID. (2022). *Goulburn Mulwaree Council area*. Retrieved from Economy ID: https://economy.id.com.au/goulburn/covid19-quarter-impacts

Edward River Council. (2022, February). *Edward River Council*. Retrieved from About Council : https://www.edwardriver.nsw.gov.au/Council/About-Edward-River-Council/About-Council

Edward River Council. (2020). *Local Strategic Plannign Statement February 2020.* Deniliquin: Edward River Council.

EIANZ. (2021, December 1). *EIANZ Code of Ethics and Professional Conduct.* Retrieved from Environment Institute of Australia and New Zealand Inc.: https://www.eianz.org/membership-information/code-of-ethics-and-professional-conduct

Elmallah, S., Hoen, B., Fujita, K. S., Robson, D., & Brunner, E. (2023). Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states. *Energy Policy*.

Elton Consulting. (2020). *Urban and Fringe Housing Strategy Goulburn and Marulan.*

Energy Co. (2024). *Illawarra Renewable Energy Zone*. Retrieved from NSW Government Energy Co: https://www.energyco.nsw.gov.au/ilw-rez

Energy Magazine. (2022, Novemeber 29). *Managing solar waste: getting ahead of the challenge*. Retrieved from Energy Magazine: https://www.energymagazine.com.au/managing-solar-waste-getting-ahead-of-the-challenge/

Envisage. (2022). *Preliminary visual impact ratings – Proposed Gundary solar farm.*

Envisage Consulting. (2024). *Proposed Gundary Solar Farm Landscape and Visual Impact Assessment.*

Envisage Consulting Pty Ltd. (2023, Dec). *Gundary Solar Farm Project Visual Impact Assessment*.

Erny-Albrecht, K. B. (2014). *Fly-in Fly-out/ Drive-in Drive-out practices and health services delivery in rural.* Primary Health Care Research and Information Service.

Ethos Urban. (2024). *Economic Impact Assessment - Gundary Solar Farm.*

Flood, J. (1996). *Moth Hunters of the Australian Capital Territory: Aboriginal Traditional Life in teh Canberra Region.* Canberra: Gecko Books.

Gaur, V., & Lang, C. (2020). *Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island.* University of Rhode Island Cooperative Extension.

Gearino, D. (2023, 03 15). *Do Solar Farms Lower Property Values? A New Study Has Some Answers*. Retrieved from Inside Climate News : https://insideclimatenews.org/news/15032023/solar-property-values/

Glass, D., Kelsall, H., Slegers, C., Forbes, A., Loff, B., Zion, D., & Fritschi, L. (2015). A telephone survey of factors affecting willingness to participate in health research surveys. *BMC Public Health*.

Google Maps. (n.d.). *Google Maps*. Retrieved from Google Maps: https://www.google.com.au/maps

Goulburn Chamber of Commerce. (2022). *About Us*. Retrieved from Goulburn Chamber of Commerce: https://goulburnchamber.com.au/

Goulburn Community Energy Cooperative. (2022). *Info*. Retrieved from Goulburn Community Energy Cooperative: https://goulburnsolarfarm.com.au/info/

Goulburn Community Energy Coopoerative. (2024). *Goulburn Community Energy Coopoerative*. Retrieved from https://goulburnsolarfarm.com.au/

Goulburn Flight Training Academy. (2022). *Goulburn Airport*. Retrieved from Goulburn Flight Training Academy : https://gftc.com.au/goulburn-airport/

Goulburn Mulwaree Council. (2019). *Draft Social Sustainability Strategy and Action Plan 2019-2029.* Retrieved from Goulburn Mulwaree Council: file:///C:/Users/mbowman/Downloads/191126_-Draft-GMS-Social-Sustainability-Strategy-and-Action-Plan.pdf

Goulburn Mulwaree Council. (2020). *Local Strategic Planning Statement.* Goulburn: Goulburn Mulwaree Council.

Goulburn Mulwaree Council. (2022). *Goulburn Mulwaree Council, NSW*. Retrieved from Higher than Average Growth: https://www.htag.com.au/nsw/nsw178-goulburn-mulwaree-council/

Goulburn Mulwaree Council. (2023). *Councillors*. Retrieved from Goulburn Mulwaree Council: https://www.goulburn.nsw.gov.au/Council/Contact-a-Councillor

Goulburn Post. (2021). *New report reveals rental affordability forces more Goulburn families into financial hardship*. Retrieved from Goulburn Post : https://www.goulburnpost.com.au/story/7239727/new-report-reveals-rental-affordability-forces-more-goulburn-families-into-financial-hardship/

Goulburn Post. (2022, June 30). *The Goulburn Group criticises Taylor, Tuckerman over solar farm stance*. Retrieved from Goulburn Post : https://www.goulburnpost.com.au/story/7801348/accusations-fly-over-solar-farm-as-political-debate-heats-up/?cs=185

Goulburn Post. (2020, November). *Goulburn support for solar farm*. Retrieved from Goulburn Post.

Goulburn Post. (2021). *Bungonia's 'strong community' wins day against Jerrara Power plant*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7427698/people-power-triumphs-in-battle-over-waste-to-energy-proposal/

Goulburn Post. (2021). *Goulburn MP takes up power projects with energy commissioner*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7561926/energy-projects-take-off-in-region-as-residents-reel-from-impacts/

Goulburn Post. (2021, May 6). *New report reveals rental affordability forces more Goulburn families into financial hardship*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7239727/new-report-reveals-rental-affordability-forces-more-goulburn-families-into-financial-hardship/

Goulburn Post. (2022, March). *Gundary Rural Fire Brigade Fire Station fire-shed officially opens*. Retrieved from https://www.goulburnpost.com.au/story/7636528/new-fire-shed-brings-community-together/

Goulburn Post. (2022, April 11). *Lightsource bp proposes large-scale solar farm near Goulburn*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7691369/multi-million-dollar-solar-farm-will-change-gundary-plains-forever/

Goulburn Post. (2023, March 6). *Professor Andrew Blakers to speak in*. Retrieved from Goulburn Post.

Goulburn Post. (2024, May 8). *Goulburn could be Australian solar research centre*.

Goulburn Post. (2024, April). *Group "dumbfounded" by council opposition to Gundary solar farm*. Retrieved from The Goulburn Post: https://www.goulburnpost.com.au/story/8594056/the-goulburn-group-criticises-council-call-on-gundary-solar-farm/

Grupe DW, N. J. (2013). Uncertainty and anticipation in anxiety: an integrated neurobiological and psychological perspective.

Hart, M. (1999). Guide to Sustainable Community Indicators. *Atlantic Centre for the Environment*.

IAIA. (2015). *SIA Guidance Document.*

IPC. (2023). *Statement of Reasons for Decision Glenellen Solar Farm SSD 9550.*

Jason, Stevens & Ram. (2015). Development of a Three-Factor Psychological Sense of Community Scale. *Journal of Community Psychology*, 973-985.

Lightsource bp. (2022, October). *Human Right Policy.* Retrieved from https://lightsourcebp.com/app/uploads/2022/12/Human-rights-policy-2022-Lightsource-bp.pdf

Lightsource bp. (2023). *Projects*. Retrieved from https://lightsourcebp.com/au/projects/

Lotus Energy. (2024, June). *About us*. Retrieved from https://www.lotusenergy.io/about-us

Low, S. (1992). Symbolic ties that bind: Place Attachment in the Plaza. In I. L. ltman, *Place Attachment: Human Behavior and* (pp. 165- 185). New York, NY, USA: Plenum.

Lowy Institute. (2021). *Lowy Institute Poll 2021.* Lowy Institute.

Lyons, J. (2021, May 31). *'Goulburn city feels like home'*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7081076/goulburn-city-feels-like-home/

Moffat, K., & Zhang, A. (2014). The paths to social licence to operate: An integrative model explaining community acceptance of mining. *Resources Policy*, 61-70.

Moir Landscale Artchitecture. (2024). *Gundary Solar Farm Glint and Glare Assessment.*

Murray Lower Darling Rivers Indigenous Nations. (n.d). *The Murray Darling Basin*. Retrieved from The Murray Darling Basin's Geography: https://www.mldrin.org.au/murray-darling-basin/

My Community Directory. (2022). *Mulwaree Aboriginal Community Inc*. Retrieved from https://www.mycommunitydirectory.com.au/New_South_Wales/Goulburn_Mulwaree/Aboriginal_Services/General_Aboriginal__Services/95351/223652/Mulwaree_Aboriginal_Community_Inc

MyCommunityDirectory. (n.d.). *Hospitals*. Retrieved from MyCommunityDirectory: https://www.mycommunitydirectory.com.au/New_South_Wales/Goulburn_Mulwaree/Health_Services/Hospitals/94894/223452/Goulburn_Base_Hospital

National Institute of Environmental Health Sciences. (2022). *Electric & Magnetic Fields*. Retrieved from https://www.niehs.nih.gov/health/topics/agents/emf/index.cfm

Neele, H. (2021, July 8). *Tree change demand fuels Goulburn real estate boom*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7328083/no-residential-blocks-available-tree-change-demand-fuels-development/

NSW Agriculture Commissioner. (2022). *Renewable energy generation and agriculture in NSW's rural landscape and economy – growth sectors on a complementary path.*

NSW DPE. (2021). *Undertaking Engagement Guidelines for State Significant Developments.* Sydney: NSW DPE.

NSW DPE. (2020). *NSW Climate Change Policy framework.*

NSW DPE. (2023). *Social Impact Assessment Guideline for State Significant Projects.* New South Wales Government.

NSW DPIE. (2017). *Social impact assessment guideline.* Sydney: NSW Government.

NSW DPIE. (2017). *South East and Tablelands Regional Plan 2036.* Retrieved from NSW DPIE: https://www.planning.nsw.gov.au/~/media/Files/DPE/Plans-and-policies/south-east-and-tableland-regional-plan-2017-07.ashx

NSW Government. (2021). *Renewable Energy Zones*. Retrieved from Energy NSW: https://www.energy.nsw.gov.au/renewables/renewable-energy-zones#-southwest-renewable-energy-zone-

NSW Government. (2023, November 13). *Energy Policy Framework*. Retrieved from Planning: https://www.planning.nsw.gov.au/policy-and-legislation/renewable-energy/energy-policy-framework

NSW Government. (n.d.). *NSW Health Service Directory*. Retrieved from NSW Government: https://www.nsw.gov.au/departments-and-agencies/nsw-health/service-directory

NSW Government, Planning & Environment. (2017). *South East and Tablelands Plan 2036.* NSW Government.

NSW Legislation. (2024, July). *State Environmental Planning Policy (Transport and Infrastructure) 2021.* Retrieved from https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0732

NSW National Parks and Wildlife Service. (2022). *Bungonia National Park*. Retrieved from NSW National Parks and Wildlife Service: https://www.nationalparks.nsw.gov.au/visit-a-park/parks/bungonia-national-park

NSW Planning Portal. (2023). *State Significant Projects in Goulburn*. Retrieved from https://www.planningportal.nsw.gov.au/major-projects/search?combine=Goulburn&field_case_stage_value=All&field_local_council_area_value=Goulburn+Mulwaree&field_development_value=All&field_industry_value=All&field_case_type_value=All

NSW Police Force. (n.d.). *Goulburn Police Station*. Retrieved from NSW Police Force: https://www.police.nsw.gov.au/about_us/regions_commands_districts/southern_region/the_hume/goulburn_police_station

NSW RFS. (n.d.). *Fire Control Centres*. Retrieved from NSW RFS: https://www.rfs.nsw.gov.au/about-us/fire-control-centres

NSW Rural Fire Service. (2023). *Check if you are in bush fire prone land*. Retrieved from https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land/check-bfpl

NSW Valuer General. (2023). *Land values in the Goulburn Mulwaree local government area*. Retrieved from NSW Valuer General : https://www.valuergeneral.nsw.gov.au/land_value_summaries/lga.php?lga=529&base_date=01072023

Office of Environment and Heritage. (2015). *Community Attitudes to Renewable Energy in NSW.* NSW Government.

Parliament of Australia. (2022, 05 10). *Mr Pat Conaghan MP*. Retrieved from Parliament of Australia: https://www.aph.gov.au/Senators_and_Members/Parliamentarian?MPID=279991

Parliament of Australia. (2023, November 29). *SOLAR FARMS AND PUBLIC LIABILITY INSURANCE*. Retrieved from Legislative Council Hansard – 29 November 2023 – Proof: https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1820781676-94289/link/2259

Parliment of Australia. (2022). *Hon Angus Taylor MP*. Retrieved from Parliment of Australia: https://www.aph.gov.au/Senators_and_Members/Parliamentarian?MPID=231027

Parliment of New South Wales. (2022). *The Hon. Wendy Margaret TUCKERMAN, MP*. Retrieved from https://www.parliament.nsw.gov.au/members/Pages/member-details.aspx?pk=2240

PHIDU. (2021). Social Health Atlas of Australia: Local Government Areas. *Data Workbooks*. Australia: Torrens University Australia.

(2022, December). Phone Survey. (T. R. Group, Interviewer)

Pretty, Bishop, Fisher & Sonn. (2007). Psychologcial Sense of Community and its relevance to well-being and everyday life in Australia. *The Australian Community Psychologist*, 6-24.

Profile ID Community. (2022). *Goulburn Mulwaree*. Retrieved from Profile ID Community: https://profile.id.com.au/goulburn

Proshansky, Fabian & Kaminoff. (1983). Place Identity: Physical World Socialisation of the Self. *Journal of Environmental Psychology*, 57-83.

Real Estate Investar. (2022, June). *Investment Property Goulburn*. Retrieved from https://www.realestateinvestar.com.au/Property/goulburn

real estate investar. (2023, October). *Investment Property*. Retrieved from real estate investar: https://www.realestateinvestar.com.au/property/act/act

Real Estate Investar. (2023). *Investment Property Goulburn, NSW, 2580*. Retrieved from https://www.realestateinvestar.com.au/Property/goulburn

real estate investar. (2024, April). *Investment Property*. Retrieved from real estate investar: https://www.realestateinvestar.com.au/property/

Regional Development Australia. (2022, February). *Regional Development Australia*. Retrieved from RDA-Riverina Region: https://rdariverina.org.au/our-region

SALM. (2023, December). Small Area Labour Market. Jobs and Skill Australia.

Sanchez, E., Bice, S., & O'Connell, K. (2022). *State of Infrastructure and Engagement: Highlights Report: 2020-2021.* Canberra: Australian National University.

Sareen, D. (2013, Novemeber 25). *What is a tree change?* Retrieved from realestate.com.au: https://www.realestate.com.au/advice/what-is-a-tree-change/

Save Gundary Plains. (2023). Retrieved from https://www.facebook.com/FarmGundary/

SES. (n.d.). *Our Zones*. Retrieved from SES: https://www.ses.nsw.gov.au/about-us/our-zones/

Simply Stakeholders. (2024, July). *Gundary Solar Project*.

Solar Choice. (2021). *NSW flags tighter rules on where wind and solar farms can be built*. Retrieved from Solar Choice: https://www.solarchoice.net.au/blog/nsw-flags-tighter-rules-on-where-wind-and-solar-farms-can-be-built/

State of NSW and Office of Environment and Heritage. (2012). *The land and soil capability assessment scheme.* Sydney: Office of Environment and Heritage.

Stephens, R., Forbes, L., & Cansdale, D. (2022, Feburary 18). *Net migration from capital cities to regional areas doubles during COVID-19*. Retrieved from ABC News: https://www.abc.net.au/news/2022-02-18/migration-from-cities-to-regional-areas-doubles-during-covid/100839386

STR. (2022). *Data Insights*. Retrieved from STR: https://str.com/data-insights

Taverner Research Group. (Dec 2022 to Jan 2023). *Gundary Solar Farm Randomised Telephone Survey of residents within Goulburn Mulwaree LGA.*

The Australian. (2024, February 3). *Killing fields fear solar will destroy locals' livelihoods*. Retrieved from The Australian: https://www.theaustralian.com.au/inquirer/killing-fields-fear-solar-will-destroy-locals-livelihoods/news-story/f66a76c00862768c69c9060c31cc64e6?btr=1f6c27099e965028692657a582c275f3

The Big Merino Goulburn. (2023). *The Big Merino Goulburn*. Retrieved from https://www.bigmerino.com.au/history-of-wool/

The Guardian. (2024, March 30). *Solar panel waste to reach crisis levels in next two to three years, Australian experts warn*. Retrieved from https://www.theguardian.com/australia-news/2024/mar/30/solar-panel-waste-levels-crisis-point-disposal

Tilt Renewables. (2022). *Crookwell Wind Farm*. Retrieved from https://www.tiltrenewables.com/assets-and-projects/Crookwell-Wind-Farm/

Transport NSW. (2023, October). *Reduced speed limit for Windellama Road at Goulburn*. Retrieved from https://www.transport.nsw.gov.au/news-and-events/media-releases/reduced-speed-limit-for-windellama-road-at-goulburn

Umwelt. (2022–2024). *Engagement Activities to inform the Social Impact Assessment for Gundary Solar Farm Project.*

Umwelt. (2023).

Umwelt. (August 2022 to November 2023). *Social Impact Assessment Survey Online.*

United Nations Climate Change. (2023, December 13). *COP28 Agreement Signals "Beginning of the End" of the Fossil Fuel Era*. Retrieved from https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era

UNSW Sydney Newsroom. (2024, March 26). *Bigger and better solar panel recycling centres needed to deal with PV waste, says report*. Retrieved from https://www.unsw.edu.au/newsroom/news/2024/03/Bigger-better-solar-panel-recycling-centres-needed-deal-PV-waste-report

US Environmnetal Protection Agency. (2022). *Electric and Magnetic Fields from Power Lines.* EPA.

Valuer General. (2024, May). *Property Sales Enquiry - Gundary 01/04/2022 to 15/05/2024*. Retrieved from https://www.valuergeneral.nsw.gov.au/services/sales-enquiry.htm?execution=e1s2

Vanclay, Esteves, Aucamp, & Franks. (2015). *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects.*

Vorrath, S. (2022, July 4). Angus Taylor lines up against huge solar and battery project in Hume. *Renew Economy*.

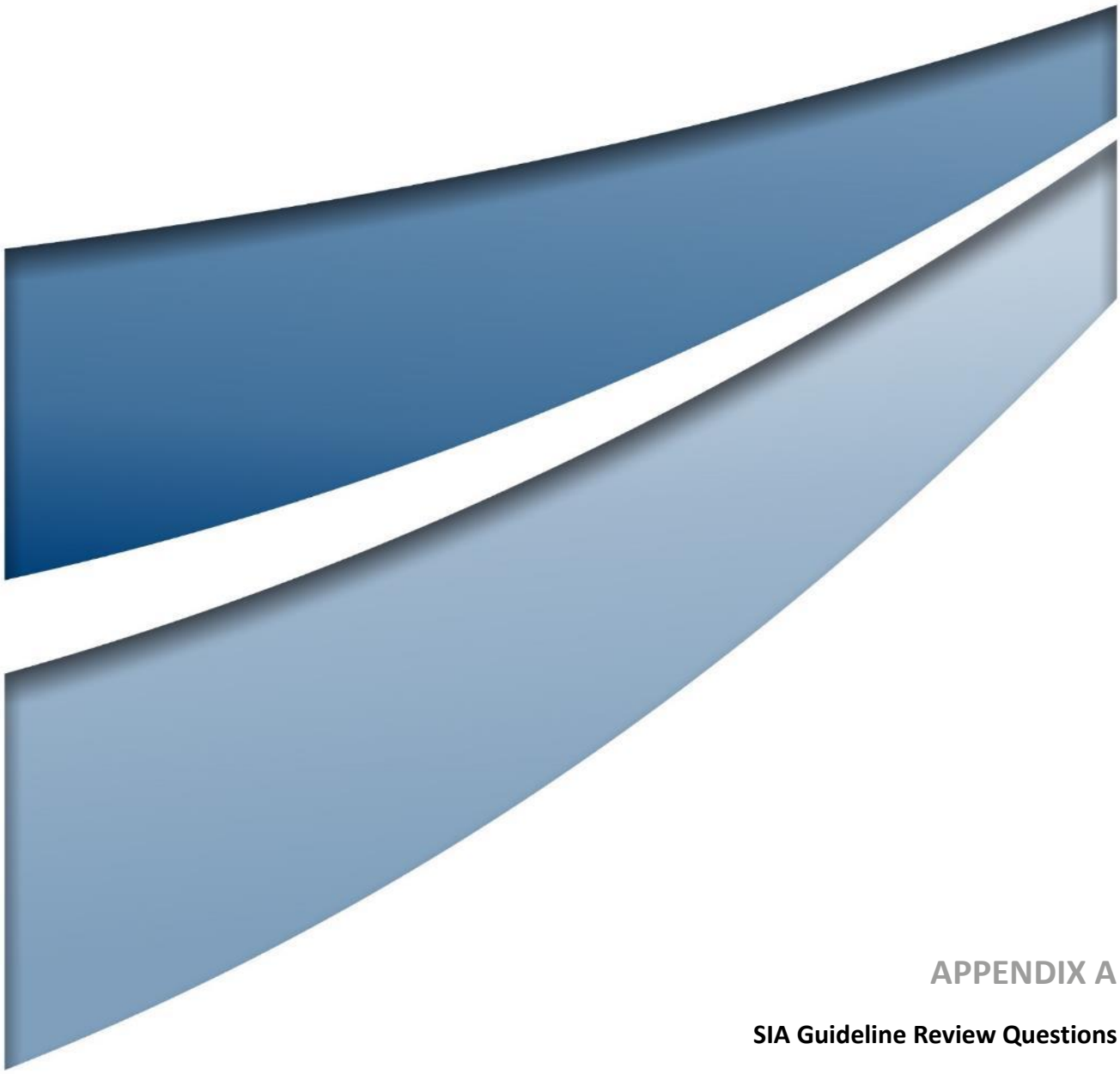
Water NSW. (2020, September). *Developments in the.* Retrieved from Water NSW: https://www.waternsw.com.au/__data/assets/pdf_file/0008/134747/CRP-Developments-in-Sydney-s-Drinking-Water-Catchments.PDF

Waymouth, L. (2023, April 29). *Canberra's housing crisis is 'relentless', new report finds*. Retrieved from Riotact: https://the-riotact.com/canberras-housing-crisis-is-relentless-new-report-finds/656307

WHO. (2023). *Vulnerability*. Retrieved from https://www.undrr.org/terminology/vulnerability#:~:text=The%20conditions%20determined%20by%20physical,to%20the%20impacts%20of%20hazards.

World Health Organisation. (2016). *Radiation: electromagnetic feilds*. Retrieved from https://www.who.int/news-room/questions-and-answers

WRM. (2024). *Flood Impact and Risk Assessment - Gundary Solar Farm.*



APPENDIX A

SIA Guideline Review Questions

The NSW Government SIA Guideline (DPE, 2023) outlines review questions to confirm that the requirements have been fulfilled when considering the scale of the project. Responses are provided below.

Table A.1 SIA Review Questions

General	Section Addressed in the SIA
1. Does the lead author meet the qualification and experience requirements?	**Refer to Author Declaration**
2. Has the lead author provided a signed declaration?	**Table AD.1**
3. Would a reasonable person judge the SIA report to be impartial, transparent and suitably rigorous given the nature of the project?	**Yes**
Project's social locality and social baseline	
4. Does the SIA report identify and describe all the different social groups that may be affected by the project?	**Section 2.3.1**
5. Does the SIA report identify and describe all the built or natural features that have value or importance for people, and explain why people value those features?	**Section 4.4.4**
6. Does the SIA report identify and describe historical, current, and expected social trends or social changes for people in the locality, including their experiences with this project and other major development projects?	**Section 3.0**
7. Does the social baseline study include appropriate justification for each element, and provide evidence that the elements reflect both relevant literature and the diversity of views and likely experiences?	**Section 3.5**
8. Does the social baseline study demonstrate social-science research methods and explain any significant methodological or data limitations?	**Section 2.5**
Identification and description of social impacts	
9. Does the SIA report adequately describe likely social impacts from the perspectives of how people may experience them, and explain the research used to identify them? When undertaken as a part of SIA scoping and initial assessment, has the plan for the SIA report been detailed?	**Section 4.0**
10. Does the SIA report apply the precautionary principle to identifying social impacts, and consider how they may be experienced differently by different people and groups?	**Section 2.4**
11. Does the SIA report describe how the preliminary analysis influenced project design and EIS engagement strategy?	**Section 4.0 & Section 6.0**
Community engagement	
12. Were the extent and nature of engagement activities appropriate and sufficient to canvass all relevant views, including those of vulnerable or marginalised groups?	**Section 2.3**
13. How have the views, concerns and insights of affected and interested people influenced both the project design and each element of the SIA report?	**Section 4.0 and Section 6.0**
Predicting and analysing social impacts	
14. Does the SIA report impartially focus on the most important social impacts to people at all stages of the project, without any omissions or misrepresentations?	**Section 4.0**
15. Does the SIA report analyse the distribution of both positive and negative social impacts, and identify who will benefit and who will lose from the project?	**Section 4.0 and Section 6.0**
16. Does the SIA report identify its assumptions, and include sensitivity analysis and alternative scenarios? (including 'worst case' and 'no project' scenarios where relevant)	**Section 4.0**

General	Section Addressed in the SIA
Evaluating significance	
17. Do the evaluations of significance of social impacts impartially represent how people in each identified social group can expect to experience the project, including any cumulative effects?	**Section 4.8 and Section 5.0**
18. Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	**Section 5.0**
Responses, monitoring and management	
19. Does the SIA report propose responses that are tangible, deliverable, likely to be durably effective, directly related to the respective impact(s) and adequately delegated and resourced?	**Section 6.0**
20. Does the SIA report demonstrate how people can be confident that social impacts will be monitored and reported in ways that are reliable, effective and trustworthy?	**Section 6.2**
21. Does the SIA report demonstrate how the proponent will adaptively manage social impacts and respond to unanticipated events, breaches, grievances and non-compliance?	**Section 6.2**

APPENDIX B

Social Baseline Indicators, Data Sources and Community Capitals Analysis

1.0 Social Baseline Data and Indicators

Table 1.1 Social Baseline Indicators and Data Sources

Source	Level of Analysis	Indicators of Interest	Key Investigation Questions
ABS Census (2016 and 2021[1])	Gundary SSC and Goulburn Mulwaree LGA	Current population Median age and age distribution Proportion of vulnerable groups (unemployed, low income families, elderly, Aboriginal and Torres Strait Islanders) Unemployment rate Key industries of employment Educational attainment Ownership and tenure of private dwellings Weekly household income Cost of living (rental and mortgage payments)	What is the demographic composition of the community? What is the proportion of the population that is vulnerable to the proposed project/change? What skills exist in the region, are there relevant skill sets to enable the local and regional population to capitalise on employment opportunities during construction/operations? Is the Project going to be of value to the local/regional community? Does the project align with community values, aspirations, needs? Are there any groups that will require a particular engagement approach to facilitate their involvement and participation? i.e., languages or cultural/ educational barriers, vulnerability? Are there any specific social trends evident in the region?
ABS Census of Population and Housing (2016 and 2021) **Socio-Economic Indexes for Areas (SEIFA, 2016)**	Gundary SSC and Goulburn Mulwaree LGA	Index of relative socio-economic advantage / disadvantage	What is the socio-economic status of the community? What is the level of advantage / disadvantage in the community?
Local papers/media including **The Goulburn Post** **RAMfm Community Radio**	Goulburn Mulwaree LGA NSW Australia	Level of support for renewable projects Number of articles relating to renewable projects Community Sentiment regarding solar farms Reported electricity prices	What has been the response of the community to similar Projects in the region? How supportive or not are community residents of renewable energy projects? Have community residents expressed concerns regarding current electricity prices?

[1] 2021 census data has been used where available. Not all 2021 data has been released by ABS at the time of writing this Scoping Report. Where 2021 is not yet available, 2016 data has been used.

Source	Level of Analysis	Indicators of Interest	Key Investigation Questions
Department of the Environment and Energy (2019) Australian Energy Statistics **NSW Transmission Infrastructure Strategy** **Renewable Energy Action Plan in 2018** **Regional Community Energy Fund** **Energy Efficiency Action Plan 2018**	NSW Australia	Level of investment in renewable energy infrastructure in NSW Support for and awareness of renewable/ wind energy in the community Strategic emphasis on energy infrastructure in the region Number of wind energy and renewables projects in the region	What are the Goulburn Council's key priority areas? Is the proposed project aligned with the Council's strategic plan? Are community values, concerns and/or aspirations documented in the Community Strategic Plan? How does the proposed project fit within the broader regional and state planning energy strategy?
Community and Stakeholder Engagement	Goulburn Mulwaree LGA	Knowledge of the project Level of support for the project Community sentiment towards renewable infrastructure and energy Concerns related to the project and perceptions of potential social impacts Ideas about ways to maximise the benefits of the project.	What are the attitudes and perspectives of local and regional residents – are they likely to be supportive of the project? What are the key concerns of the community in relation to the project? Are there any strategies on how to manage the impacts of the project? To what extent will the project support the community?

2.0 Community Capital Analysis

The Sustainable Livelihoods Approach or 'community capitals' approach has been adopted (U.K. Department for International Development [DFID] 1999) to structure the social baseline study. This Framework allows for a holistic understanding of the communities of interest to the Project and to evaluate their resilience and adaptive capacity to change in the context of the Project and the broader regional development context.

The DFID (1999) approach draws on broad categories of community capitals (human, social, natural, physical and economic/financial) as a fundamental basis to identifying and further enhancing community capacity and resilience. This methodology has been further developed by Coakes & Sadler (2011) and applied in SIA practice to also include cultural and political capital areas. The vulnerability of each capital area can be assessed through the selection of a suite of social and economic quantitative and qualitative indicators specific to each capital area to assess a community's vulnerability to change, or conversely adaptive capacity.

This section outlines the social baseline in accordance with each community capital area.

2.1 Natural Capital

Natural capital refers to the natural assets and resources that contribute to community sustainability (DPE, 2023). Natural capital can include resources such as minerals, land, forests, and waterways, that provide benefit to the community, as well as environmental assets that provide cultural, social, or recreational value.

The natural capital of the social locality can be characterised as outlined below in **Table 2.1**.

Table 2.1 Natural Capital Key Aspects

Key Aspects	Description
Situated in the Sydney Drinking Water Catchment	Goulburn is located at the confluence of the Wollondilly and Mulwaree Rivers, and the Goulburn Mulwaree LGA is located within the Warragamba and Shoalhaven catchments which form part of the Sydney drinking water catchment. The Sydney Drinking Water Catchment supplies drinking water for almost 60% of the State's population. Rigorous planning and development controls apply to proposals within the Sydney Drinking Water Catchment and is regulated by State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (SEPP) (Water NSW, 2020). Chapter 8 of the Biodiversity and Conservation SEPP is applicable to the Project as it falls within the Sydney drinking water catchment. The consent authority is restricted from granting development consent unless it is satisfied that the Project will have a neutral or beneficial impact on water quality and will support the maintenance or achievement of the water quality objectives (WQO) for the Sydney drinking water catchment.

Key Aspects	Description
Extensively modified vegetation	The natural ecosystems of Goulburn Mulwaree LGA have been extensively modified since European settlement and vegetation cover has been reduced by more than half. Clearing has occurred predominately in the more fertile lands and along riparian zones as this is the most productive land. Only a small portion of the LGA is part of formal reserves. The main threat to remaining vegetation and to important ecosystem functions (carried out by riparian zones and wetlands) is posed by further clearing associated with agricultural practices, gully erosion and rural residential development in agricultural areas. Weed invasion has the potential to reduce, and in some cases, eliminate native and introduced pastures and impact significantly upon agricultural enterprise (Goulburn Mulwaree Council, 2020).
History of agriculture and grazing	The soils, climate, topography, and land use vary significantly across the Southern Tablelands Region, with high and medium rainfall production zones and a range of farming enterprises. The predominant farm enterprises are focused on livestock (sheep and beef, and mixed farming production) (AgEconPlus, 2018). Agriculture is the primary land use within the Project Area and the surrounding area, including sheep and cattle grazing and dry land cropping, with scattered rural dwellings. The usability of the agricultural land has decreased in the past decade due to properties being subdivided from larger rural lots to smaller rural lifestyle blocks. Merino wool is valuable to the history of Goulburn because it has adapted to the region's mild climate and vast grasslands, allowing for the development of uniquely Australian Merino strains ideal for producing heavy fleeces of fine quality wool (The Big Merino Goulburn, 2023). The Project Area is mapped as Class 4 and 5 with a small area of Class 3, which has been avoided by the development footprint. There is no area mapped as Biophysical Strategic Agricultural Land (BSAL) or State Significant Agricultural Land (SSAL) within the Project Area.
Region includes conservation areas, national parks and reserves	The closest national park, state park or nature reserve is the Pomaderris Nature Reserve (covering 100 ha) which is approximately 3.5 km northeast of the Project Area. The Project is located in the South East and Tablelands region. The region hosts large conservation areas, national parks and reserves and is home to threatened plant and animal species. Bungonia National Park is less than 40 km away from the Project Area, and offers caving, canyoning, rock climbing, abseiling, hiking, and bike trails (NSW National Parks and Wildlife Service, 2022)
An area prone to bushfires	The Project Area is identified as bushfire prone land by the NSW Rural Fire Service (RFS) bushfire prone land mapping (NSW Rural Fire Service, 2023). Bushfire prone land is defined as an area that is subject to, or likely to be subject to bushfire attack. In general, a bushfire prone area is an area mapped for a local government area that identifies the vegetation types and associated buffer zones. Bushfire prone land maps are prepared by local councils and certified by the Commissioner of the NSW RFS (NSW Rural Fire Service, 2023).

Sources: (Water NSW, 2020; Goulburn Mulwaree Council, 2020; AgEconPlus, 2018; NSW National Parks and Wildlife Service, 2022).

2.2 Human Capital

The level of human capital within a community is assessed by considering population size, age distribution, education and skills, general population health and the prevalence of at-risk groups within the community. The following table characterises the human capital of the social locality (DPE, 2023).

According to the 2021 census, the Goulburn Mulwaree LGA is home to 32,053 people. This population predominantly lives within Goulburn (23,320 people, 76% of the total population), with a further 16% (4,897 people) living in the Rural North and 8% (2,545 people) living in the Rural South (Goulburn Mulwaree Council, 2019).

Table 2.2 highlights the key human capital aspects of the social locality in comparison to the broader population of NSW.

Table 2.2 Human Capital Key Aspects

Key Aspects	Description
Relatively steady population growth	From 2016 to 2021, Goulburn Mulwaree LGA's population increased from 29,609 to 32,053 people (8.25% increase or 1.8% per annum). This is compared to an 8.1% increase in population in NSW across the same time frame. This indicates that population increases are slightly faster than the NSW average (Profile ID Community, 2022).
Anticipated population growth	Goulburn-Mulwaree LGA's population is projected to increase by at least 4,700 people by 2036, requiring more than 3,000 new dwellings (Goulburn Mulwaree Council, 2020).
An older and ageing population	Goulburn Mulwaree LGA has a median age of 41 years, higher than the NSW and Australian average of 39 years. The population growth projections show strong growth in the number of people aged over 65 years old living in Goulburn Mulwaree LGA, rising from 5,700 in 2016 to 9,350 in 2041.
Lower density population	Goulburn Mulwaree LGA is a predominantly rural, low-density area. The township of Goulburn has the highest population density within the LGA, 430 persons per square kilometre (Goulburn Mulwaree Council, 2019). The rest of the population is spread across larger properties and smaller settlements.
Good access to health and education facilities	Goulburn provides several major government and private facilities with health, education and correctional services contributing significantly to employment. The Government facilities include the Goulburn Correctional Centre, the NSW Police Academy, Goulburn Base Hospital, and the Illawarra Institute of Technology (TAFE). Hospitals proximal to the Project include, Goulburn Base Hospital, Yass District Hospital, Queanbeyan Hospital, Bowral and District Hospital, Canberra Hospital, Calvary John James Hospital, Canberra Private Hospital, Deakin Private Hospital and University of Canberra Hospital.

Key Aspects	Description
Lower medical practitioner ratio to people	In the host Goulburn Mulwaree LGA's rate per 100, 000 people to GPs in 2021 was 115.1; slightly lower than the NSW rate of 124 GPs per 100,000. Similarly, Goulburn Mulwaree LGA'ss rate of 293 registered nurses per 100, 000 people was lower than the NSW rate of 415 per 100,000. In the broader region, the LGAs of Queanbeyan-Palerang (101.2), Upper Lachlan (105.3), and Yass Valley (115.1) had lower rates of GPs per 100,00 people compared to NSW. In comparison Wingecarribee LGA (149.6) had a high proportion compared to NSW. The lower ratio of both GPs in the host and broader LGAs and registered nurses to population illustrates a lower provision of medical practitioners in the LGA and potential shortages in access.
Substantial labour resources with skills drains in the region	The Southern Tablelands Region has substantial labour resources that well exceeds the internal demand for labour. At least 29% of the employed labour force residing in the region commute to a work location outside of the region. Within the Goulburn-Mulwaree LGA, 89% of jobs are held by local residents. Proximal LGAs of Yass Valley, Wingecarribee, Upper Lachlan and Queanbeyan-Palerang have highlighted skills drains due to large infrastructure developments, proximity to Canberra and other renewable energy projects (refer to Appendix G for further analysis on cumulative impacts on labour markets).
Medium SEIFA Socio-Economic Index	The Goulburn Mulwaree LGA Socio-Economic Indexes for Areas (SEIFA) in 2021 fall in the 5th decile, which measures the relative level of socio-economic disadvantage and/or advantage based on a range of Census characteristics. This means the LGA has an average amount of socio-economic disadvantage compared to other LGAs in NSW. **Figure 2.1** below indicates the communities of interest to the Project in relation to their levels of relative socio-economic disadvantage. As the figure illustrates, Gundary and Goulburn SAL are within the 4th decile and below, indicating that approximately half of the other SAL's in NSW have a higher level of socio--economic advantage in comparison to these areas. Specifically, Gundary has the lowest level of socio-economic advantage compared to other communities within the area of social influence and is within the lowest 20% in NSW.
Lower University educational attainment but higher levels of trade skills	• The population of Goulburn Mulwaree LGA has lower levels of educational attainment on average than the broader population of NSW. For example, a much higher percentage of the population indicated that their highest level of schooling was year 10 or equivalent in the LGA (35%) in comparison to NSW (23%). • For post-secondary education, more people within the LGA completed certificates (24%) in comparison to NSW (18%). A smaller percentage within the LGA completed a bachelor degree level or higher (11%) than those in NSW (24%). • As further detailed in Appendix G**,** the broader LGAs of Wingecarribee, Yass Valley and Upper Lachlan have lower bachelor degree attainment compared to NSW, while Queanbeyan-Palerang has a higher attainment. Furthermore, the broader LGAs demonstrate high certificate level attainment compared to

Key Aspects	Description
	NSW demonstrating a likely skilled labour pool which is relevant for solar farm construction. • In the Canberra-Queanbeyan SUA there is a significantly higher level of educational attainment with 41.7% having attained a bachelor degree or higher compared to 27.8% in NSW. In contrast, the SUA has a lower attainment of certificate level education (11.2%), compared to NSW (15.1%).

Sources: (Profile ID Community, 2022; Goulburn Mulwaree Council, 2022; Goulburn Mulwaree Council, 2019 ; AgEconPlus, 2018; ABS, 2016; ABS, 2021).

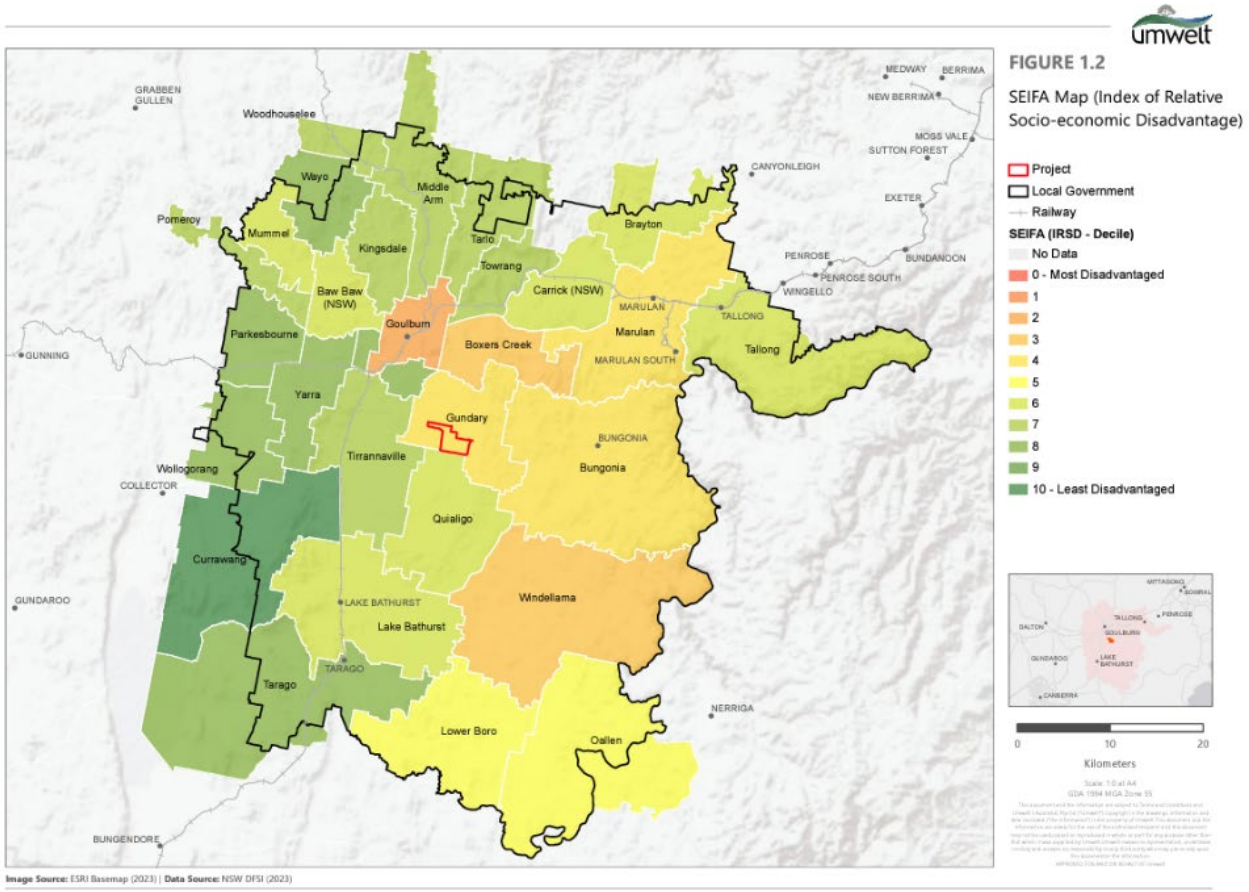


Figure 2.1 Index of Relative Socio-economic Disadvantage

Source: (ABS, 2021).

Scores: a lower score indicates that an area is relatively disadvantaged compared to an area with a higher score.

2.3 Social Capital

Various indicators can be used to examine and assess social capital, including the level of volunteering, population mobility, crime rates, and the demographic composition of the community, such as the percentage of people born overseas and language proficiency (DPE, 2023). The following provides a summary of the key characteristics of the social locality from a social capital perspective.

Table 2.3 characterises the social capital aspects of the social locality in comparison to the broader NSW population**.**

Table 2.3 Social Capital Key Aspects

Key aspects	Description
Strong social connections and volunteerism	Goulburn Mulwaree has a strong and collaborative social services sector and a strong sense of community. As the Draft Social Sustainability Strategy and Action Plan 2019-2029 states, '*it's the kind of community where you know your neighbours and say "hi" to people in the street*' (Goulburn Mulwaree Council, 2019). When online survey respondents were asked how they would describe their community, one proximal landholder / resident said: *We are a friendly, familiar rural community of people whose children have caught school buses together, grandparents who played tennis together, neighbours who watch each other's properties in fire seasons and feed each other's cats and dogs during Christmas holidays.* Another said, *Neighbourly, friendly, community spirited, together* The proportion of the LGA who participated in voluntary work through an organisation or group in the last 12 months was slightly above the State proportion at 13.8% and 13% respectively.
Well organised community groups with a strong interest in renewable energy	Goulburn also has a highly engaged and invested population with an interest in solar energy and community-led energy infrastructure, as evidenced by the Community Energy for Goulburn community group. The Goulburn Group (TGG) is a not-for-profit community group committed to sustainable economic, social, and environmental development in the Goulburn Region. TGG received $2 million funding from the NSW Office of Environment and Heritage to investigate the possibility of setting up a community energy project in the Goulburn area, following a forum in 2014 at the Goulburn Connects Sustainability Festival on Community Energy (Community Energy 4 Goulburn, n.d.). TGG established a committee to administer the project, creating Community Energy for Goulburn. Goulburn Community Energy Cooperative has now commenced construction on their solar farm (Goulburn Community Energy Coopoerative, 2024). A further group has been established in response to the Gundary Solar Project called 'Save Gundary Plains.' The group is comprised of local people and near neighbours of the Project. The group host a website and Facebook page and oppose the Project.
A higher proportion of lone person households and less couples with children.	The family composition in the LGA demonstrates a smaller proportion of couple families with children (38.3%) than NSW (44.7%), and more families without children (43%) than NSW (37%). There is also a higher proportion of one parent families in the LGA (17%) in comparison to NSW (16%). In contrast, lone households are more common in the LGA (30%) in comparison to NSW (25%).

Key aspects	Description
A slightly less transient population	The social locality experiences a less transient population, with a higher proportion of people living at the same address 5 years ago in the LGA of Goulburn-Mulwaree (58.4%) and SAL of Gundary (72.7%) compared to NSW (50.7%).
A higher percentage of those who identify as Aboriginal and/or Torres Strait Islander people	In the 2021 Census, Aboriginal and/or Torres Strait Islander people comprise 5.1% of the Goulburn Mulwaree population, in comparison to 3.4% of the NSW population and 3.2% of the Australian population.
Lower proportion of people born overseas.	In the LGA there is a lower proportion of people born overseas (10.9%) compared to NSW (29.3%). Indicating that there are lower levels of cultural diversity in the broader population.
The host LGA of Goulburn-Mulwaree higher crime rate indicates a lower sense of personal safety in the community.	The LGAs of Goulburn- Mulwaree (286.3) and Yass Valley (249.5) have a higher rate per 100, 000 population of incidents of sexual offences compared to NSW (. The LGA of Goulburn- Mulwaree (637.9) had a higher rate per 100,000 population of domestic assault compared to NSW (445.7) (BOSCAR, 2023).
Tree change[2] migration to Goulburn LGA	In Goulburn, there has been a 6.2% increase in population between 2016 to 2021, and this has been partially associated with people moving away from capital cities such as Sydney due to the high level of liveability, affordability and connectivity of the LGA (Dennett & Neale, 2022). Furthermore, the attractiveness of the sense of belonging in a smaller community as well as regional events has contributed to the rise in population due to in migration from capital cities (Lyons, 2021). During the pandemic the movement between capital cities and regional areas more than doubled in comparison to pre-pandemic levels (Stephens, Forbes, & Cansdale, 2022).

Sources: (Goulburn Mulwaree Council, 2019 ; Community Energy 4 Goulburn, n.d.; ABS, 2021; ABS, 2016).

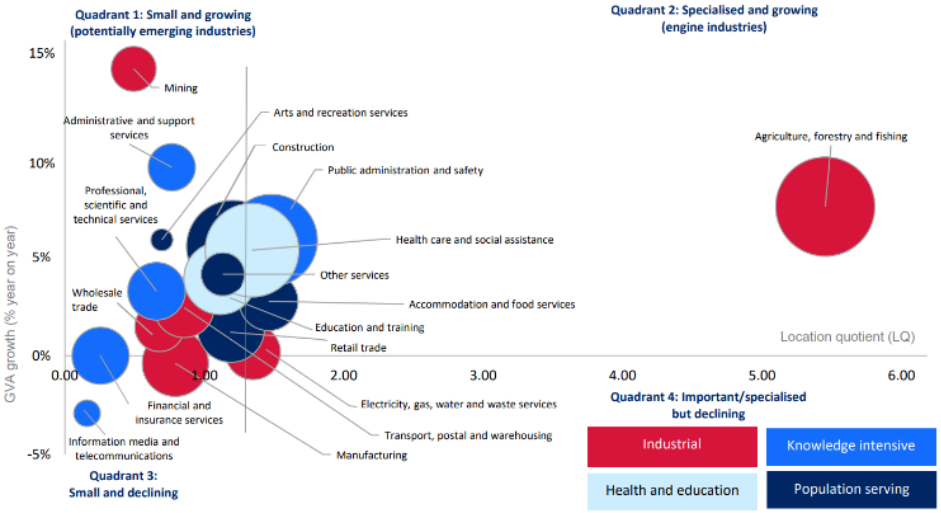
2.4 Economic Capital

Examining a community's economic capital involves consideration of characteristics which could include industry and employment, levels of workforce participation, household income and cost of living, such as weekly rent or mortgage repayments (DPE, 2023). The following provides a summary of the key characteristics of the study areas from an economic capital perspective.

Table 2.4 characterises the key economic capital aspects of the social locality in comparison to the broader NSW population.

[2] A 'tree change' is a phrase used to describe the move from city living to a more rural/country setting. (Sareen, 2013).

Table 2.4 Economic Capital Key Aspects

Key aspects	Description
A competitive advantage and strong focus on agriculture and mining in the Southern Tablelands	Agriculture continues to be a significant contributor to the economy with livestock meat processing being a significant sector (Goulburn Mulwaree Council, 2020). Goulburn Mulwaree LGA's total value of agricultural output in 2020/21 was $51million, with livestock slaughtering being the largest commodity produced accounting for 66.6% (just over $34 million) of the areas total agricultural output. Wool (almost $10 million) and crops for hay (just over $2.7 million) were also significant commodities in the area (.idcommunity, 2021). As **Figure 2.2** demonstrates, the Southern Tablelands features a substantial regional advantage in sheep, beef and grain farming as shown by the Location Quotient (LQ, y-axis). The figure shows that sheep, beef and grain farming is growing at a 6.7% faster rate than the rest of NSW (x axis) and that the region is substantially more specialised in this area than the rest of NSW (y axis). Non-metallic mineral mining and quarrying also exhibits a very high level of specialisation in the region and exhibits very strong growth compared to NSW.[3]  **Figure 2.2 Regional Advantage and Employment Growth compared to the NSW Industry** *Source: (Ag Econ Plus Consulting, 2018).*
A diversifying industry and services base	Goulburn-Mulwaree LGA has expanded from a focus on agriculture, with the region's largest employers being health care and social assistance (15%), public administration and safety (10.9%) and retail trade (10.7%). Goulburn Mulwaree LGA is actively supporting renewable energy projects through their Local Strategic Planning Statement while the South East Tablelands Regional Plan has identified renewable energy as a priority growth sector to diversify the region's economy.

[3] The Southern Tablelands Regional Economic Development Strategy outlines the region's competitive advantages through Location Quotients (LQs), and LQs measure the employment concentration in industry sectors within a regional economy, compared with the same sectors across NSW (Ag Econ Plus Consulting, 2018). The higher the LQ, the more specialised a region is in that industry relative to the rest of NSW (Ag Econ Plus Consulting, 2018).

Key aspects	Description
The rural economy makes a significant contribution to the LGA economy	As identified by Council, Goulburn's rural areas play a significant role in the shaping of the past, present and future council needs to ensure there are adequate protections in place for agricultural land. The rural economy makes a significant contribution to the overall Goulburn Mulwaree LGA economy, the largest commodity being meat processing accounting for 68.6% of Goulburn Mulwaree LGA's total agricultural output in value terms (Goulburn Mulwaree Council, 2020). The largest exporting industries by value are sheep, grains, beef and dairy cattle, and meat and meat product manufacturing. Sheep, beef cattle and grain farming are key industries, comprising around 8.6% of employment (Goulburn Mulwaree Council, 2020).
Supportive economic and business groups	The Goulburn region is well supported with a chamber of commerce in Goulburn. Together with village-based progress associations, these institutions provide ideas and support for economic development (Goulburn Mulwaree Council, 2020). The Goulburn Chamber of Commerce is a not for profit, volunteer based group which facilitates local business trade, growth, networking and training. The group consists of the Leadership Team and 6 general member executives. The executive committee takes on the roles as volunteers (Goulburn Chamber of Commerce, 2022).
Substantial labour resources with skills drains in the region	The Southern Tablelands Region has substantial labour resources that well exceeds the internal demand for labour. At least 29% of the employed labour force residing in the region commute to a work location outside of the region. Within the Goulburn-Mulwaree LGA, 89% of jobs are held by local residents. Proximal LGAs of Yass Valley, Wingecarribee, Upper Lachlan and Queanbeyan- Palerang have highlighted skills drains due to large infrastructure developments, proximity to Canberra and other renewable energy projects (refer to Appendix G for further analysis on cumulative impacts on labour markets).
Proximity to **neighbouring LGA labour resources**	As identified in the AES (refer toAppendix G) the LGAs of Wingecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan- Palerang are likely to service the Projects construction workforce due to being within NSW and a 1-hour drive from the Project. Wingecarribee Shire has a land area of 268,934.2 ha and is located approximately 50 minutes from the Project area. Top industries of employment in the LGA include healthcare and social assistance (13.5%), construction (10.6%) and education and training (9.5%). The construction industry in 2022 had the highest quantity of businesses in the LGA (1,172). In the Wingecarribee LGA 68% of the labour force live and work within the LGA, while 1.5% of the Wingecarribee LGA labour force (or 363 people) commute to the Goulburn-Mulwaree LGA for employment. Furthermore, the Project is located approximately 1hour and 10 minute drive from Canberra. This may be a secondary source of labour resources due to the size and labour pool in the region. - Queanbeyan SUA's top industries of employment are central government administration (16.7%), defence (5.9%) and computer design and related services (3.5%). There is evidence that a considerable proportion of Goulburn's workforce (6.5% of the LGA's labour force or 970 people) currently commute to Canberra for employment while 0.1% of Canberra's workforce (or 186 people) currently commute from Canberra to Goulburn for employment. This suggests there is a modest level of connectivity between these labour pools, reflecting the greater diversity and volume of jobs available in Canberra.

<table>
<tr><th>Key aspects</th><th>Description</th></tr>
<tr><td>Housing affordability in the host LGA</td><td>
Table 2.5 highlights the various indicators for the Goulburn Mulwaree LGA and NSW regarding housing stress. Though the region has lower house prices and rental repayments than NSW, 33.6% of rental households are in rental stress (paying more than 30% of household income on housing costs) and there is very low rental availability (1.07% vacancy rates).

Table 2.5 Housing Stress Indicators for LGA and NSW
<table>
<tr><th>Indicator</th><th>Goulburn-Mulwaree LGA, 2021</th><th>NSW, 2021</th></tr>
<tr><td>Median household income ($/week)</td><td>$1,466</td><td>$1,829</td></tr>
<tr><td>Proportion of population who own their house outright</td><td>35.3%</td><td>31.5%</td></tr>
<tr><td>Proportion of the population who rent</td><td>28.9%</td><td>32.6%</td></tr>
<tr><td>Median House Price (Dec, 2023)</td><td>$699, 000</td><td>$895, 000</td></tr>
<tr><td>Median House Price Change (1 year)</td><td>-0.15%</td><td>-3.77%</td></tr>
<tr><td>Median Unit Price (Dec, 2023)</td><td>$395,000</td><td>$665, 000</td></tr>
<tr><td>Median Unit Price Change (1 year)</td><td>4.08%</td><td>-2.21%</td></tr>
<tr><td>Median mortgage repayment ($/week)</td><td>$400</td><td>$500</td></tr>
<tr><td>Median rent ($/week)</td><td>$460</td><td>$600</td></tr>
<tr><td>Median Rent Change (1 year)</td><td>2.22%</td><td>5.56%</td></tr>
<tr><td>Rental Vacancy/ Stock</td><td>1.07%/ 170</td><td>1.18%/ 42,322</td></tr>
<tr><td>Renter households with rent payments >30% of household income</td><td>33.6%</td><td>35.5%</td></tr>
<tr><td>Owner with mortgage households with mortgage repayments >30% of household income</td><td>12.9%</td><td>17.3%</td></tr>
</table>
Source: (ABS, 2021).

Appendix G further details current housing constraints in the neighbouring LGAs of Wingecarribee, Upper Lachlan, Yass Valley and Queanbeyan-Palerang.
</td></tr>
<tr><td>Smaller proportion of population working full-time and a larger proportion working part-time in the region in comparison to NSW</td><td>Within the Goulburn Mulwaree LGA, a lower proportion of the population worked full time (57.9%) than NSW (59.2%), and a slightly higher proportion of the LGA worked part time (30.4%) in comparison to NSW (29.7%).</td></tr>
<tr><td>Lower unemployment in the host and neighbouring LGAs</td><td>The most recent unemployment data from December 2023 indicates that Goulburn-Mulwaree had a significantly higher unemployment rate of 2.6% compared to the other LGAs. This is lower compared to the NSW rate of 3.3%. The LGAs of Upper Lachlan Shire (1.5%), Wingecarribee (1.4%),Yass Valley (1.1%), Queanbeyan- Palerang (1.1%) had subsequently lower unemployment rates. In the 3 years from December 2020, December 2023 had the lowest recorded unemployment rate across all the LGAs (SALM, 2023). This suggests there is a lower labour market of unemployed people for the Project to source construction workforce from.</td></tr>
</table>

Key aspects	Description
Lower than state average of youth unemployment	Unemployment rates between the Goulburn Mulwaree LGA and the state are on par with each other (6.3%), however the LGA has a lower proportion of youth unemployment (11.5%) than the state (13.6%).

Source: (ABS, 2016; Goulburn Mulwaree Council, 2020; Economy ID, 2022; ABS, 2021).

2.5 Physical Capital

Physical or built capital includes the provision of infrastructure and services to the community and what is currently available or accessible to people (DPE, 2023). Within this, it is important to consider the type, quality, and degree of access to public, built and community infrastructure (including amenities, facilities, services, and utilities) as well as the provision of, and diversity of housing.

The social locality is characterised by the following physical capital aspects in **Table 2.6.**

Table 2.6 Physical Capital

Key aspects	Description
Significant heritage buildings in Goulburn reflecting its agricultural industry history	Queen Victoria declared Goulburn Australia's first inland city in 1863. Since then, Goulburn's growth has been underpinned by agriculture (particularly the wool industry), a short-lived gold rush in the region and further enhanced by the railways, with development focused on Goulburn as a regional centre (Goulburn Mulwaree Council, 2020). The legacy of which is a wealth of significant heritage buildings (Goulburn Mulwaree Council, 2020). • Maintaining the heritage character of Goulbourn is a key goal of the region (Goulburn Mulwaree Council, 2020)
Strategically placed between Sydney and Canberra	Goulburn Mulwaree LGA is strategically situated on the Hume/ Federal Highways approximately 2 hours south-west from Greater Sydney and 1 hour north from Canberra. The LGA is also strategically positioned to provide an alternative route to the South Coast via Nerriga from Greater Sydney. This route provides economic benefits in relation to heavy vehicles (as it is less topographically constrained than the northern passes to the coast) and offers an alternate tourist drive (Goulburn Mulwaree Council, 2020).
Proximity to the Canberra Airport and key transport linkages	Goulburn is located on Australia's arterial highway, the Hume Highway, home to an intermodal rail transport facility, and an hour from Canberra's 24-hour international freight airport. Canberra Airport has domestic and international passenger and freight capability. This provides the Southern Tablelands with expanded access to domestic and international markets (AgEconPlus, 2018). Canberra Airport will drive economic growth in the region and is expected to generate over 21,000 jobs by 2030 and contribute $2.42 billion per year to the regional economy (NSW Government, Planning & Environment, 2017).
Goulburn has significant access to many high order services	As Australia's first inland city, Goulburn is a strategic regional centre, which provides a variety of high order services such as a Public Hospital, NSW State Offices, Country Universities Centre, TAFE, NSW Police Academy, Local Court, Goulburn Correctional Facility, Cathedrals, Conservatorium of Music and Local Government services including: Council Civic Centre, Aquatic and Leisure Centre, Regional Art Gallery, Library, Museums and a Community Centre (Goulburn Mulwaree Council, 2020).
Good access to health and education facilities	Goulburn provides several major government and private facilities with health, education and correctional services contributing significantly to employment. The Government facilities include the Goulburn Correctional Centre, the NSW Police Academy, Goulburn Base Hospital, and the Illawarra Institute of Technology (TAFE). Hospitals proximal to the Project include, Goulburn Base Hospital, Yass District Hospital, Queanbeyan Hospital,

Key aspects	Description
	Bowral and District Hospital, Canberra Hospital, Calvary John James Hospital, Canberra Private Hospital, Deakin Private Hospital and University of Canberra Hospital. The Region also contains the Goulburn Base Hospital which is currently undergoing a $120 million redevelopment (NSW Government, Planning & Environment, 2017).
Airport located in Brisbane Grove	Goulburn also has its own public Airport, home of the Goulburn Flight Training Academy who provide flight training. Alongside the Goulburn Airport is the Airport Motel, Airport Restaurant, and swimming pool, to provide facilities for people who may be training and who live further away (Goulburn Flight Training Academy , 2022).
High rates and capacity for tourists and travellers	Goulburn is an important stopover point for visitors travelling by road (and rail) between Sydney, Canberra, and Melbourne. Goulburn has a good range of accommodation options for overnight visitors including the recent development of new properties (Destination Southern NSW, 2020). Goulburn Mulwaree Council has invested in infrastructure and facilities development that help to make Goulburn a good place to live, invest and visit (e.g. new Performing Arts Centre, refurbished Regional Art Gallery, Adventure Playground, Wollondilly River Walking Track, Aquatic Centre Redevelopment and War Memorial Museum).
Airbnb accommodation availability	Appendix G outlines the availability of Airbnb accommodation in the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachan and Queanbeyan-Palerang. Average occupancy rates in the LGAs ranged from 42.7% to 53.3% from December 2020 to December 2023. While this does not capture hotel accommodation, Airbnb and commercial accommodation usually present similar occupancy rates and patterns of seasonality, suggesting there is remaining capacity in the short-term accommodation system.
High rates and capacity for tourists and travellers	Appendix G outlines the short-term accommodation capacity and availability in the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan Palerang. Within a 1-hour drive distance from the Project there are approximately 84 accommodation providers, 2,328 rooms with an average occupancy rate of 73%.
Low rental vacancy rates and rental stock	The host and broader LGAs demonstrate lower vacancy rates compared to NSW (1.11%) in April 2024. Except in Queanbeyan- Palerang which had a slightly higher vacancy rate of 1.35%. Furthermore, there were a total of 524 rental available across the LGAs. Appendix G further outlines the rental availability by LGA as well as highlights constraints raised by key stakeholders.
Less access to the internet	A lower percentage of the population have internet access in the Gouldburn Malwaree LGA (76%) than NSW (85%).
Transmission Lines and Energy Infrastructure	The existing 330 kV TransGrid transmission line along the north-western corner of the Project Area will allow the Project to have an onsite grid connection as illustrated in Figure 3.3.
Local roads	The primary access to the Project is via the existing driveway at 961 Windellama Road. Windellama Road is a local road, which recently had the speed limit reduced from 100 to 80 km per hour (Transport NSW, 2023) Kooringaroo Rd will only be used for the Project in the case of an emergency, due to challenges in accessibility. Kooringaroo Road is a dead end, dirt road, which winds through highly vegetated sections, and has many residences along it.

Sources: (ABS, 2016; State of NSW and Office of Environment and Heritage, 2012; NSW DPIE, 2017; Goulburn Flight Training Academy , 2022; Destination Southern NSW, 2020; ABS, 2021; ATDW, 2024; AirDNA, 2023; real estate investar, 2024).

2.6 Cultural Capital

Cultural capital refers to underlying factors that provide human societies with the means and adaptions to maintain themselves in their environment (Cochrane, 2006). It includes the way people know and

understand their place within the world. It may also refer to the extent to which the local culture, traditions, or language, may promote or hinder wellbeing, social inclusion, and development (IAIA, 2015).

Table 2.7 highlights the cultural capital aspects of the social locality.

Table 2.7 Cultural Capital Key Aspects

Key aspects	Description
An area with contested traditional ownership including lands of the Wiradjuri Nation, the Gandangara and the Ngunawal	The Social Locality is an area with contested traditional ownership including lands of the Wiradjuri Nation, the Gandangara and the Ngunawal peoples. ” Wiradjuri means ‘*the people of the three rivers*’, and the nation’s traditional and modern-day connections to Country extend over a large area of NSW encompassing the Macquarie, Lachlan, and Murrumbidgee Rivers, bounded by the Murray River in the south. According to anthropologist, Norman Tindale, two major language groups occupied the Goulburn Mulwaree region at the time of first European contact: the Gandangara to the north of Goulburn, and the Ngunawal to the south. The Wandandian and Wodi Wodi people lived on the land to the east of the Great Dividing Range, down to the coast (Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates, 2018; Australian Museum Business Services , 2012). The plains and Wollondilly River provided native game and fish for a number of the traditional Aboriginal peoples including: Mulwaree, Tarlo, Burra Burra, Wollondilly, Wiradjuri, Gundungurra, Dharrook, Tharawal, Lachlan, Pajong, Parramarragoo, Cookmal and Gnunawal. The Goulburn region was known as a meeting place for all these groups, it wasn’t inhabited by just one group of people (Aboriginal Housing Office, NSW Governemnt, 2024).
Representation by the Pejar LALC and the Mulwaree Aboriginal Community (MACI)	The Local Aboriginal Land Council (LALC) for the Project is the Pejar LALC. The Pejar LALC works collaboratively with other organisations to provide support to the community and are available for government consultations (My Community Directory, 2022). Mulwaree Aboriginal Community Incorporated is an inclusive organisation for people living in Goulburn Mulwaree and the Upper Lachlan LGAs (My Community Directory, 2022)
Significant European and Aboriginal heritage represented throughout the buildings in Goulburn and surrounding suburbs	The European heritage reflects historical agricultural and gold mining booms that resulted in the construction of many significant buildings particularly within the Goulburn CBD. Goulburn and its surrounding towns and villages – including Marulan, Middle Arm, Tarago, Tallong, Bungonia, Lake Bathurst, Towrang, Windellama and Parkesbourne – combine an easy-going lifestyle and city accessibility. The Aboriginal Heritage in the area is evidence through remains of sites where stone tools were made and great corroborees were held – the last being late in the 19th century (Aboriginal Housing Office, NSW Governemnt, 2024). Some known significant sites locally include: • Goulburn Railway Station (a meeting place, corroboree site) • Kenmore Hospital (ceremonial area) • Rocky Hill (a bora site where initiations were held, a “man’s place”) • Corroboree Hill near Taralga • All Saints Church (corroboree site) • Lansdowne Park Estate (burial site) • Wollondilly River & Mulwaree Flats

Key aspects	Description
Growth of the tourism industry through festivals related to cultural heritage	In recent years, several festivals and niche events have begun to be held in Goulburn and surrounding areas which have not only created new jobs, but flow on effects to retail, tourism, and service industries (Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates, 2018). The Goulburn Mulwaree Employment Lands Strategy, prepared in 2016, identified the growth of the tourism industry and its relationship to cultural heritage. *'Goulburn has many beautiful heritage buildings within the town centre as well as the multiple museums such as Goulburn Rail Heritage Centre, the Waterworks and the Riversdale Homestead. Additionally, the Goulburn War Memorial, the multiple churches within the town centre and the Big Merino all attract visitors.'*
Strong sense of pride in the heritage, arts, and cultural scenes of the area	Residents take pride in the city's heritage and modern assets, strong arts and emerging entertainment scene, and economic opportunities (NSW Government, Planning & Environment, 2017). Cultural projects like the Wollondilly Walking Track and adaptive re-use of a heritage building for a Performing Arts Centre contribute to community life (NSW Government, Planning & Environment, 2017).

Sources: (Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates, 2018; My Community Directory, 2022; Goulburn Mulwaree Council, 2020; NSW Government, Planning & Environment, 2017; Goulburn Mulwaree Council, 2019)

2.7 Political Capital

Political capital refers to the individuals, institutions, and systems that contribute to a community's ability to maintain and uphold a governance structure (DPE, 2023). Political capital can determine the extent to which people are able to participate in decisions that affect their lives, the level of democratisation within a community, and the resources provided for this purpose. A summary of the political capital relating to the social locality is provided below in **Table 2.8**.

Table 2.8 Political Capital Key Aspects

Key aspects	Description
Traditional Owners and Aboriginal Governance	As noted in Section 3.5.6. the Project Area falls within the Pejar LALC area, the regional Councillor is Cr Leeanne Hampton.
Local Government	The Goulburn Mulwaree LGA is governed by the Goulburn Mulwaree Council, which was formed in 2004 following the amalgamation of Goulburn City and parts of the former Mulwaree Shire. The Council administers an area of 3,223 km^2 encompassing Goulburn, Marulan, Tarago, and Towrang. The Council is governed by Mayor Peter Walker and nine other Councillors as of January 2022. The Council is part of the Canberra Region Joint Organisation (CRJO), a group of 10 LGA councils as members, and complemented by associate members including the ACT government and other LGAs. The CRJO provides a forum for councils, state agencies and stakeholders to collaborate in addressing shared priorities and delivering regional projects. Councillor Peter Walker was elected Mayor of Goulburn Mulwaree Council for the first time on January 11, 2022. The Councillors include Andrew Banfield, Andy Wood, Bob Kirk, Carol James, Daniel Strickland, Jason Shepherd, Michael Prevedello and Steven Ruddell. The next election will proceed in September 2024 (Goulburn Mulwaree Council, 2023).

Key aspects	Description
State Government	The Project Area is in the state electoral district of Goulburn, which extends to the Australian Capital Territory border in the south-west, bordered by the Abercrombie River in the north, and encompassing Moss Vale in the east. The Member of Parliament representing Goulburn on the NSW Legislative Assembly is the Hon. Wendy Tuckerman. Wendy Tuckerman has been the Member for Goulburn since 2019 and is a member of the Liberal Party (Parliment of New South Wales, 2022) and has been vocal regarding renewable energy projects within the region. In the 2023 elections Wendy Tuckerman retained her seat with 51.3% of preferences (ABC News, 2023). Elections are held for State Members every 4 years.
Federal Government	The Federal member of Parliament representing Hume in the House of Representatives is the Hon Angus Taylor, who is also a member of the Liberal Party of Australia, and was elected in 2013, and re-elected in 2016, 2019 and 2022. Angus Taylor was the Minister for Energy and Emissions Reduction from 2019 to 2021 and the Minister for Industry, Energy and Emissions Reduction from October 2021 to May 2022 (Parliment of Australia, 2022). Angus Taylor is currently the Shadow Treasurer. Elections are held for the House of Representatives every 3 years.

Sources: (Goulburn Mulwaree Council, 2023; Parliment of New South Wales, 2022; NSW DPIE, 2017).

3.0 References

.idcommunity. (2021). *Goulburn Mulwaree Council area*. Retrieved from .idcommunity demographic resources: https://economy.id.com.au/goulburn/value-of-agriculture

ABC News. (2023). *Goulburn (Key Seat) - NSW Election 2023*. Retrieved from ABC News: https://www.abc.net.au/news/elections/nsw/2023/guide/goul

Aboriginal Housing Office, NSW Governemnt. (2024). *Goulburn* . Retrieved from https://www.aho.nsw.gov.au/applicants/era/about/chapters/locations/goulburn

ABS. (2016). *Goulburn Mulwaree LGA Community Profile* . Retrieved from ABS: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA13310

ABS. (2016). *New South Wales Community Profile* . Retrieved from ABS: https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1

ABS. (2021). *Goulburn Mulwaree 2021 Census All persons QuickStats*. Retrieved from https://dbr.abs.gov.au/region.html?lyr=sa3&rgn=10105

ABS. (2021). *Gundary QuickStats*. Retrieved from https://www.abs.gov.au/census/find-census-data/quickstats/2021/SAL11812

ABS. (2021). *SEIFA Scores*. Retrieved from ABS: https://www.abs.gov.au/statistics/people/people-and-communities/socio-economic-indexes-areas-seifa-australia/2021/Suburbs%20and%20Localities%2C%20Indexes%2C%20SEIFA%202021.xlsx

Ag Econ Plus Consulting. (2018). *Southern Tablelands Regional Economic Development Strategy.* Southern Tablelands: Goulburn Mulwaree Council, Upper Lachlan Shire Council and Yass Valley Council .

AgEconPlus. (2018). *Southern Tablelands Regional Economic Development Strategy 2018-2022.* AgEconPlus Consulting.

AirDNA. (2023, December). *Matching Australian Cities.* Retrieved from AIRDNA.

ATDW. (2024, April). ATDW Accomm as at 04 April 2024. ATDW.

Australian Museum Business Services . (2012). *Goulburn Mulwaree LGA Abriginal Heritage Study .* Australian Museum Business Services.

Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates. (2018). *Heritage Study Review.* Retrieved from Barker Ryan Stewart Pty Ltd and Sue Rosen and Associates: file:///C:/Users/mbowman/Downloads/Heritage-Study-Review.pdf

BOSCAR. (2023, December). *NSW Crime Tool*. Retrieved from BOSCAR: https://crimetool.bocsar.nsw.gov.au/bocsar/

Coakes, S., & Sadler, A. (2011). Utilizing a sustainable livelihoods approach to inform a social impact assessment practice. In F. Vanclay, & A. M. Esteves, *New Directions in Social Impact Assessment.* Edward Elgar.

Community Energy 4 Goulburn. (n.d.). *Community Energy 4 Goulburn*. Retrieved from Community Energy 4 Goulburn: http://www.ce4g.org.au/about.php

Dennett, H., & Neale, H. (2022, June 24). *Migration to ACT surrounds swells: Regional Australia Institute and Commonwealth Bank reports*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7793846/goulburn-sees-rise-in-migration-report-finds/

Destination Southern NSW. (2020, July). *Tablelands Destination Development Plan 2020 to 2025.* Retrieved from https://www.yassvalley.nsw.gov.au/assets/2021/Council-Documents/20200713-DSNSW-Tablelands-DestinationDevelopmentPlan-Final-Web.pdf

DPE. (2023). *Social Impact Assessment Guideline. State significant projects.* Sydney: NSW Department of Planning, Industry and Environment. Retrieved April 23, 2021, from https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00+-+Planning+Portal+Exhibitions/SIA/SIA+Publication+for+Publication+Online+20201022.pdf

Economy ID. (2022). *Goulburn Mulwaree Council area*. Retrieved from Economy ID: https://economy.id.com.au/goulburn/covid19-quarter-impacts

Goulburn Chamber of Commerce. (2022). *About Us*. Retrieved from Goulburn Chamber of Commerce: https://goulburnchamber.com.au/

Goulburn Community Energy Coopoerative. (2024). *Goulburn Community Energy Coopoerative*. Retrieved from https://goulburnsolarfarm.com.au/

Goulburn Flight Training Academy . (2022). *Goulburn Airport*. Retrieved from Goulburn Flight Training Academy : https://gftc.com.au/goulburn-airport/

Goulburn Mulwaree Council. (2019). *Draft Social Sustainability Strategy and Action Plan 2019-2029.* Retrieved from Goulburn Mulwaree Council: file:///C:/Users/mbowman/Downloads/191126_-Draft-GMS-Social-Sustainability-Strategy-and-Action-Plan.pdf

Goulburn Mulwaree Council. (2020). *Local Strategic Planning Statement.* Goulburn: Goulburn Mulwaree Council.

Goulburn Mulwaree Council. (2022). *Goulburn Mulwaree Council, NSW*. Retrieved from Higher than Average Growth: https://www.htag.com.au/nsw/nsw178-goulburn-mulwaree-council/

Goulburn Mulwaree Council. (2023). *Councillors*. Retrieved from Goulburn Mulwaree Council: https://www.goulburn.nsw.gov.au/Council/Contact-a-Councillor

Lyons, J. (2021, May 31). *'Goulburn city feels like home'*. Retrieved from Goulburn Post: https://www.goulburnpost.com.au/story/7081076/goulburn-city-feels-like-home/

My Community Directory. (2022). *Mulwaree Aboriginal Community Inc.* Retrieved from https://www.mycommunitydirectory.com.au/New_South_Wales/Goulburn_Mulwaree/Aboriginal_Services/General_Aboriginal__Services/95351/223652/Mulwaree_Aboriginal_Community_Inc

NSW DPIE. (2017). *Social impact assessment guideline.* Sydney: NSW Government.

NSW DPIE. (2017). *South East and Tablelands Regional Plan 2036.* Retrieved from NSW DPIE: https://www.planning.nsw.gov.au/~/media/Files/DPE/Plans-and-policies/south-east-and-tableland-regional-plan-2017-07.ashx

NSW Government, Planning & Environment. (2017). *South East and Tablelands Plan 2036.* NSW Government.

NSW National Parks and Wildlife Service. (2022). *Bungonia National Park*. Retrieved from NSW National Parks and Wildlife Service: https://www.nationalparks.nsw.gov.au/visit-a-park/parks/bungonia-national-park

NSW Rural Fire Service. (2023). *Check if you are in bush fire prone land*. Retrieved from https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land/check-bfpl

Parliment of Australia. (2022). *Hon Angus Taylor MP*. Retrieved from Parliment of Australia: https://www.aph.gov.au/Senators_and_Members/Parliamentarian?MPID=231027

Parliment of New South Wales. (2022). *The Hon. Wendy Margaret TUCKERMAN, MP*. Retrieved from https://www.parliament.nsw.gov.au/members/Pages/member-details.aspx?pk=2240

Profile ID Community. (2022). *Goulburn Mulwaree*. Retrieved from Profile ID Community: https://profile.id.com.au/goulburn

real estate investar. (2024, April). *Investment Property*. Retrieved from real estate investar: https://www.realestateinvestar.com.au/property/

SALM. (2023, December). Small Area Labour Market. Jobs and Skill Australia.

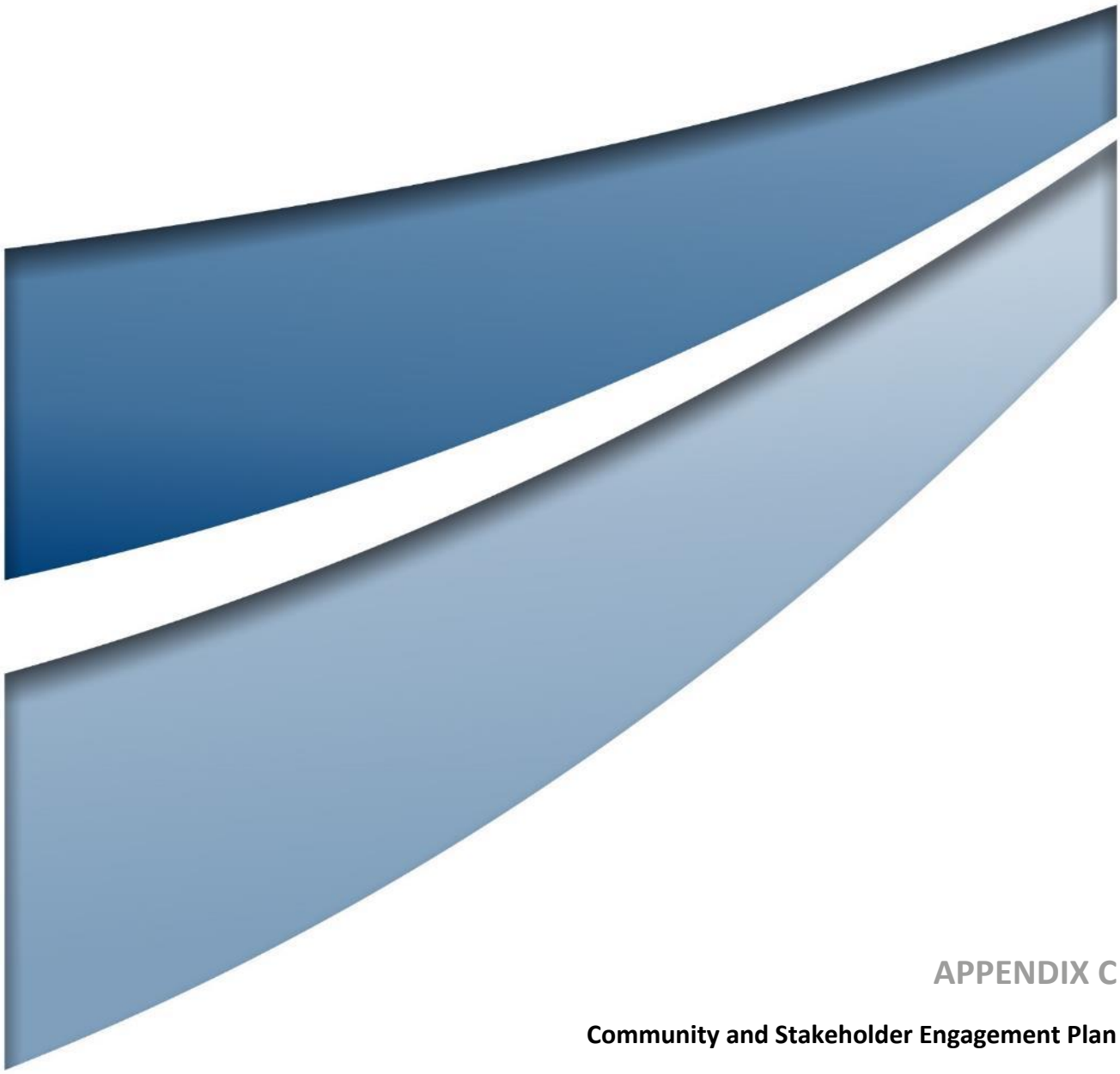
State of NSW and Office of Environment and Heritage. (2012). *The land and soil capability assessment scheme.* Sydney: Office of Environment and Heritage.

Stephens, R., Forbes, L., & Cansdale, D. (2022, Feburary 18). *Net migration from capital cities to regional areas doubles during COVID-19*. Retrieved from ABC News: https://www.abc.net.au/news/2022-02-18/migration-from-cities-to-regional-areas-doubles-during-covid/100839386

The Big Merino Goulburn. (2023). *The Big Merino Goulburn*. Retrieved from https://www.bigmerino.com.au/history-of-wool/

Transport NSW. (2023, October). *Reduced speed limit for Windellama Road at Goulburn*. Retrieved from https://www.transport.nsw.gov.au/news-and-events/media-releases/reduced-speed-limit-for-windellama-road-at-goulburn

Water NSW. (2020, September). *Developments in the .* Retrieved from Water NSW: https://www.waternsw.com.au/__data/assets/pdf_file/0008/134747/CRP-Developments-in-Sydney-s-Drinking-Water-Catchments.PDF



APPENDIX C

Community and Stakeholder Engagement Plan

umwelt
Environmental & Social Consultants

lightsource bp

GUNDARY SOLAR FARM

Community & Stakeholder Engagement Plan

DRAFT

November 2023

GUNDARY SOLAR FARM

Community & Stakeholder Engagement Plan

DRAFT

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

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Report No.	22223/R02
Date:	November 2023

Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

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

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Table of Contents

1.0 Introduction 1

1.1 Purpose and Objectives 1

1.2 Approach 2

2.0 Project Overview 4

2.1 The Project 4

2.2 Policy Context 6

2.3 Social Context 6

2.4 Key Considerations 7

3.0 Engagement Strategy 9

3.1 Stakeholder Identification 10

3.2 Engagement Methods 14

3.3 Key Project Messages 15

3.3.1 Project Messages 15

3.3.2 Process Messages 16

3.3.3 Project Impacts and Opportunities 17

3.4 Engagement Materials and Topics 18

3.5 Discussion Topics for Community Engagement 18

3.5.1 Phase 1 (Scoping) 18

3.5.2 Phase 2 (EIS preparation) 19

3.6 Recording, Monitoring and Record-keeping 19

4.0 Stakeholder and Community Engagement Implementation Plan 21

4.1.1 Phase 1 (Scoping) 21

4.1.2 Phase 2 (EIS preparation) 21

Figures

Figure 2.1 Project Location and Regional Context 5

Figure 3.1 Stakeholder groups 9

Figure 3.2 IAP2 Public Participation Spectrum 10

Tables

Table 1.1	Guideline recommendations	2
Table 2.1	Key project milestones	4
Table 2.2	Summary of local challenges and opportunities, by key community capitals	6
Table 3.1	Stakeholder identification	10
Table 3.2	Engagement Mechanisms Responsibility Colour Code	14
Table 3.3	Engagement mechanisms	14
Table 4.1	Phase 1 (Scoping) Implementation Plan	22
Table 4.2	EIS Preparation Implementation Plan	25

1.0 Introduction

The proposed Gundary Solar Farm (the Project) that is being initiated by Lightsource Development Services Australia Pty Ltd (Lightsource bp) (the proponent), comprises the construction, operation and decommissioning of a large-scale solar farm and battery energy storage system (BESS), southeast of Goulburn, New South Wales (NSW) within the Goulburn-Mulwaree Council local government area (LGA).

Lightsource bp was formed in December 2017 through a partnership between European solar farm developer Lightsource Renewable Energy and global energy company bp. Lightsource bp has been operating in Australia since 2017 and has recently commenced construction of Wellington Solar Farm, West Wyalong Solar Farm (NSW) and Woolooga Solar Farm (Queensland).

1.1 Purpose and Objectives

The purpose of this Community and Stakeholder Engagement Plan (CSEP) is to outline the approach and strategy for community and stakeholder engagement across the project assessment including Scoping and Environmental Impact Statement. This information / feedback from the community and stakeholder engagement will also be used in the development of the Social Impact Assessment (SIA).

The CSEP has been developed based on the NSW SIA Guidelines (2023), Undertaking Engagement Guidelines for State Significant Projects (DPE, 2021) and the NSW Government's Large-Scale Solar Energy Guideline for State Significant Development (2018). Respectful, inclusive, and meaningful engagement is a fundamental part of project planning and development. Engagement with affected communities and stakeholders provides first-hand insight into what people value and how they expect a project to affect them.

Specifically, this CSEP aims to:

1. inform and consult with the community in relation to the proposed project.
2. develop an understanding of the social locality/social area of influence of the project, specifically the host community/communities in which the project is proposed.
3. scope and identify any impacts upon people associated with the project.
4. enable community and stakeholder input by listening to the community, and feeding their inputs into the project design, planning and development.
5. collaboratively develop relevant strategies to respond to impacts in the form of mitigation or enhancement measures.
6. identify future engagement preferences of stakeholders and potential partnerships between the proponent and the community.

1.2 Approach

The NSW Government's revised SIA Guideline (DPIE, 2023) now makes SIA applicable to all SSDs in NSW, with proponents required to commission standalone Social Impact Scoping Reports as part of the Request for SEARs. These studies are informed by, and rely on, the outcomes of early, and ongoing community and stakeholder engagement through the assessment phase.

Table 1.1 below outlines the relevant Guidelines, and what they recommend for engagement. The table outlines how the Community and Stakeholder Engagement Plan addressed the recommendations in the guidelines.

Table 1.1 Guideline recommendations

Guideline	Recommendations for Engagement	How these are addressed in the CSEP
SIA Guidelines DPE 2023	Aim to: • ensure likely affected people are *identified* and have enough *understanding* of the proposed project, how it may affect them, the development of the EIA, and how they can participate • collect qualitative and quantitative *data, evidence and insights* for scoping the SIA in ways that maximise diversity and representativeness of views • understand the interests people have in the project and how likely impacts *may be experienced from their perspectives* • consider the views of people in a meaningful way, and use these insights to *inform project planning* and design, mitigation and enhancement measures, and monitoring and management frameworks • provide opportunities for people to *collaborate* on project design matters and provide input into the identification and consideration of preferred solutions • *confirm* data, assumptions, findings and recommendations • ensure people know how their *input has been considered,* and what strategies will be put in place to address their concerns. • help understand how *other specialist studies* prepared for the EIS assist in addressing social impacts.	The CSEP provides mechanisms and strategies to achieve the following: • inform and consult with the community in relation to the proposed project • develop an understanding of the social locality/social area of influence of the project, specifically the host community/communities in which the project is proposed. • scope and identify any impacts upon people associated with the project • enable community and stakeholder input by listening to the community, and feeding their inputs into the project design, planning and development • collaboratively develop relevant strategies to respond to impacts in the form of mitigation or enhancement measures • identify future engagement preferences of stakeholders and potential partnerships between the proponent and the community.

Guideline	Recommendations for Engagement	How these are addressed in the CSEP
Undertaking Engagement Guide: Guidance for State Significant Projects, NSW Government	A proponent will engage effectively if they: • identify upfront the people or groups who are interested in or are likely to be affected by the proposal • involve the community, interested groups, agencies and Council early in the development of the proposal, to enable their views to be considered in project planning and design • are innovative in their engagement approach and tailor engagement activities to suit the context (e.g. sensitivity of the site and surrounds), the scale and nature of the project and its impacts and the level of interest in the project • provide clear and concise information about what is proposed and the likely impacts for the relevant person/s or group they are engaging with • clearly outline how and when in the process, the community can be involved • make it easy for the community to access information and provide feedback • seek to understand issues of concern for all affected people and groups and respond appropriately to those concerns	
Large scale energy guideline, NSW Government	The Department also encourages applicants to consult with a wide range of stakeholders, including: • Government – Local council, NSW Government agencies and Commonwealth Government • Community – local landowners, special interest groups, Aboriginal community members, other potentially affected stakeholders • Network service providers	

This CSEP has also been developed with reference to the Draft Energy Policy Framework released by the NSW Government in November 2023. This includes updates to the Large-scale Solar Energy Guideline and Draft Benefit Sharing Guideline to provide additional guidance around benefit sharing arrangements, visual impact assessment processes, and opportunities to ensure development is guided by meaningful consultation with affected communities (NSW Government, 2023).

2.0 Project Overview

2.1 The Project

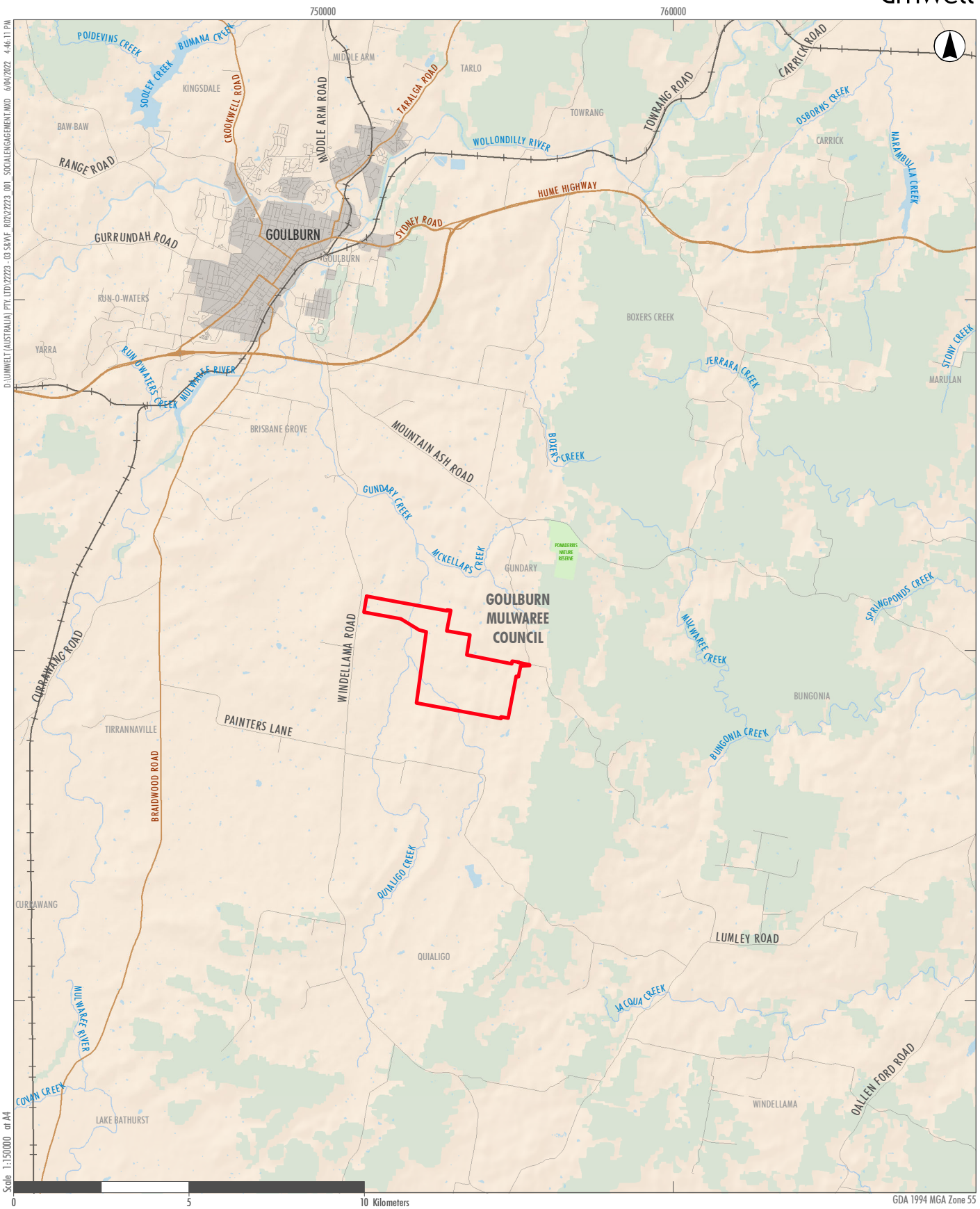
The Project will involve the construction, operation, maintenance and decommissioning of a 400 megawatt (MW) solar farm, BESS, associated infrastructure such as operation and maintenance buildings, civil works, and electrical infrastructure required to connect the Project to the electricity network.

The Project is accessed from 961 Windellama Road, Gundary NSW 2580, within the Gundary State Suburb (SSC), within the Goulburn Mulwaree LGA, as outlined in **Figure 2.1**.

The design will be subject to further review and refinement as the environmental and social impact assessment process progresses. **Table 2.1** below outlines key project milestones in the EIS and SIA programs.

Table 2.1 Key project milestones

Activity	Estimated timing
Landholder engagement	Early 2022
CSEP review and finalisation	Mid-March 2022
Scoping phase stakeholder and community engagement delivery	March – May 2022
Submission of Scoping Report (including SIA Scoping Report) to DPE	July 2022
Issuance of SEARs	November 2022
Anticipated submission of EIS (including SIA)	April 2024
Anticipated public exhibition period	Q2 2024
Anticipated determination	Q4 2024



Legend

- Gundary Solar Farm Site Boundary
- Gouldburn Mulwaree Local Government Area
- Main Roads
- Railway
- Hydro Areas
- Watercourses
- NPWS Estate

FIGURE 2.1

Regional Context

Image Source: ESRI Basemap (2022) Data source: NSW DFSI (2021)

2.2 Policy Context

The NSW Government's current energy security policy and approach to a clean energy transition is being delivered through the strategic development of the renewable energy sector, as outlined through the NSW Government's *Renewable Energy Action Plan* (2013), *Electricity Strategy* (2019) and the *Electricity Infrastructure Roadmap* (2020). This policy context is relevant to inform the public positioning and key messaging for the planning and development of the Gundary Solar Farm.

2.3 Social Context

The Gundary Solar Farm Project site is located in the small suburb of Gundary, which has a population of approximately 306 people (approximately 95 households) with a median age of 45 years (ABS, 2021).

Gundary is located within the broader Goulburn Mulwaree Local Government Area (LGA), which is governed by the Goulburn Mulwaree Council. The surrounding areas of Windellama, Lake Bathurst, Tirrannaville, Quialigo and Bungonia are all small suburbs characterised by ageing populations. The Project site is located southeast of Goulburn which is the primary location where residents from the abovementioned suburbs are likely to access services and facilities.

Table 2.2 provides an overview of key attributes relevant to the social context of the Project. These attributes apply to the Project's social locality, which is comprised of the suburb of Gundary, the LGA of Goulburn Mulwaree and the nearby key employment and accommodation hub of Canberra. Further detail on the social context of the Project is included in the Social Impact Assessment Scoping Report (Umwelt, 2022).

Table 2.2 Summary of local challenges and opportunities, by key community capitals

Challenges	Capital	Opportunities
• Limited public transport accessibility • Increases in housing price • Other proximal projects generating cumulative impacts (including the proposed Merino Solar Farm) • Limited short-term accommodation in Goulburn for non-resident workers	**Physical**	• Strategic location and strong highway and rail freight linkages, providing access to proximal labour forces and products, particularly in Canberra • Very well located in the energy network with strong transmission line connectivity and grid stability • High quality land for sheep and cattle grazing • Access to a larger supply of short-term and rental housing in Canberra
• Extensively modified vegetation • History of grass fires	**Natural**	• History of productive agriculture and grazing • Extensive cultivation for the purpose of development of exotic pasture has resulted in loss of native grassland and therefore lower biodiversity constraints for renewable energy development • Region includes conservation areas, national parks and reserves
• Community division regarding renewable energy projects in the region	**Social**	• Strong community and social relationships • Well organised community groups with a strong interest in renewable energy
• High demand for housing • Housing affordability decreasing	**Economic**	• Diversified economy • Heritage values linked with tourism sector to promote economic benefits

Challenges	Capital	Opportunities
• Lower than state average labour force participation		• Supportive economic and business groups • A resilient economy throughout COVID •
• Mental health is a growing concern for community • Smaller proportion of population (compared to NSW) having completed Year 12, and bachelor's degree level and above education, indicating possibilities of a future skills shortage • Lack of access to internet at home for population compared to NSW	**Human**	• Population growth and city-to-regional population trends • Opportunities for local skills, as Goulburn is a regional centre with a Country University Centre and TAFE. • Growing population
• Contested Traditional Owner custodianship of land	**Cultural**	• Community support for solar • Presence of the Pejar LALC and MACI
• Not part of a Renewable Energy Zone • History and ongoing presence of community opposition to development and renewable energy in the area	**Political**	• Regional plan has a direction of positioning the region as a hub of renewable energy • Strong Local, State and Federal community representation

Source: Umwelt, 2023

2.4 Key Considerations

In recent years, proposed renewable energy projects across NSW have had diverse responses from local communities in relation to their perceived environmental and social impacts.

Following analysis undertaken for the Scoping Phase SIA for this Project, we understand the following issues to be of relevance for consideration in planning and developing the Project:

- Perceived inadequacy with community engagement approaches, including a lack of adequate community representation and limited information provision.
- Land use conflict – renewables development in productive agricultural areas, impacts on adjacent agricultural activities, food security and reducing the agricultural output of the region.
- Visual amenity – power lines and poles have been a concern of residents due to the impact on the rural landscape, views of solar panels, glare and glint, lighting issues and lack of screening.
- Lack of local economic benefit and detraction from local tourist areas and attractions.
- Construction workforce impacts on local townships – effect on supply, demand, and accessibility of local service provision (housing, health, education, recreation, employment services etc.).
- Little research demonstrated in devaluation of properties and overall local property market changes, especially where location of site is close to townships and/or to residential properties.
- Acoustics and cumulative noise impacts, including impacts on sleep.
- Traffic issues for local roads, road deterioration, school buses and children's safety on roads.

- Concerns about electromagnetic fields (EMFs), radiation issues for residents increasing health risks, hazardous material posing a hazard/safety risk, heat generation, welfare of cattle and sheep, spread of noxious weeds, bird deaths associated with heat.
- Issues around cumulative impacts of projects, especially within 10 km of towns.

The cumulative nature of renewable energy projects must also be considered in the case of this Project given the NSW Government's *NSW Electricity Infrastructure Roadmap* and other proximal renewable energy projects in the Goulburn Mulwaree LGA that have experienced community opposition in recent years (largely wind farm developments).

3.0 Engagement Strategy

The NSW DPE SIA Guideline (2023) outlines a number of stakeholder groups to be engaged in the SIA. Such engagement is seen to be distinct from information provision undertaken for the broader project and EIS. The stakeholder groups that considered relevant to this Project are outlined in **Figure 3.1** below.

Figure 3.1 Stakeholder groups

3.1 Stakeholder Identification

A stakeholder identification process has been undertaken to further define relevant stakeholders for the project within each of these stakeholder groupings. Levels of engagement have been defined based on the International Association of Public Participation (IAP2) Public Participation Spectrum[1] as per **Figure 3.2.**

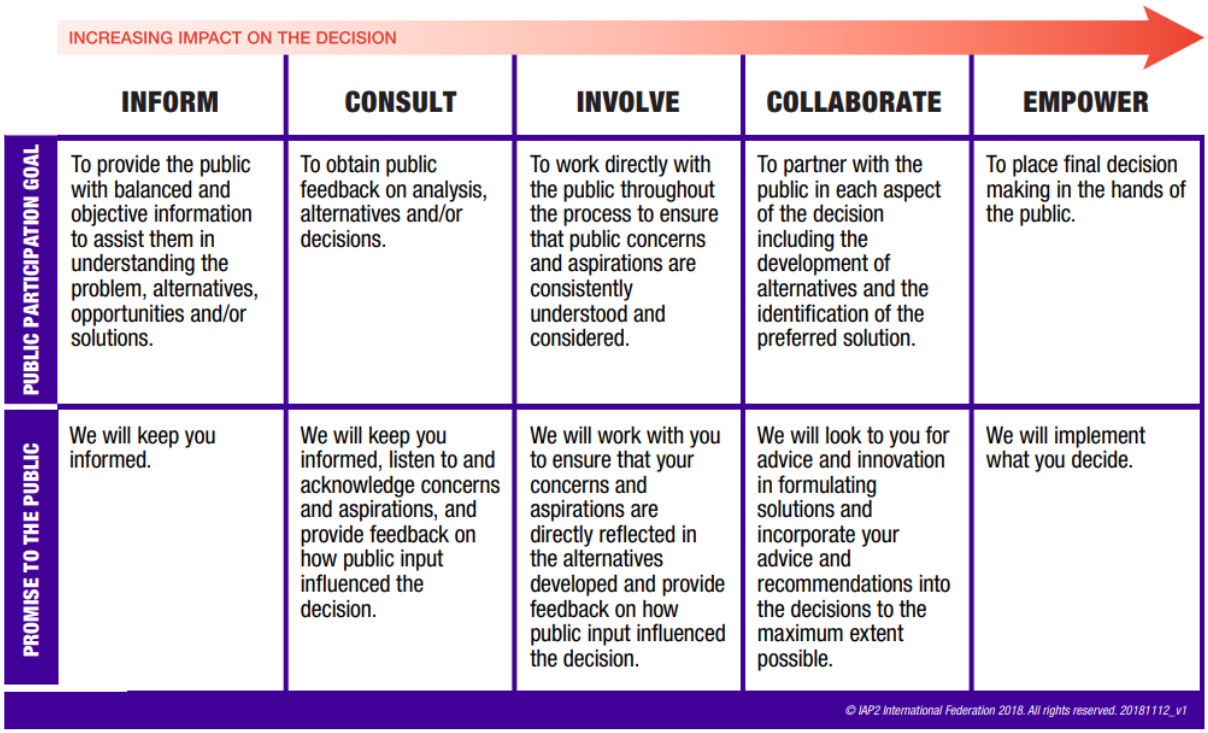


Figure 3.2 IAP2 Public Participation Spectrum

Source: International Association for Public Participation, 2019

A breakdown of these stakeholders is presented in **Table 3.1.**

Table 3.1 Stakeholder identification

Stakeholder Group	Stakeholders	Level of Engagement (IAP2)	Potential Impacts
Host landholder	1 involved landholder on the project site	Collaborate	Changes to way of life and livelihood Additional financial security from the long-term lease agreement

[1] IAP2 IAP2 Spectrum | IAP2 Australasia

Stakeholder Group	Stakeholders	Level of Engagement (IAP2)	Potential Impacts
Local Government	Goulburn Mulwaree Shire Council – Mayor, Deputy Mayor and Executive team	Collaborate	Cumulative impacts from multiple projects Accessibility impacts on local and regional services and businesses Commercial stimulus for local economy Local infrastructure and services provision (e.g., road upgrades) Land use planning and/or conflict Concerns of community and local stakeholders
Adjacent landholders or proximal property owners	105 non-involved residences within 4 km of the site boundary Local road users	Involve	Social amenity impacts such as visual changes to the landscape during both construction and operation Accessibility impacts due to construction traffic Land use conflict Cumulative impacts from multiple projects Noise impacts during construction period
Local businesses and service providers	Bus companies Accommodation providers and local AirBnBs Utilities providers; TransGrid, Essential Energy, Telstra Service providers (employment, education, health, recreational etc.) Emergency services such as RFS, Fire & Rescue, SES, Ambulance and Police Bakery / general store in Gundary Tirranna Public School	Involve	Increased demand/use of local and regional services by construction workforce Livelihood impacts Public safety for other road users (e.g., children and school bus drop off locations) Commercial stimulus for local economy

Stakeholder Group	Stakeholders	Level of Engagement (IAP2)	Potential Impacts
Aboriginal stakeholders	Pejar Local Aboriginal Land Council (LALC) Katungul Aboriginal Corporation Regional Health and Community Services Local Aboriginal service providers Buru Ngunawal Aboriginal Corporation Yurwang Gundana Consultancy Cultural Heritage Services (GCCHS) Corroboree Aboriginal Corporation Murrabidgee Mullangari Aboriginal Corporation (MMAC) Merrigarn Indigenous Corporation Didge Ngunawal Clan Ginninderra Aboriginal Corporation Muragadi Heritage Indigenous Corporation Mulwaree Aboriginal Community Inc Konanggo Aboriginal Cultural Heritage Services (KACHS) Mundawari Heritage Consultants (MHC) Kamilaroi Yankuntjatjara Working Group Guntawang Aboriginal Resources Incorporated (GARI) Thunderstone	Involve	Impacts on cultural connection to Country or place or on cultural values Inequity of impacts on Aboriginal community

Stakeholder Group	Stakeholders	Level of Engagement (IAP2)	Potential Impacts
State & Commonwealth Government	DPE – Energy Assessment DPE Hazards DPI Agriculture DPI Fisheries Heritage NSW Transport for NSW Biodiversity Conservation Division (BCD) DPE Water Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Consult	Cumulative impacts from multiple projects Alignment to NSW Government initiatives Compliance with relevant legislation Environmental, social, cultural and economic impacts
Community and special interest groups	Community Energy 4 Goulburn Goulburn Field Naturalist Society The Goulburn Group Windellama Garden Club Inc Windellama Progress Association Inc. Goulburn Chamber of Commerce & Industry NSW Farmers Association Goulburn Landcare Group Tirranna Public School Windellama Public School Goulburn East Public School Goulburn High School Goulburn North Public School	Consult	Cumulative impacts from multiple projects Accessibility impacts from construction workforce Land use conflict Sense of community / sense of place Commercial stimulus for local economy Local infrastructure and services provision
Regional community	Residents in the broader Goulburn Mulwaree LGA	Consult	Cumulative impacts from multiple projects Accessibility impacts from construction workforce Land use conflict Regional economic benefits Infrastructure and services provision
Local media	The Goulburn Post RAMfm Community Radio	Inform	Cumulative impacts from multiple projects Regional economic benefits

3.2 Engagement Methods

The involvement of stakeholders and community groups will include a combination of:

- **Consultation / Engagement:** to facilitate stakeholder involvement in the identification of issues/impacts, areas of interest/concern and strategies to address the issues raised.
- **Information provision:** to improve knowledge and awareness of the company, its activities, the project, and key issues/impacts as they arise.

Table 3.3 outlines the engagement mechanisms that will be used to engage each stakeholder group, that aligns with the level of engagement as noted in **Table 3.1**.

Table 3.2 Engagement Mechanisms Responsibility Colour Code

Lead Responsibility Colour code	
Lightsource bp	Umwelt

Table 3.3 Engagement mechanisms

	Project website	Social media	Community Hotline	Project Email	Project Information Sheets	Community Information Sessions	Personal Interviews/ Meetings	Project Meetings
Stakeholder Group								
Host landholders						✓	✓	
Adjacent landholders or property owners	✓	✓	✓	✓	✓	✓	✓	
Residents of neighbouring or nearby communities	✓	✓	✓	✓	✓	✓		
Local businesses and service providers	✓	✓	✓	✓	✓	✓	✓	
Local Government	✓						✓	✓
State Government							✓	✓
Aboriginal stakeholders	✓	✓	✓	✓	✓	✓	✓	✓
Community and special interest groups	✓	✓	✓	✓	✓	✓	✓	
Regional community	✓	✓	✓	✓	✓	✓		

	Project website	Social media	Community Hotline	Project Email	Project Information Sheets	Community Information Sessions	Personal Interviews/ Meetings	Project Meetings
Local media	✓	✓	✓	✓	✓			

3.3 Key Project Messages

Key messages (for external purposes) will be developed and refined throughout the EIS process, around the following three critical message categories and will be used to inform the engagement strategy and material development:

- **Project** – details on the site and plans, quick facts and profile of the proposed Project.
- **Process** – the development planning and assessment process, including community consultation and key milestones for the EIS submission, public exhibition, and determination.
- **Issues and Benefits** – key issues in relation to the Project i.e., social, and environmental issues, interests or concerns.

3.3.1 Project Messages

- Lightsource bp are proposing to develop a solar farm on a site of approximately 702 ha in Gundary, southeast of Goulburn. The Project has a proposed operational life of a minimum of up to 40 years.
- The Project site has strategically been selected due to its location within a strong area of the NSW electricity network. The 330 kV line that transports energy to major population centres including Sydney and Canberra intersects the Project site.
- The site selection process for this project was grid-led, involving initial selection of transmission infrastructure with sufficient transmission capacity to accommodate a project. Once a transmission line was selected, the site selection process was targeted in areas in vicinity to this infrastructure.
- Several land options were then selected based on avoiding planning and environmental constraints. Lightsource bp consulted several landowners in the region, with negotiations ultimately being successful with the landowner of the Gundary Project site.
- The proposed solar project will have a capacity of approximately 400MWp MW and will be comprised of solar photovoltaic (PV) modules as well as a battery energy storage system (BESS) to store the energy created by the solar farm. The energy will be transferred to an existing TransGrid 330 kilovolt transmission line located in the north-west corner of the site.
- The Project, once constructed, will also include a site office, operations and maintenance building, carpark area, and storage facilities.

- The Project can be designed to facilitate sheep grazing, in line with Lightsource bp's standard practice of facilitating co-existence with agricultural industry. However, this will be subject to further discussions with the landholder and regulatory agencies.
- The site will be accessed from the Hume Highway and Windellama Road.
- Pending the Project's environmental and regulatory assessment and approvals process, construction is currently proposed to commence in Q1 2025 and extend over an 18 to 24 month period, with the Project to be operational by Q1 2027.

3.3.2 Process Messages

- The Gundary Solar Farm is currently undergoing detailed assessment as part of the EIS phase of planning works. It is being assessed as a State Significant Development (SSD) under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (the EP&A Act).
- The NSW Minister of Planning, or potentially the Independent Planning Commission (IPC), will be the consent authority for the project. The Minister for Planning has issued a general delegation of the consent authority function for SSD projects to the IPC in instances where more than 50 public objections are received on the application, where the applicant has made a reportable political donations disclosure and/or where the Local Council (in this case the Goulburn Mulwaree Council) objects to the Project.
- Lightsource bp submitted a scoping report to DPE in October 2022 and received the Secretary's Environmental Assessment Requirements (SEARs) in November 2022. Lightsource bp is currently preparing detailed impact assessments in accordance with the SEARs.
- As part of Lightsource bp's application to DPE, Umwelt has been engaged to develop an EIS which includes a number of technical studies to assess the potential impacts of the project. These technical studies will include noise and vibration, biodiversity, visual amenity, Aboriginal and non-Aboriginal heritage, traffic and transport, social and community, economic, water resources, soils and agriculture, glint and glare, and hazards and safety (including bushfire and EMFs).
- Once the EIS is lodged with the DPE, it will be placed on public exhibition allowing for submission to be made by any member of the community or interested party. This gives the public and the wider community the opportunity to contribute to the Project's assessment and determination.
- The SIA assesses the impact of the project on the community. To inform the SIA, Umwelt and Lightsource bp has been and will continue to consult with the community to understand their concerns, interests, issues, or the benefits that people perceive the Project may deliver. This consultation is an important part of the Project's planning and design, and Lightsource bp will endeavour to undertake regular, open and transparent engagement that is helpful and constructive. This engagement will enable Lightsource bp to address how stakeholder feedback can be addressed in project design and planning.
- Lightsource bp will be working closely with the host landholder, neighbouring landholders and property owners, Aboriginal community representatives, and the wider community, in addition to the Goulburn Mulwaree Council and NSW Government agencies, to gain a detailed understanding of the views, issues, interests and feedback on the Project.

3.3.3 Project Impacts and Opportunities

- Solar energy development supports the diversification of NSW's energy mix and more broadly is contributing to Australia's clean energy transition.
- This 400 MWp project will have the capacity to generate 780,000MWh of clean electricity each year; enough to supply electricity to approximately 133,000 homes.
- The project's generation of solar energy will ensure that 670,000 tonnes of carbon is not emitted into the atmosphere, equating to taking approximately 278,000 cars off the road.
- The Project is expected to employ a construction workforce of up to 400 full time equivalent (FTE) employees, with approximately 250 personnel on site at peak over the construction period and 2-4 full time staff during operations of the solar farm.
- Lightsource bp aims to source at least 35% of the construction workforce from the local area, plus one locally sourced operational site manager. Local service providers and suppliers will also have opportunities to contract services during the construction period.
- Construction workers will be accommodated in towns within approximately one hour of the site, such as Goulburn, Marulan and Canberra. The findings of the SIA will support Lightsource bp in refining these plans.
- Lightsource bp has an established relationship with the Clontarf Foundation, an Australian organisation that works to provide educational opportunities and life skills support to Aboriginal and Torres Strait Islander boys and young men. The Clontarf Foundation partners with schools across the country to form Clontarf academies. Lightsource bp has an ongoing partnership with the Clontarf Foundation, supporting the academies closest to each Lightsource bp project nationwide by providing annual monetary support and/or sponsorships.
- The community engagement process for the Gundary Solar Farm will support Lightsource bp to understand the community's values, priorities, and aspirations to then consider establishing relationships with local or regional groups such as a community investment program and sponsorship initiatives.
- Lightsource bp recognises the community concerns in relation to other solar projects in NSW and elsewhere, as well as in relation to recently developed or proposed wind farms in the Goulburn area, such as those relating to visual landscape changes, access to or acquisition of agricultural properties, and the level of local economic benefit.
- Lightsource bp is committed to building strong relationships in the local community from the early stages of development. Lightsource bp will work to ensure that through the EIS and associated community engagement process, the Project gathers a thorough understanding of the issues specific to the Gundary Solar Farm and ensure that these are adequately addressed.

3.4 Engagement Materials and Topics

Umwelt will draft and prepare engagement materials to support the engagement activities outlined in **Section 4.0**. These will be prepared following confirmation of the Implementation Plan for Lightsource bp's review (see **Section 4.0**). Materials and tools to support the proposed engagement activities include the following:

- interview guides
- meeting agendas/run sheets
- project information sheets/posters.

Other materials will be developed as relevant to address information requirements identified through the engagement process.

3.5 Discussion Topics for Community Engagement

The NSW Government's Large-Scale Solar Energy Guideline (2018) requires that proponents include the following components of their stakeholder engagement program through the appropriate project planning and development phases:

- to engage with host and proximal landholders about the proposed project area, the likely infrastructure layout, access routes and potential location of ancillary infrastructure
- to listen to the community's concerns and suggestions
- to discuss potential noise impacts, the potential visual impacts and landscape changes, the proposed siting, and potential alternatives
- to discuss issues for landholder agreement if the project is approved, including siting, access, compensation, responsibility for decommissioning and rehabilitation.

3.5.1 Phase 1 (Scoping)

It is expected by DPE under the SIA Guideline (2023) that the scoping phase will include community engagement activities to understand likely stakeholder issues and concerns early in the project and to ultimately inform the social impact evaluation phase of the SIA.

Engagement in Phase 1 provides an opportunity to gauge and understand stakeholder issues/concerns/interests in relation to the project; to identify preliminary strategies/solutions to address topics raised; and to inform project design and planning.

In this regard, the SIA process calls for likely social impacts to be appropriately scoped and identified through consultation with potentially affected people and mitigation and enhancement options preliminarily explored.

To satisfy the SIA requirements, proposed engagement activities to be undertaken in this phase need to be targeted at identifying perceived issues of concern and/or positive impacts in relation to the proposed project to be further considered in the subsequent EIS phase.

Questions to include in survey or interview discussion guides appropriate to this phase will include topics relating to:

- Awareness and attitudes towards solar farm development (and other renewables or industry development in the local or regional area).
- Awareness and public perceptions of Lightsource bp.
- Potential issues, concerns or interests related to the proposed project.
- Community values, identity, local needs, and aspirations.
- Areas of value and use within and near the project area.
- Sense of community in the area.
- Potential sensitive receivers and/or vulnerable community groups.
- Preferred engagement mechanisms, frequency, and content.

3.5.2 Phase 2 (EIS preparation)

Proposed engagement activities undertaken during Phase 2 will be focused on further exploring and validating the issues/interests/concerns that have been identified during the Scoping Phase. The EIS program and preliminary insights or findings gathered through the various technical studies will also be further communicated during this phase, to assist in gathering feedback from key stakeholders and the wider community, on predicted project impacts and potential mitigation and enhancement strategies/solutions.

Therefore, engagement in this phase, to inform the EIS and SIA will focus on:

- Assessment and evaluation of perceived issues, impacts and opportunities associated with the project.
- Existing capacity of local service provision and projected future demand.
- Potential strategies to address and respond to issues, impacts and opportunities.
- Enhancement measures to improve collaboration between Lightsource bp and community or stakeholders, including potential community investment and benefit-sharing opportunities.

3.6 Recording, Monitoring and Record-keeping

Outcomes and records of each engagement activity will be documented by the team member(s) in attendance.

An Engagement Register in Excel format will also be maintained throughout the delivery of the Implementation Plan to ensure consistent tracking and recording of all community or stakeholder engagement activities and outcomes. Information to be recorded includes:

- activity details (including stakeholder engaged, attendees, time and place, mechanism used)

- discussion points
- summary of key outcomes or any actions
- stakeholder contact details
- preferences for future engagement.

Following completion of engagement for each phase, outcomes and data obtained will be collated and analysed to identify key impact themes and impact prioritisation. Identified issues or impacts may also be mapped to identify any patterns.

Communications and stakeholder engagement will be monitored throughout the project and this plan may be adapted to adjust engagement mechanisms, stakeholders, timing or content in response to feedback or changing circumstances.

Outcomes of engagement undertaken will then be summarised in the Social Impact Scoping Report and Social Impact Assessment Report respectively.

4.0 Stakeholder and Community Engagement Implementation Plan

An overview of the activities proposed to effectively engage each stakeholder group across the two assessment phases is provided below.

4.1.1 Phase 1 (Scoping)

Table 4.1 presents the Scoping Phase Implementation Plan.

Specifically, in this phase, the CSEP aims to:

1. Inform and consult with the community in relation to the Project.
2. Develop an understanding of the social locality/social area of influence of the Project, specifically the host community/communities in which the Project is proposed.
3. Scope and identify any impacts upon people associated with the Project.
4. Afford community and stakeholder input preliminary project design, planning and development.
5. Identify preliminary strategies or community benefit schemes or partnerships that may be further explored to respond to impacts in the form of mitigation or enhancement measures.
6. Identify engagement preferences of stakeholders and potential partnerships between the proponent and the community.

4.1.2 Phase 2 (EIS preparation)

Table 4.2 contains the tasks that are proposed to be undertaken in Phase 2 (EIS preparation). This has been revised and expanded as required following the outcomes of Phase 1 and after the issuance of SEARs.

Table 4.1 Phase 1 (Scoping) Implementation Plan

Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input from Umwelt
Project Information Sheet 1	First project information sheet that will provide an overview of the proposed project and approvals pathway, and how the community can get involved in the EIS process and specifically the SIA. Information regarding the first community information session will be included.	1	Proximal residents within 1km of site boundary Broader community	Draft content Provide input into distribution area Distribute info sheet	Review and approve content Design info sheet	March 2022	Project description and Information Session details
Website, Project contact number and project email address	Publish a live Project webpage on the Lightsource bp website. Establish the 1300 number and Project email address	1	All stakeholder groups	Incorporate link in our correspondence with stakeholders. Share Project contact number and email to stakeholders and community members.	Design and publish website. Establish 1300 number, and Project email address	March – Early April 2022	N/a
Personal interviews/ meetings	Meetings with individual landholders to understand the social locality, sensitivities, concerns and interests of directly affected landholders, local community values, and to scope perceived impacts of the project to be fully assessed in the EIS preparation phase, as well as any potential project refinements to be considered.	1, 2, 3, 4, 5	Host landholders Proximal residents within 1km of the site boundary Registered Aboriginal Parties	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meetings as relevant	March – April 2022	Interview guide

Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input from Umwelt
	Meetings with key community groups and/or local key stakeholders including Registered Aboriginal Parties to understand the social locality, any concerns held regarding similar projects nearby and to identify potential community needs, values, aspirations or vulnerabilities to inform the SIA and potential mitigation measures.	1, 2, 3, 4, 5	Community/ environment/ cultural/ special interest groups	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meetings as relevant	March – April 2022	Interview guide
	Meetings with State Government to understand key impacts of the project to inform the SIA and potential mitigation measures.	1, 2, 3, 4, 5	Regional Development Australia DPE	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meetings as relevant	March – April 2022	Interview guide
	Meeting with Council staff to understand the social locality; community characteristics and values, including aspirations and needs or vulnerabilities; experiences with similar projects in the LGA; any perceived social impacts of this project; and expectations of Council on local social or economic benefits to be realised.	1, 2, 3, 4	Goulburn Mulwaree Council	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meeting	March 2022	Interview guide

Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input from Umwelt
	Meeting with key service and Education providers to understand community needs and assess options for community benefit	1, 2, 3, 4	TAFE Training Services NSW Ginninderry	Draft interview guide Undertake meetings Record outcomes of meetings	Review and approve interview guide Attend meeting	March and April 2022	Interview guide
Community Information Session 1	1 x in person drop-in community information session will be held with attendance by Umwelt and Lightsource bp to allow the broader community and any interested parties to review information regarding the project, ask the project team questions, provide feedback and raise any concerns or interests.	1, 2, 3	Broader community	Organise the session, including location, bookings, catering etc. Incorporate invitation into the initial community information leaflet Provide input regarding invitees Distribute the invitation/advertisements Attend the session and record outcomes	Review and approve details of the session Review and approve the invitation/ advertisements Attend the session	April 30 2022	Project posters and information

Table 4.2 EIS Preparation Implementation Plan

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
Project Information Sheet 2	Second project information sheet outlining the outcomes of the Phase 1 engagement program to validate understanding of the community's perceived impacts; share additional project information and detailed plans; and provide an update on the approvals process, including an invitation to the Community drop-in Sessions	1	Proximal residents within 4km of site Broader community	Draft content Provide input into distribution area Distribute info sheet	Review and approve content Design info sheet	October 2022	Project description
Community Information drop-in sessions	Community Information drop-in sessions were held with attendance by Umwelt social, environmental (EIS, Noise, Biodiversity, Water) specialist teams, Visual Impact practitioner and Lightsource bp to allow the broader community and any interested parties to review the	1,2,3	All stakeholders	Organise the session, including location, bookings, catering etc. Draft an invitation to/advertisement about the session Provide input regarding invitees Distribute the invitation/advertisements Attend the session and record outcomes	Review and approve details of the session Review and approve the invitation/ advertisements Attend the session	November 14th and 15th 2022	Engagement collateral

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
	Scoping report submission in detail and ask any specific questions about the specialist studies to be undertaken.						
Personal Interviews / Meetings	Meetings with 3x individual landholders to understand the concerns and interests of directly affected landholders and any potential project refinements to be considered.	1, 2, 3, 4, 5	Proximal residents within 4km of site	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meetings as relevant	November 14th and November 15th 2022	Interview guide
	Meetings with 3x key community groups to understand any concerns held regarding similar projects nearby and to identify potential community needs, values, aspirations or vulnerabilities to inform the SIA and potential mitigation measures.	1, 2, 3, 4, 5	Community/ environment/ special interest groups	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide Attend meetings as relevant	November 14th and November 15th 2022	Interview guide

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
	Meeting with State Government to understand key impacts of the project to inform the SIA and potential mitigation measures.	1, 2, 3, 4, 5	Regional NSW	Draft interview guide Undertake meeting Record outcomes of meeting Communicate any social risks to the project team	Review and approve interview guide Attend meeting as relevant	November 14th and November 15th 2022	Interview guide
Random Sample Phone Survey	Taverner conducted a phone survey, obtaining 200 responses from people randomly sampled from those residing within the Goulburn Mulwaree LGA, with weighted emphasis on those within 5km of the Project boundary.	1, 2, 3, 4, 5	Broader community members	Provide questions to sub consultant. Data analysis of responses	Review and approve survey	December 2022 to February 2023	Survey instrument
Visual Impact Assessment and Neighbour interview	Targeted Visual Impact Assessment visits were conducted by a Visual Impact consultant and Social Impact consultant to assess visual impacts, discuss individual neighbour concerns and mitigation preferences and communicate Project updates.	1, 3, 4, 5, 6	Proximal residents within 4km of site	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks to the project team	Review and approve interview guide	May 9th to 12th 2023	Interview guide Mapping of visually impacted neighbours

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
Community Information Sessions 2 and 3	2 x information sessions will be held with attendance by Umwelt social, environmental specialist teams, Visual Impact Practitioner and Lightsource bp to allow the broader community and any interested parties to review updated planning and design information (including findings of technical studies), ask the project team questions, provide feedback on the project planning and assessment. It is proposed that 2 sessions are run on different days and in different locations, to enable the wider community to access opportunities to obtain an update on the project and provide feedback. Consideration of a stall at a local market.	1, 2, 3	Broader community	Organise the session, including location, bookings, catering etc. Draft an invitation to/advertisement about the session Provide input regarding invitees Distribute the invitation/advertisements Attend the session and record outcomes	Review and approve details of the session Review and approve the invitation/ advertisements Attend the session	March 2024	Project posters and information

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
Personal interviews/ meetings	Meetings with individual landholders to provide feedback on the assessment studies relating to issues/impacts of concern to community and to discuss potential mitigation and enhancement measures.	2, 3, 4, 5	Host landholders Proximal residents within 1km of site and those impacted by construction impacts	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks the project team	Review and approve interview guide Attend meetings if requested	February to March 2024	Interview guide
	Meetings with key community groups to provide feedback on the assessment studies relating to issues/impacts of concern to community and to discuss potential mitigation and enhancement measures. Local service providers are likely to be targeted through these interviews to understand the existing capacity of infrastructure and services in the context of an incoming	2, 3, 4, 5	Community/ environment/ special interest groups	Draft interview guide Undertake meetings Record outcomes of meetings Communicate any social risks the project team	Review and approve interview guide Attend meetings if requested	February and March 2024	Interview guide

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
	construction workforce (health, housing/ accommodation, recreation etc.). Potential mitigation measures and enhancement strategies will be identified and explored through these discussions. 1 x meeting with Council to further explore any local issues and benefit sharing strategies is also likely to be included.						

Engagement Mechanism	Detail	Alignment with Objectives (Section 1.1)	Stakeholder Group	Umwelt Responsibilities	Lightsource bp Responsibilities	Timing	Required Input
Project Information Sheet 3	Second project information sheet will provide a summary of the outcomes of Phase 1 & Phase 2 engagement program ; share additional project information and detailed plans; and provide an update on the approvals process, including the EIS and technical studies' outcomes. This will also provide a link to the public EIS, and instructions on how to make a submission.	1	Proximal residents within 4km of site Broader community	Draft content Provide input into distribution area Distribute info sheet	Review and approve content Design info sheet	December 2023	Project description

umwelt

umwelt
Environmental & Social
Consultants

Umwelt (Australia) Pty Limited

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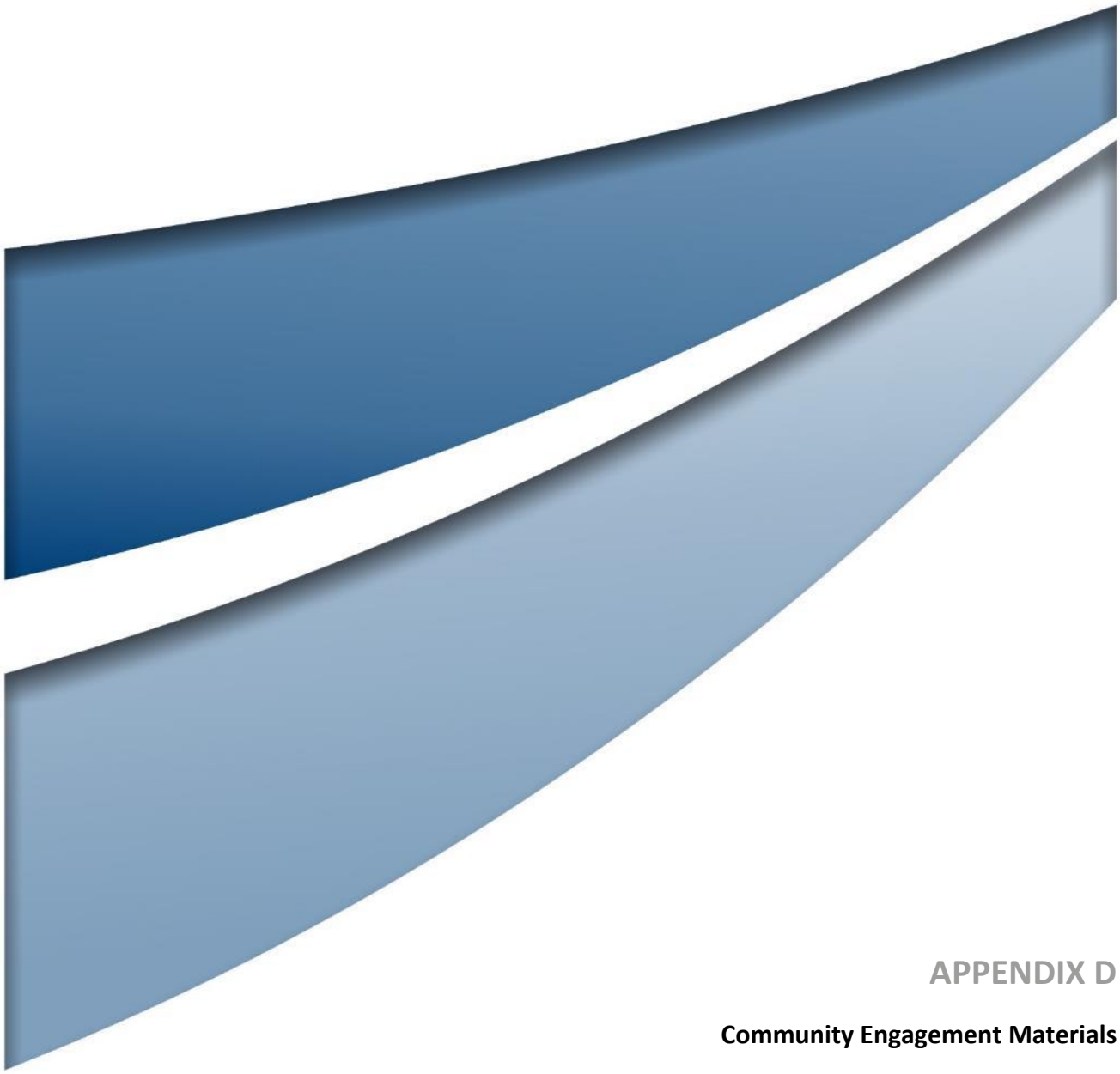

APPENDIX D

Community Engagement Materials

1.0 Engagement Material Distribution

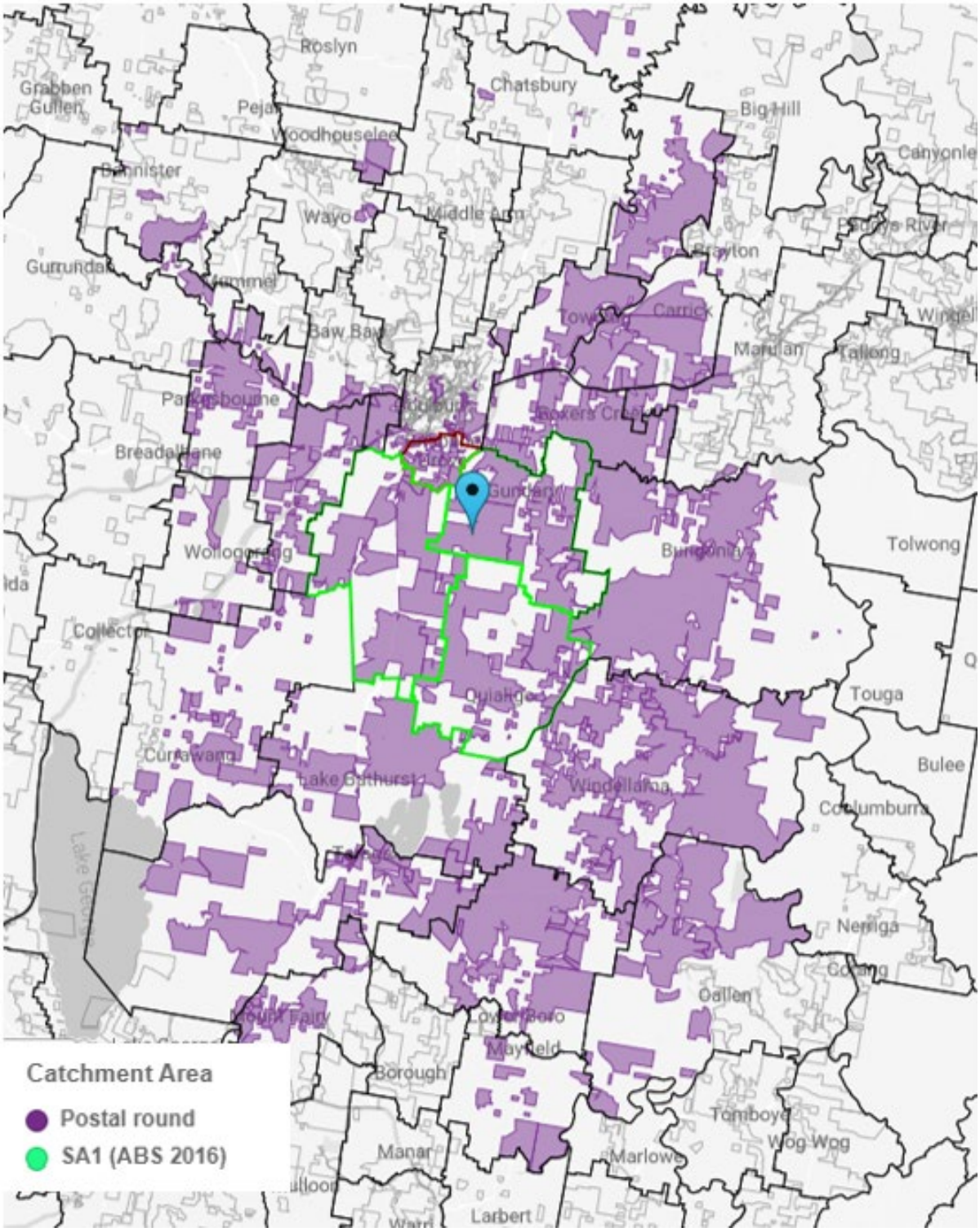

Figure 1.1 April 2022 Community Information Sheet Distribution

Total articles sent: 3,525. Blue pinpoint is the Project Area. Purple highlighted areas are where the articles were distributed to in the postal round. Green outlined line is Gundary SA1, Tirrannaville, Quialigo and Brisbane Grove (ABS 2016).
Please note: Goulburn Centre not included.
Source: (Australia Post, 2022).

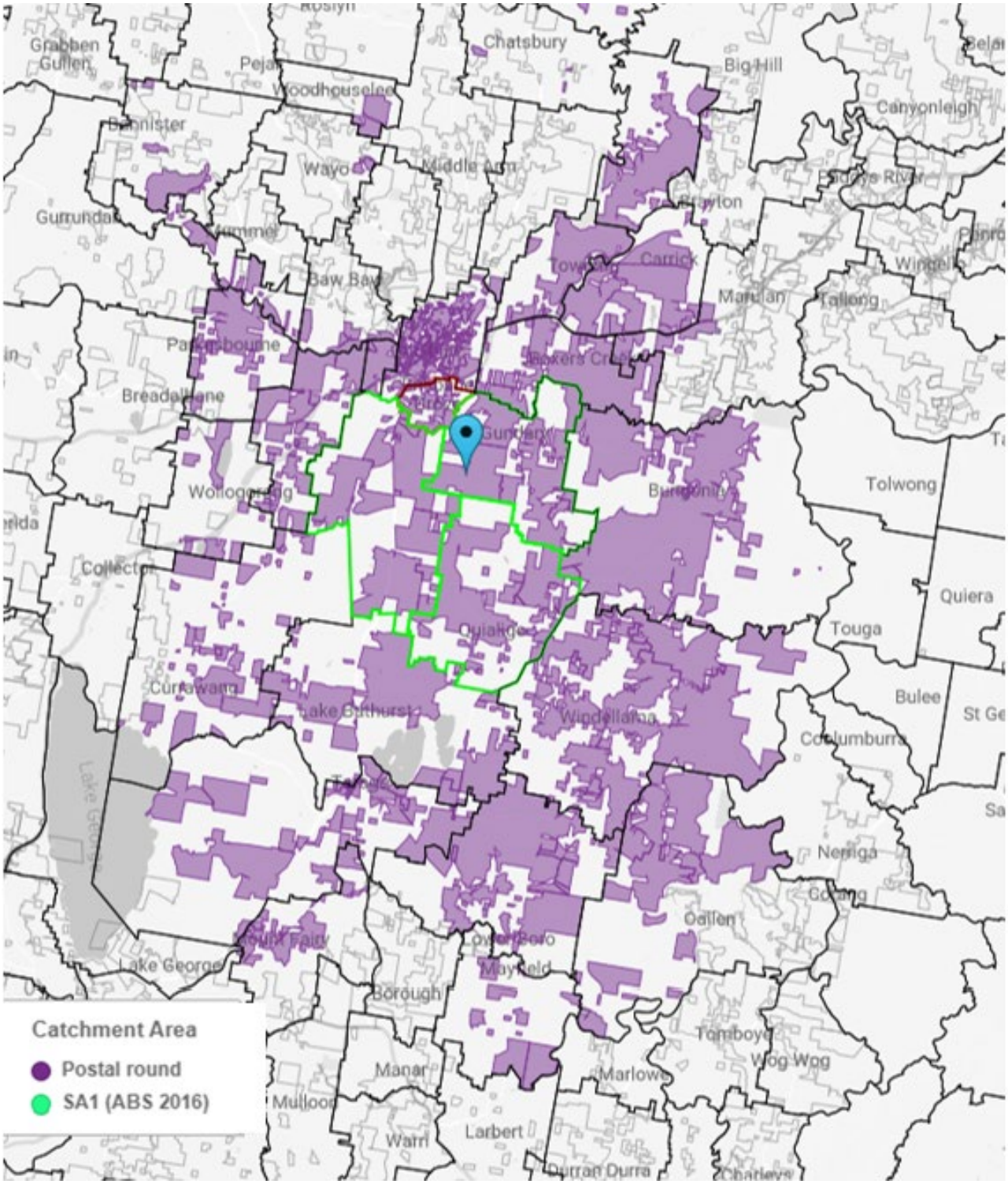

Figure 1.2 July 2022 Frequently Asked Questions Sheet Distribution

Total articles sent: 12,420. Blue pinpoint is the Project Area. Purple highlighted areas are where the articles were distributed to in the postal round. Green outlined line is Gundary SA1, Tirrannaville, Quialigo and Brisbane Grove (ABS 2016).
Please note: Significant increase in numbers of articles is largely due to Goulburn town centre being included, compared to Figure 2.7.
Source: (Australia Post, 2022).

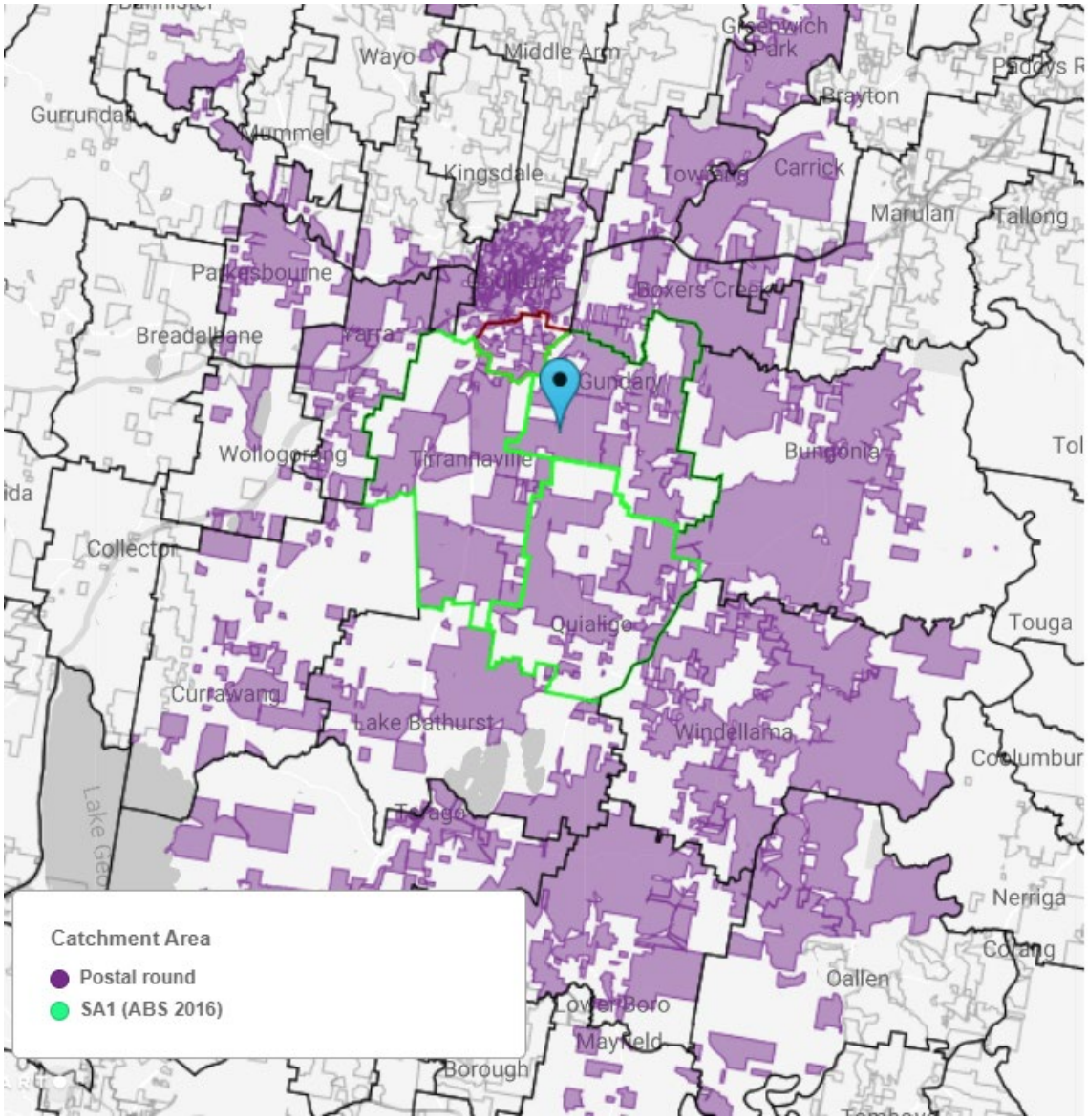

Figure 1.3 November 2023 Frequently Asked Questions Sheet Distribution

Total articles sent: 12,584. Blue pinpoint is the Project Area. Purple highlighted areas are where the articles were distributed to in the postal round. Green outlined line is Gundary SA1, Tirrannaville, Quialigo and Brisbane Grove (ABS 2016).
Source: (Australia Post, 2023)

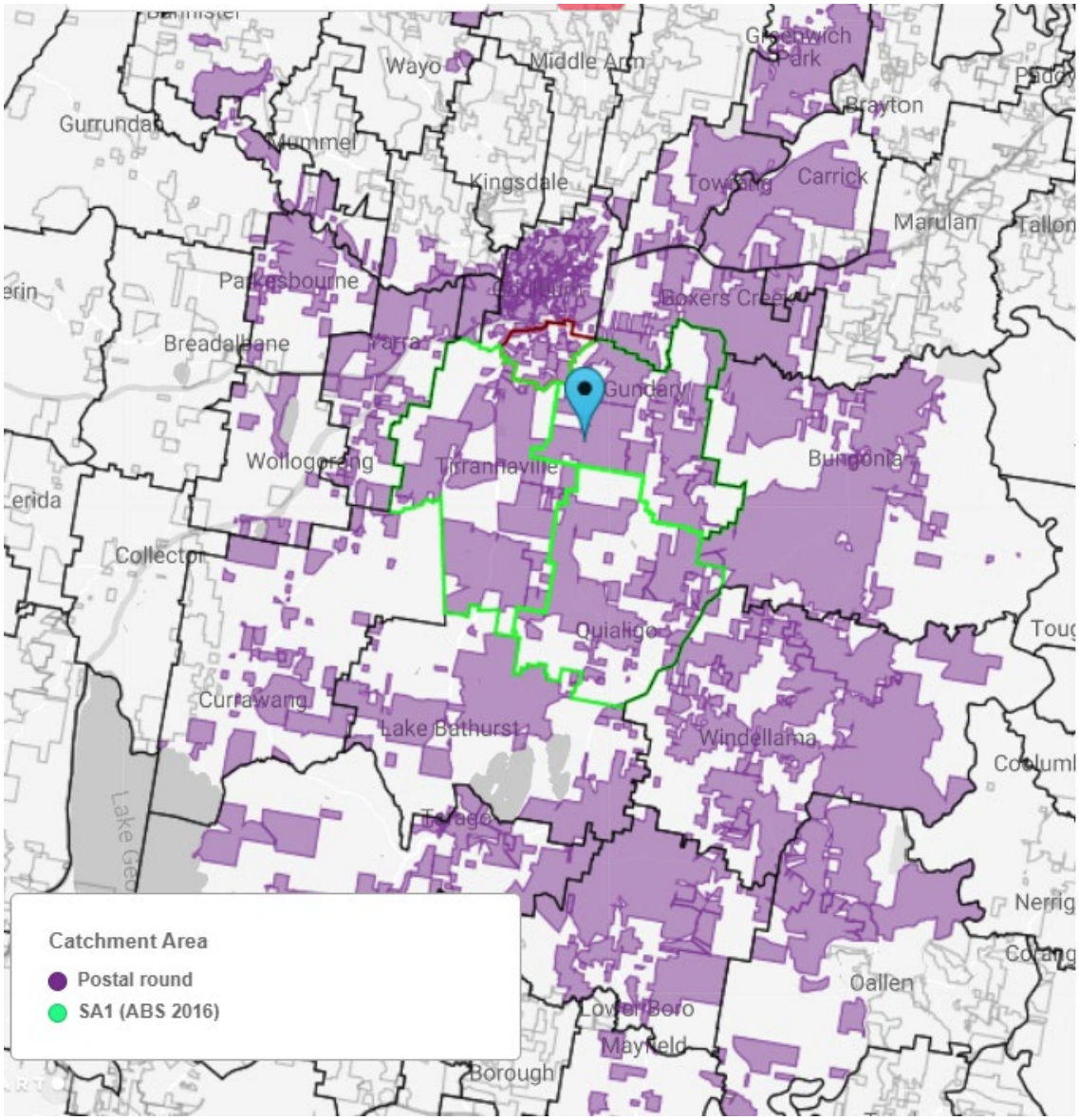

Figure 1.4 February 2024 Community Newsletter Distribution

Total articles sent: 12,584. Blue pinpoint is the Project Area. Purple highlighted areas are where the articles were distributed to in the postal round. Green outlined line is Gundary SA1, Tirrannaville, Quialigo and Brisbane Grove (ABS 2016).
Source: (Australia Post, 2024)

Who are we?

Lightsource bp is a global market leader in the funding, development and long-term management of large-scale solar projects and smart energy solutions. We work closely with local businesses to deliver sustainable renewable energy projects.

umwelt
Environmental & Social Consultants

Umwelt (Australia) are leading environmental and social consultants who have been engaged to prepare the Scoping Report and EIS for this project.

Community consultation program – how can I be involved?

Community consultation during the earliest stages of Project development is important to us.

It's important to us that the local community is fully informed of the Project and have the opportunity to participate in the planning process and provide feedback. In the coming months, Lightsource bp and Umwelt will be contacting a range of community members and stakeholders in proximity to, or who may have an interest in, the Project. This will include nearby residents, local businesses and service providers, community groups and government agencies.

Outcomes of the community consultation will be summarised and shared with the community in a second Community Information Sheet, which will also be available on the Project website, with further consultation planned during the EIS preparation phase from Q3 2022 to Q2 2023.

Opportunities for community participation and feedback will continue throughout each stage of the planning and assessment process. If you would like to receive further information on the Project or arrange a time to meet with the Project team, please contact us on the details below.

We look forward to your participation and involvement.

Contact us

Email: gundarysolar@lightsourcebp.com
Phone: 1300 873 575
Website: www.lightsourcebp.com/au/projects/gundary-solar-farm

lightsource bp bp

t 1300 873 575
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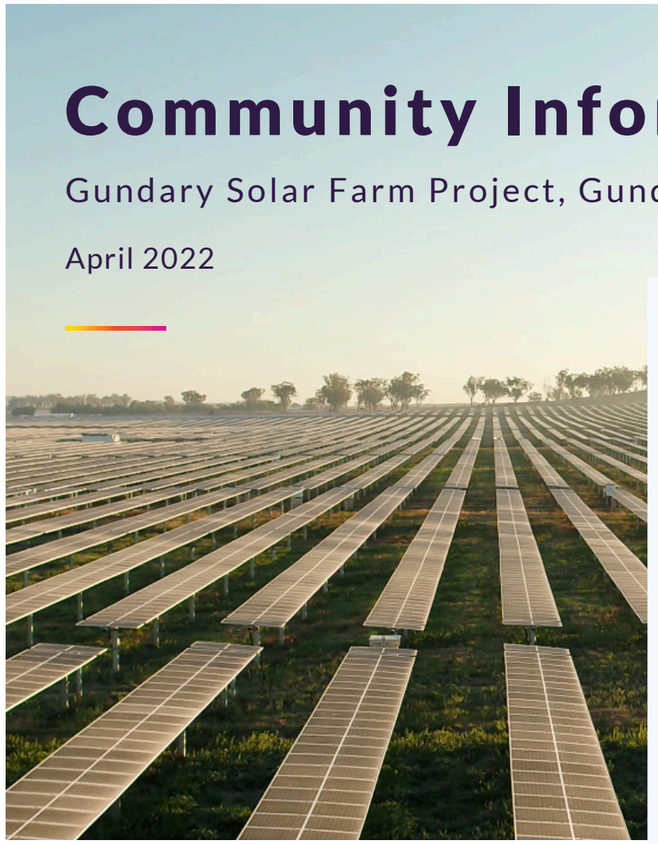
www.lightsourcebp.com

Community Information Sheet

Gundary Solar Farm Project, Gundary, NSW

April 2022



Key statistics

- **400 MW** of solar energy with a co-located BESS on site
- **$540m** estimated capital investment value (CIV)
- Expected to create up to **400** jobs during construction
- Connecting to the existing **330Kv** overhead powerline available on site
- Equivalent to the energy needs of **133,000** households
- Equivalent of taking over **213,000** cars off the road
- **640,000** tonnes of carbon emissions saved
- Operational life of at least **35** years

Lightsource bp is proposing to develop the Gundary Solar Farm Project (the Project), located approximately 13km southeast of Goulburn off of Windellama Road in Gundary, NSW (see Figure 1).

The Project would consist of a 400 megawatt (MW) photovoltaic solar farm, a Battery Energy Storage System (BESS) and associated infrastructure that would connect to the existing transmission network transecting the north-west corner of the Project.

Community information sessions

We've set up a dedicated webpage for this proposed Project with further Project information and opportunities to get in touch with us to discuss the proposal. www.lightsourcebp.com/au/projects/gundary-solar-farm

There will be several opportunities to attend community information sessions over the coming months and this is the first one. We will be holding a stall at the Bungonia Country Markets in April and would love to meet you there.

Date Saturday, 30 April 2022 **Time** 9am – 1pm (AEDT) **Venue** Bungonia Community Hall, 42 King Street, Bungonia NSW
Website https://www.goulburnaustralia.com.au/event/bungonia-heritage-celebration/all/

We will also be holding a stall at the Goulburn Rotary Markets in May

Date Saturday, 14 May 2022 **Time** 8:30am – 1:30pm (AEDT) **Venue** Montague St, off Auburn St, next to Belmore Park, Goulburn NSW
Website https://www.facebook.com/goulburnrotarymarkets/about

We would like to ensure that our engagement is inclusive and are aware that not everyone in the community will be available to attend this event. If you would like to receive a call back from the team to discuss the Project, or know of someone who would, we would be pleased to arrange at a convenient time.

lightsource bp bp

t 1300 873 575
e gundarysolar@lightsourcebp.com
www.lightsourcebp.com

About the Project

What assessments will be required?

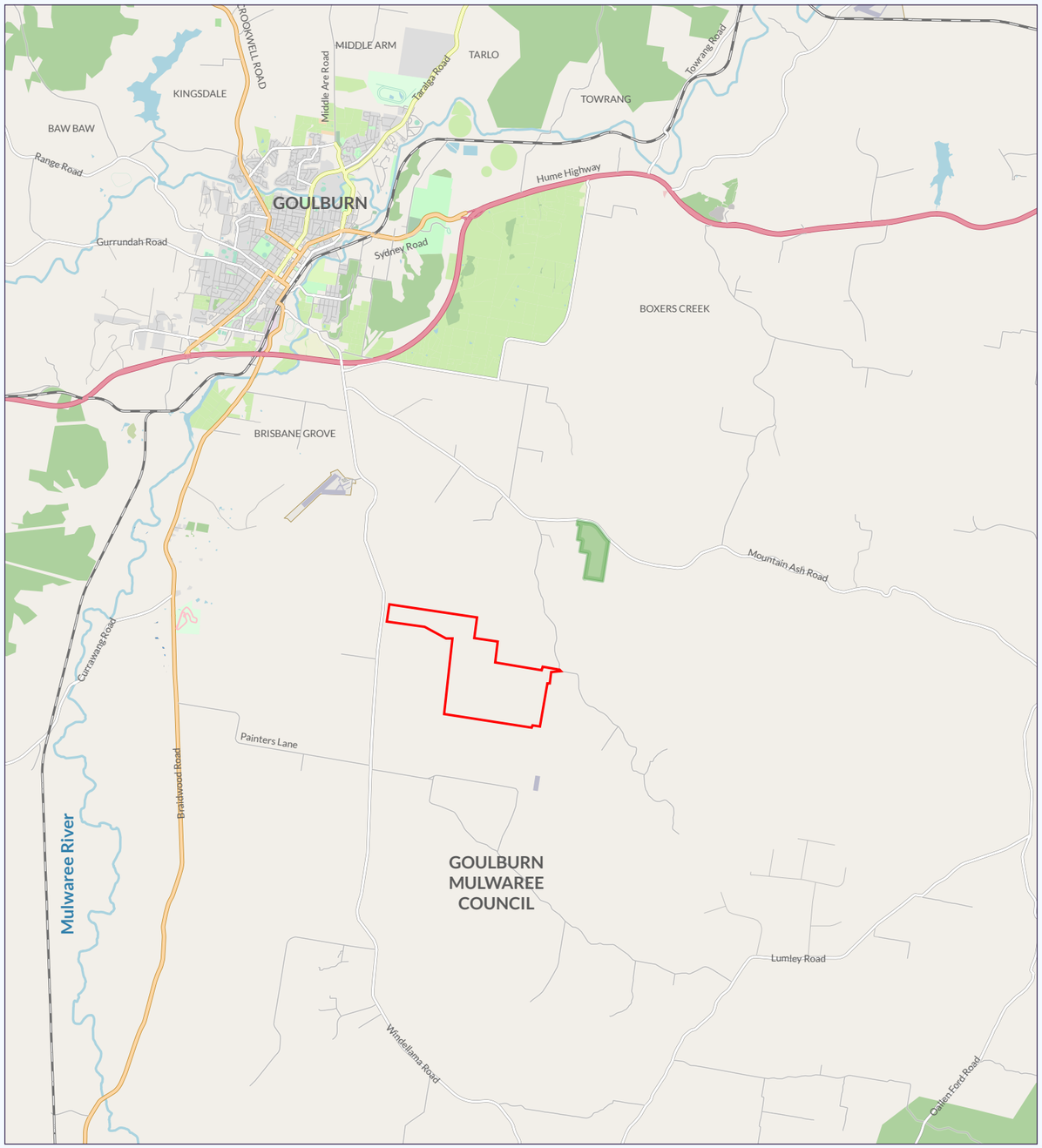
The Project will be assessed under the NSW State Significant Development planning and approvals pathway, which is outlined in Figure 2. The Project is currently in its Scoping Phase (the initial planning stages), which includes preliminary environmental and social assessments. These are planned to be lodged with the NSW Department of Planning and Environment (DPE) in approximately Q2 2022. Lightsource bp is seeking feedback from the local community on the Project as part of the scoping phase for the planning and approvals process.

The social and environmental assessments for the Project will be prepared by Umwelt Environmental and Social Consultants and cover a range of matters, including:

- **Land Use**
- **Visual**
- **Traffic**
- **Cumulative Effects**
- **Water**
- **Social and Community**
- **Noise**
- **Biodiversity**
- **Heritage**
- **Hazard and Risk**

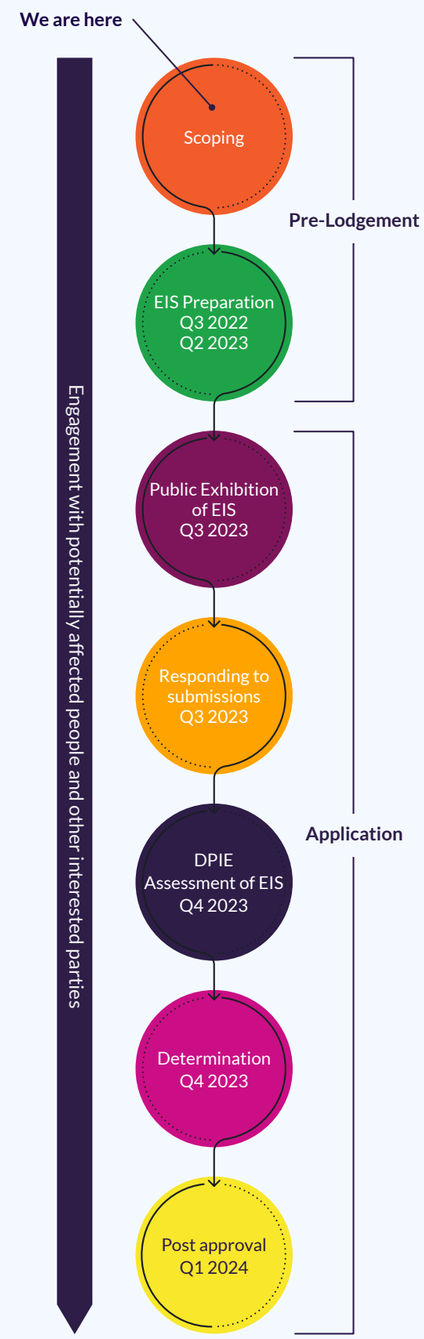
The Social Impact Assessment (SIA) will address matters important to the community by understanding the views, issues, interests, and concerns in relation to the Project through the Community Consultation Program, which commenced in March 2022.

Figure 1 – *Project locality*



Gundary Solar Farm Development Boundary

Figure 2 – *Phases of key environmental and social impact assessment activities and outputs*



Gundary Solar Farm Project

Frequently Asked Questions

JULY 2022

General

Q: Who is Lightsource bp?

Lightsource bp is a global market leader in the development, funding, construction and long-term management of large-scale solar projects and smart energy solutions. It is a 50:50 joint venture with global energy company bp.

One thing that sets Lightsource bp apart from some other renewable energy developers in Australia is that it is an Integrated Power Producer (IPP), meaning that it owns its projects for the long term. As a long-term project owner, Lightsource bp works hard to engage with the communities it works within. We work closely with local businesses and individuals to deliver sustainable renewable energy projects in a manner that reduces impacts and increases local benefits.

Since entering the Australian market in 2018, Lightsource bp has developed a significant pipeline of large-scale solar projects across Australia. Lightsource bp currently has three projects under construction across NSW and QLD, including the Wellington, West Wyalong and Woolooga Solar Farms. Together these projects exceed over 500MWdc and, once operational, will make Lightsource bp one of the largest solar developers in Australia.

Q: Who is Umwelt?

Umwelt Australia is an independent environmental and social consultancy with over 25 years' experience providing speciality services in ecology, heritage, environmental planning, community engagement, and social impact assessment. Lightsource bp has engaged Umwelt to prepare the Environmental Impact Statement (EIS) for the Project, including the Social Impact Assessment (SIA).

Way of life, community and culture

Q: How will the local community benefit from this Project?

Lightsource bp is committed to being a responsible neighbour and engaging with the community in a proactive and effective manner. Should the Project be approved, it will be offering direct and indirect community benefits by providing local jobs, procurement, and construction contracts.

Lightsource bp is also investigating options for a Community Benefit Fund to distribute contributions to the area, including immediate neighbours and the larger community. Lightsource bp values your feedback and suggestions on priority areas in the community requiring support, as well as how the community may prefer to see such a fund administered. What the Community Benefit Fund will look like will be developed further during development of the EIS.

Further, Lightsource bp is investigating options to sell some of the power generated from the project to local organisations to enable the use of renewable energy locally.

Project location and lifecycle

Q: Why was this site chosen for the Project?

Lightsource bp considers multiple factors when choosing sites for its renewable energy projects. This includes proximity to existing transmission infrastructure, environmental constraints, consideration of social impacts, proximity to a population base with electricity consumption needs, and climatic factors including levels of irradiance (the amount energy available from the sun).

The Project site was chosen for several reasons. It has good access to existing transmission infrastructure, with a large high voltage (HV) transmission crossing the site. This means additional electricity lines will not need to be built to connect to the electricity grid. It is also close to population centres where energy is used, therefore reducing the amount of energy lost in transmission. The site has limited vegetation, and while currently used for agricultural purposes, is not classified as either Biophysical Strategic Agricultural Land (BSAL) or mapped as Class 1, 2 or 3 under the Land and Soil Capability Mapping for NSW. It is also located on a large property with less neighbours than a more densely populated location, therefore limiting the number of residents who would have views of the project. Finally, it has sufficient levels of solar irradiation – much higher than almost all of Europe and most of Victoria. The site is also relatively flat, allowing for easier construction.

Why is the Project proposed outside a Renewable Energy Zone (REZ) and is this permitted?

The REZ concept is still quite new with only NSW having formally announced REZs in 2020. Given that until recently no REZ existed, every renewable energy project constructed and approved to date in Australia, even those now geographically located in planned REZs, have been developed outside of the REZ process. Moreover, while policy makers are recommending proponents consider REZs as an option when looking to site new renewable energy projects, new projects are still allowed outside of REZs.

The Australian Energy Market Operator (AEMO), the independent organization which manages the National Energy Market (NEM) in Eastern Australia, recently released their draft 2022 Integrated Systems Plan (ISP) setting out their 30-year plan for the development of the Australian Electrical system. In this document it stated that its most likely scenario required an additional 122GW of renewable energy generation, more than double the amount of the total generation in the NEM today, to meet Australia's growing demand for power and maintain Australia's energy security.

Development of renewable energy outside REZs is permissible and it will be essential for deployment to continue outside these zones if Australia's energy security is to be secured. Given that the Central West Orana REZ is only planned to accommodate another 3GW of new renewable energy, projects outside of the REZ are not only allowed but necessary to ensure Australia's continued energy security.

Lightsource bp locates and develops new projects based on stringent criteria, including but not limited to: proximity to power lines, local capacity and strength of the transmission network, avoidance of environmental constraints, areas of relatively low population and local irradiance levels. This includes projects both inside and out of REZ, all of which if built, will power Australia with green energy and ensure ongoing energy security for individuals, businesses and the nation.

Q: When will construction start, and how long will it take?

Subject to relevant approvals – including but not limited to development approval, grid connection and financing – construction would start in mid to late 2024. Due to the scale of the Project, the construction period is expected to take between 18 to 24 months.

Q: How long will the Project be operational and what decommissioning will take place?

Current plans propose that the Project will be operational for at least 35 years. At that time, Lightsource bp will either extend the project life using existing infrastructure, repower the site by replacing key components with new technology to improve energy generation, or decommission the Project.

When the Project is decommissioned, all infrastructure will be removed, and the land returned to its previous use. Lightsource bp has a partnership with Lotus Energy to manage the recycling of solar panels, including both at decommissioning and throughout the life of the Project, if damaged during construction or operations.

Local livelihoods and land use

Q: What opportunities are there for local job seekers, contractors, service providers and businesses to get involved in the Project?

The Project will create about 400 full time equivalent (FTE) jobs during construction and 2 to 4 ongoing FTE jobs during operation. As much as possible, Lightsource bp intends to source employment locally to maximise economic benefit for the local community.

Additionally, Lightsource bp plans to work closely with Goulburn Mulwaree Council and other key stakeholders to maximise local procurement and employment opportunities.

If you are interested in keeping up to date with opportunities, please register your interest at https://www.lightsourcebp.com/au/projects/gundary-solar-farm/. More details will be available as the project progresses.

Q: Where will construction materials for the Project be sourced?

Lightsource bp is focused on creating an ethical supply chain that focuses on the need for corporate social responsibility, to ensure all parts of its business are carried out in a way that treats its workers and the environment ethically.

Materials for the Project will be sourced both from Australian and international suppliers, including those located in Europe and Asia. Lightsource bp works to ensure that all its suppliers are passed through extensive checks, including investigation into our suppliers' environmental, social and governance practices before purchases are made.

Q: Will Lightsource bp be consulting with local industry groups?

As the Project planning and assessment process progresses, Lightsource bp plans to consult with a range of local stakeholders including near neighbours, landholders, industry groups, businesses, service providers, community and environmental organisations and broader community members.

Lightsource bp has already held meetings with many of these groups in recent months. As the EIS and SIA are further developed, additional consultation and feedback from local groups will be sought through a variety of mechanisms. This process will ensure that the extent of impacts and opportunities are fully understood, that local knowledge is incorporated in assessment studies, and that appropriate management and enhancement strategies are identified, where relevant, to address project impacts.

Q: Will Lightsource bp pay rates on the land as a rural land use or as a commercial land use?

Lightsource bp would pay rates as required by the Council for the use of the land as a solar farm.

Q. Will the Project put pressure on the rental market or short-term accommodation and increase property prices in Goulburn?

As construction is not likely to commence until 2024 at the earliest, impacts will be assessed as part of the Social Impact Assessment and will be based on anticipated likely future housing conditions.

Development consent would require an Employment and Workforce Accommodation Strategy to be developed to assess and respond to any accommodation pressures. This would be prepared prior to the commencement of construction so would be able to respond to the conditions at the time.

Q. How is solar panel efficiency and electricity output calculated?

The predicted efficiency and energy generation of the Project is calculated by Lightsource bp engineers using industry standard practices. The amount of energy available from solar irradiation, based on local climatic conditions, is obtained from third-party sources and on-site weather stations. Energy simulations are then run based on the design of the project and the local conditions to determine factors like efficiency and energy yield.

Q: Will this Project reduce the agricultural production of the region? What other land uses will occur on the site?

Lightsource bp currently has a 35-year lease on the land and intends to rotationally graze sheep on the site throughout operation, in line with current uses of the site. At the end of the 35-year lease, the lease may be extended, or all infrastructure will be removed and decommissioned, allowing the site to return to agricultural use.

Maintaining sheep grazing on the site through a leasing arrangement with a local sheep farmer has several benefits. It preserves the agricultural productivity of the site, and it also means grass levels are kept at levels that reduce fire risk. It also contributes to the local economy and regional food security. Lightsource bp is also exploring other agricultural land uses across sites including cropping and bee keeping.

The agricultural productivity of neighbouring and nearby properties will not be affected in any way.

Health and wellbeing

Q: Will Lightsource bp considering the potential Electric and Magnetic Fields from the project, and how this may impact near neighbours?

Electric and magnetic fields (EMFs) are created by all forms of electrical equipment that generate, transport, or use electricity, but only if it is alternating current (AC). Most of the infrastructure at solar generating facilities, including the solar panels and most cables, produce direct current (DC) electricity, which does not produce EMF.

In a solar farm, the type of equipment that produces EMF includes inverters, transformers, AC cabling and the substation. All equipment produces EMFs at rates well below Australian and International standards. Further, EMFs drop off extremely rapidly with distance from the source. For substations and transformers, the magnetic fields at distances of 5-10m away are generally indistinguishable from typical background levels in the home. [1]

Based on a recent in-depth review of the scientific literature, the World Health Organisation concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. [2]

Any EMF generated from the Project infrastructure will be below Australian and International guidelines. Notwithstanding, a review of potential EMF risks associated with the Project will be undertaken as part of the EIS, and suitable safeguards and mitigation measures will be proposed to reduce any potential risks.

Surroundings

Q: How will visual impacts, including glint and glare, be assessed?

Solar panels are generally designed to absorb light and are therefore not highly reflective. Compared to other materials Photovoltaic solar panels reflect a very low percentage of sunlight.

Potential glint and glare and visual impacts from the Project, as well as mitigation strategies, will be assessed as part of the Landscape and Visual Impact Assessment to be prepared during the EIS phase. Visual assessment will be undertaken in line with the Large-Scale Solar Energy Guideline. [3] Mitigation strategies may include visual screening using trees and adjusting the layout by relocation of panels to avoid areas of high visual impact. Lightsource bp is already actively looking into design options to reduce or eliminate views of infrastructure from nearby residences.

Photomontages illustrating views of the Project from multiple viewpoints and residences will be made available as part of the EIS phase to allow for further feedback and design refinement.

Q: How will Lightsource bp manage the impact upon local wildlife and bushland?

Preliminary ecological surveys as part of the scoping phase for the Project have been undertaken during March 2022 in accordance with the Biodiversity Assessment Method (BAM), approved by the NSW Government. Preliminary vegetation mapping has identified some plant community types (PCTs) present within the Project Area. A detailed Biodiversity Assessment will be completed for the Project as part of the EIS to refine vegetation mapping and assess any potential impacts that the Project may have on these ecological communities. This will involve further targeted and seasonal ecological surveys and consultation with the NSW Biodiversity Conservation and Science division. The Project layout will be designed to avoid impacts to high ecological constraints, where possible, and is already being designed to avoid the few areas deemed as highly environmentally sensitive. The layout will be subject to further review and refinement based on the outcome of the detailed biodiversity assessment. In addition, Lightsource bp intends to maintain the ability for continued rotational livestock grazing across the Project Area following construction, to preserve the existing agricultural land uses. Should the Project be approved, a Biodiversity Management Plan will be prepared and implemented to manage both livestock and feral animals (including wild dogs).

Q: Will heat or toxicity from the solar panels harm local wildlife?

No, solar is a passive technology which doesn't produce any harmful by-products. All electrical equipment used meets local regulatory standards.

Q: Has Lightsource bp considered the risk of bushfires for this Project?

During the preliminary assessment, it was determined that parts of the Project are located within bush fire prone land as identified by the Goulburn Mulwaree Council Bushfire Prone Land Mapping. A bushfire threat assessment will be undertaken as part of the EIS process, informing a Bush Fire Management Plan (BFMP) that will be developed in accordance with the requirements of the Planning for Bush Fire Protection 2019. Consultation with the Rural Fire Service (RFS) and/or NSW Fire and Rescue will also be undertaken during preparation of the BFMP. As part of the BFMP, Lightsource bp will continue to undertake vegetation management for the life of the Project.

Typical bushfire management strategies include on-site water tanks, establishment of an Asset Protection Zone and perimeter roads to serve as a fire break while providing access, strategic placement of access gates along the perimeter fence line, management of grass height and 24/7 automated monitoring of panels and electrical connections. In addition, 2 to 4 operational staff will be present at the site on a full- time basis, substantially increasing the amount of local oversight and management of the property from current levels.

Q: Is there noise generated by solar farms?

During operations, the project will generate very little noise. Solar panels do not generate any noise. Noise-generating equipment is limited to the motors used to rotate the panels to track the sun's location, which produce a soft 'ticking' noise, and inverters and the substation, which produce a faint 'hum.' A detailed noise impact assessment will be undertaken as part of the EIS to identify and assess any potential noise impacts as well as identify reasonable and feasible noise management and mitigation measures.

Q: Could the solar farm leak chemicals that could contaminate my property or the Sydney Water Catchment Management Area?

No. Solar Panels do not leak chemicals while in use and any chemicals used to manage agricultural use of the land will be in keeping with safe farming practices already used on properties throughout the area. In addition, all development within the Sydney Water Catchment Management Area must demonstrate that it will have a neutral or beneficial effect on water quality. Therefore, as part of the EIS process, a Neutral or Beneficial Effect (NorBE) Assessment on Water Quality will be undertaken for the Project, in accordance with the relevant policies and guidelines.

Q: How will Lightsource bp manage flooding on and around the Project site?

Flooding and hydrology will be considered as part of a detailed Water Resources Impact Assessment to be completed as part of the EIS. Lightsource bp and Umwelt are also meeting with surrounding landholders to hear more about site-specific water and flooding concerns. Outcomes of the Water Resources Impact Assessment will be used to inform the Project's detailed design which will specifically avoid any areas where flooding may possibly occur.

Q. Will the Project impact on the nearby airport?

Impacts from solar farms on airports are usually limited. As a result, solar farms located near airports are common and many airports are considering building, or have built, their own solar installations to generate electricity. The Goulburn Airport is located approximately 4km from the Project and as such the impact of the Project on the airport will be assessed as part of the EIS through traffic, visual impact and glint and glare assessments.

Q: Will the Project lead to deterioration of local roads?

A detailed Traffic Impact Assessment will be completed as part of the EIS, in consultation with Goulburn Mulwaree Council, which would identify any road upgrades required to the proposed transport route to accommodate the Project's construction traffic. Prior to construction commencing, any required road upgrades to the local road network would be undertaken. These upgrades would be followed by a dilapidation survey being undertaken to record the condition of the roads. During construction, Lightsource bp would be responsible for maintaining the condition of the roads along the local transport route, and would be responsible for fully restoring it to the condition recorded in the dilapidation survey following construction.

Engagement and decision making

Q: How can I get in touch with Lightsource bp and learn more about the project?

Lightsource bp encourages anyone who wishes to learn more about the project or would like to discuss potential project impacts, to please get in touch by either telephone, email or by filling out its community survey. Lightsource bp acknowledges that a proposed change to neighbouring land use can cause stress and anxiety, especially when there is uncertainty involved. Lightsource bp will ensure modes of communication are open, the assessment and design processes are as transparent as possible, and timelines are communicated clearly.

Intergenerational equity

Q: Do solar farms decrease property values and will Lightsource bp compensate me if they do?

There is no systematic research in Australia on the impacts of solar farms on property values. International evidence suggests that property value impacts are minimal and highly localised. While there has been no systematic research into solar farm impacts on property prices in Australia, a study commissioned by the NSW Office of Environmental and Heritage in 2016 on the impact of wind farms on property values concluded that *'windfarms may not significantly impact rural properties used for agricultural purposes'*.[4]

There is no precedent for providing compensation to neighbouring landholders of solar farms in Australia. However, Lightsource bp is considering options for neighbour benefits as part of a broader Community Benefit Fund.

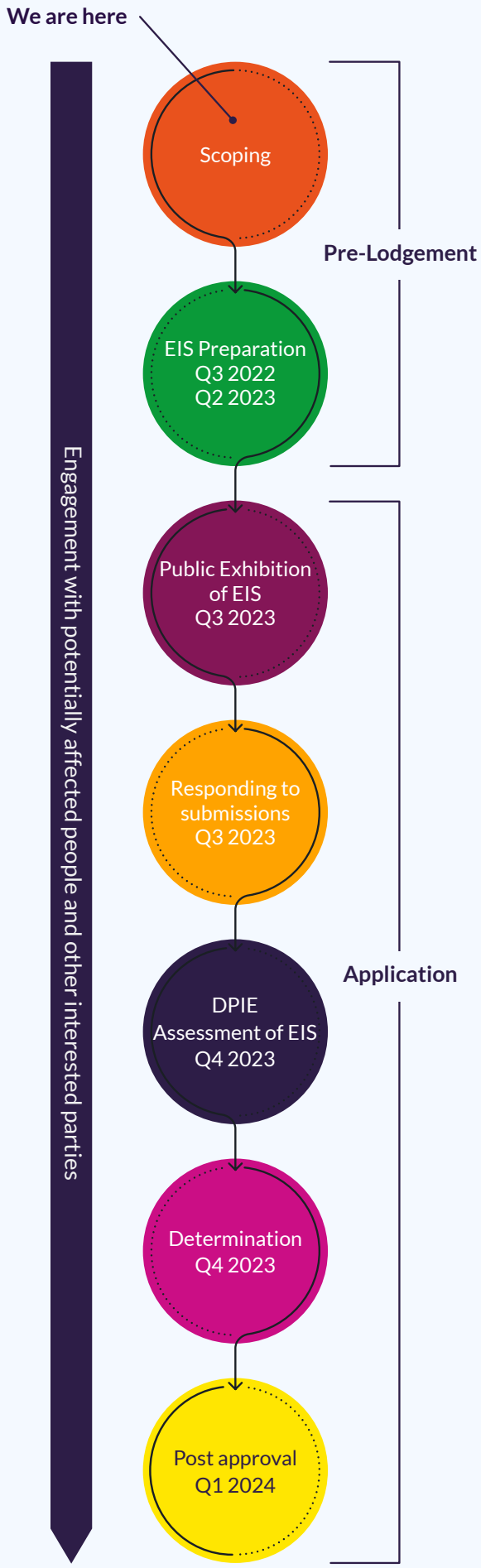
Assessment process

Q: Where is the project up to and what happens next?

The Gundary Solar Farm is still an early-stage proposal which is in the scoping stage of the development process. Lightsource bp is expecting to submit the Scoping Report in Q3 2022 to the NSW Department of Planning and Environment (DPE). The Scoping Report will include preliminary environmental assessments, a preliminary Social Impact Assessment (SIA) and a summary of stakeholder engagement conducted to date.

After the DPE reviews and evaluates the Scoping Report, if acceptable, the DPE will issue the Secretary Environmental Assessment Requirements (SEARs) for the Project, which set out detailed assessment requirements for the Environmental Impact Statement (EIS) phase.
Once Lightsource bp receives the SEARs, further technical assessment will be undertaken, with more detailed design and planning, and further SIA activities and stakeholder engagement, conducted.

Lightsource bp will share the findings from these technical assessments with the community prior to submitting the EIS to allow for feedback and to integrate local knowledge and suggestions into the Project design and planning. It is anticipated that the EIS would then be lodged with DPE in Q3 2023.



1. Australian Government, Australian Radiation Protection and Nuclear Safety Agency. (2022). Electricity and Health. Canberra. Available from: https://www.arpansa.gov.au/understanding-radiation/radiation-sources/more-radiation-sources/electricity
2. World Health Organisation. (2016). Radiation: electromagnetic fields. Available from: https://www.who.int/news-room/questions-and-answers
3. NSW Government. (2021). Draft Large-Scale Solar Energy Guideline. NSW Department of Planning and Environment. Available from: https://www.planning.nsw.gov.au/Policy-and-Legislation/Renewable-Energy/Large-scale-Solar-Energy-Guideline
4. Urbis. (2016). Review of the Impact of Wind Farms on Property Values. Urbis: Sydney. Available from: https://www.environment.nsw.gov.au/resources/communities/wind-farm-value-impacts-report.pdf

Gundary Solar Farm

NOVEMBER DROP-IN SESSION SURVEY

Survey Questions to inform the Social and Visual Impact Assessment

Name: _____

Address (optional): _____

Where do you live in relation to the proposed Gundary Solar Farm? Please tick

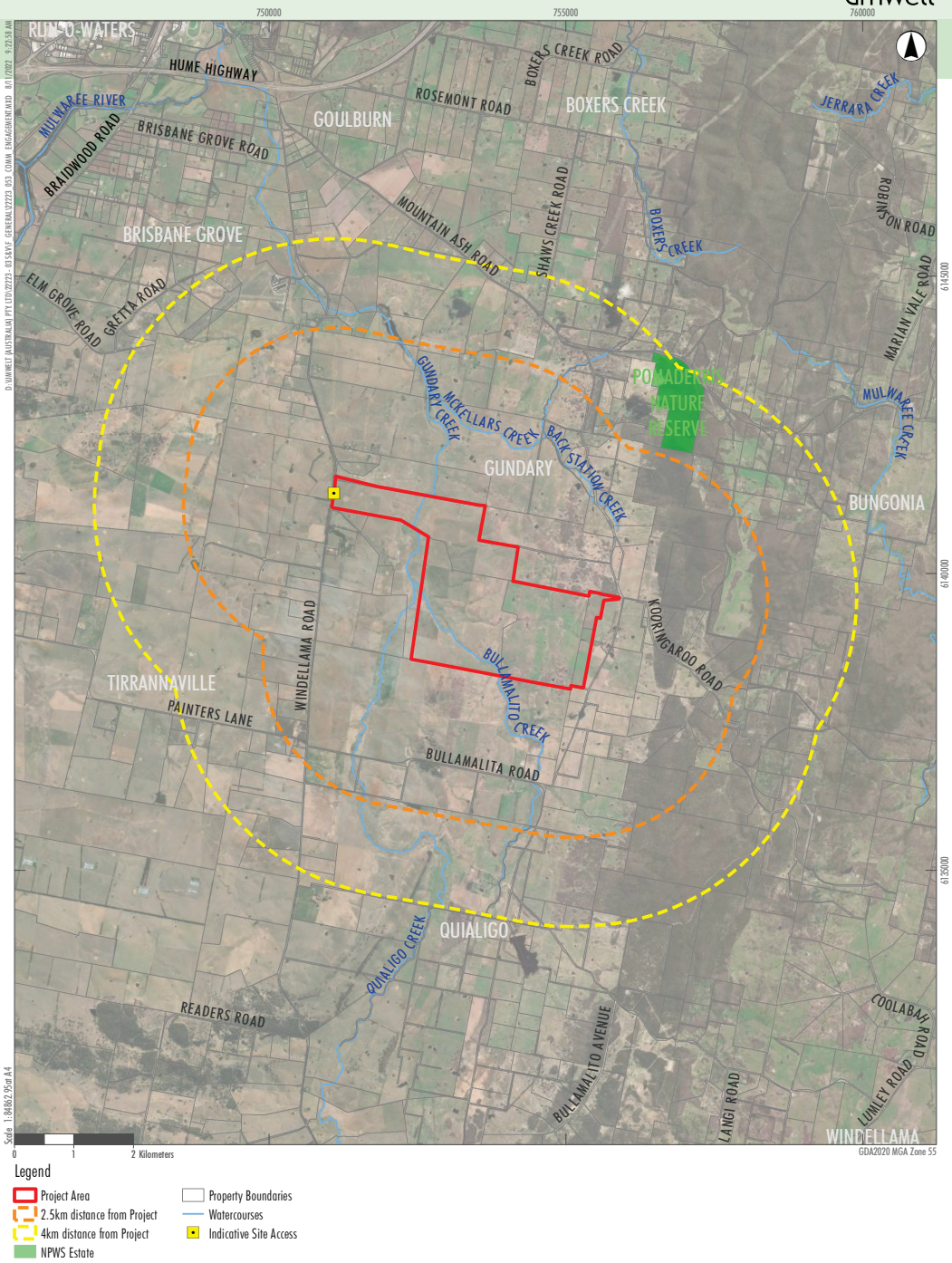
◯ Less than 2.5km ◯ 2.5km – 4km ◯ More than 4km

What are the landscape characteristics of your local area that make it distinct?
Feel free to describe things you can see or things you can feel.

What are the best lookouts/ public viewing areas in the area?
Please list here or circle and label on the map.

Are there any areas or landscape features surrounding or within the proposed Project site that are of significant value to yourself, your business, or your community?
Please list here or circle and label on the map.

Are there things Lightsource bp could do to reduce the visual impact of the solar farm or make it more visually appealing?



Gundary Solar Farm

NOVEMBER DROP-IN SESSION SURVEY

Below are a series of photographs taken by the Visual Impact Specialist to show a variety of landscapes across Gundary.
Which three images best encapsulate the landscape (natural and built) values of Gundary? (Please circle three (3) photos)

1

2

3

4

5

6

7

8

9

lightsource bp

bp

Gundary Solar Farm community drop-in sessions

14th and 15th November

Morning session 8am - 10am

Evening session 4pm - 7pm

Workspace Goulburn,
Floor 1, 56 Clinton Street,
Goulburn, NSW 2580

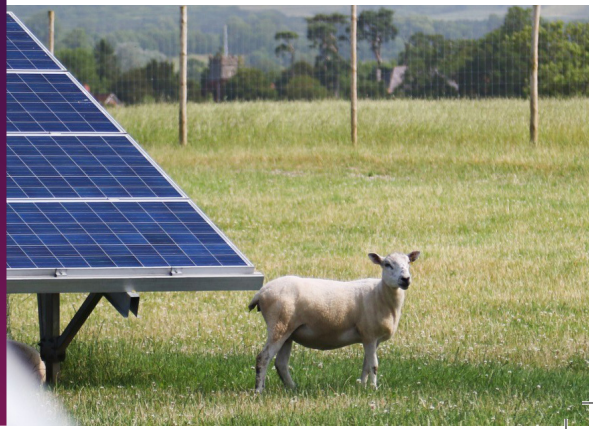
lightsource bp

Come along to meet the Lightsource bp project team and specialist assessment experts from Umwelt Environmental and Social Consultants at an informal drop-in session.

The teams responsible for assessing biodiversity, social, visual, bushfire, water and noise impacts will be available to answer your questions.

For more information and to contact Lightsource bp, please visit www.lightsourcebp.com/au/projects/gundary-solar-farm/ or scan this QR code.

To the residents,
Address
Address
Address
Address



Inspired People.
Dedicated Team.
Quality Outcomes.

Our Ref: Gundary Solar Farm Resident Letter Box Drop

10/5/2023

Dear Resident/s

RE: Gundary Solar Farm Project

Lightsource bp is proposing to develop a 400 Megawatt peak (MWp) solar farm with a battery energy storage system (BESS) approximately 10 kilometres (km) southeast of Goulburn NSW, at 961 Windellama Road.

Umwelt (Australia) are the Environmental and Social consultants who have been engaged to deliver the Environmental Impact Statement (EIS) including the Social Impact Assessment (SIA).

Part of the SIA process is to consult with the residents, business, and industry in the area, to better understand the local community, local economy, and any potential impacts of the Project.

The early-stage community consultation and preliminary assessments undertaken over the past months have informed several refinements and updates to the project as we work to ensure that the feedback provided from the local community and project stakeholders has contributed to project planning and design.

If you would like to provide any feedback on the Project, please fill out the survey online. www.research.net/r/GundarysolarSIA.

Alternatively, you are welcome to get in contact with me. Your responses will directly feed into the Social Impact Assessment.

Included in this envelope is the Frequently Asked Questions (FAQ) sheet which summarises the key questions from our engagement conducted to date. For more information on the project, you can visit the website at: www.lightsourcebp.com/au/project/gundary-solar/ .

If you have any questions or concerns, please contact me.

Yours sincerely,

Meg Bowman
Social Consultant
E | mbowman@umwelt.com.au
W| 02 4907 0151
M| 0459 459 797

Umwelt (Australia) Pty Limited
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www.umwelt.com.au

Inspired People.
Dedicated Team.
Quality Outcomes.

Our Ref: Gundary Solar Farm Resident Letter Box Drop

9/5/2023

Dear Resident/s

RE: Gundary Solar Farm Project Landscape and Visual Impact Assessment

Lightsource bp is proposing to develop a 400 Megawatt peak (MWp) solar farm with a battery energy storage system (BESS) approximately 10 kilometres (km) southeast of Goulburn NSW, at 961 Windellama Road. Umwelt has been commissioned to complete the Environmental Impact Statement (EIS) for the proposed Gundary Solar Farm, which will amongst others involve a Social Impact Assessment (SIA) and Landscape and Visual Impact Assessment (LVIA).

Envisage Consulting, the visual specialist, and I are in Goulburn for this week to meet with proximal neighbours who have been identified as potentially having visibility of the Project.

We request a time to meet you at your property this week. If you could please call or text me times that suit you on the following days, I will try to book in a time that works for you:

- Tuesday 9th May
- Wednesday 10th May
- Thursday 11th May
- Friday 12th of May

Also included the Frequently Asked Questions (FAQ) sheet which summarises the key questions from our engagement conducted to date. For more information on the project, you can visit the website at: www.lightsourcebp.com/au/project/gundary-solar/ . If you would like to read the LVIA guidelines that Envisage Consulting works to, you can find the NSW Government's guidelines at: www.pp.planningportal.nsw.gov.au/solar-guidelines

If you have any questions or concerns, please contact me.

Yours sincerely,

Meg Bowman
Social Consultant
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On site SIA / VIA Gundary Solar SIA Survey

Introduction and Demographics

Lightsource bp proposes to develop a large-scale solar farm, in the locality of Gundary, New South Wales, southeast of Goulburn (see map below), in the Goulburn Mulwaree Local Government Area (LGA).

The Project is anticipated to generate approximately 400 Megawatts of solar electricity generation with a Battery Energy Storage System (BESS) with a storage capacity of 200-400 MW. It is proposed the Project will be accessed from Windellama Road off the Hume Highway, at 961 Windellama Road.

If you would like to know more about the Project, please click here to visit the Gundary Solar Farm Project website.
Gundary Solar Farm, Australia | Lightsource bp

1. Lot/DP

2. Dwelling confirmation

lightsource bp umwelt Environmental & Social Consultants

On site SIA / VIA Gundary Solar SIA Survey

Demographics

3. Which gender do you identify with?

- ◯ Female
- ◯ Male
- ◯ Other / prefer not to say

4. Which is your age group?

- ◯ Under 18
- ◯ 18-34 years
- ◯ 35-54 years
- ◯ 55-64 years
- ◯ 65+ years

5. Do you identify as Aboriginal and/or Torres Strait Islander?

- ◯ Aboriginal
- ◯ Torres Strait Islander
- ◯ Both
- ◯ Neither

6. How long have you lived in the Goulburn Mulwaree Local Government Area?

Years _____

Months _____

On site SIA / VIA Gundary Solar SIA Survey

Impacts (All stakeholders)

Consultation undertaken in the early phases of the Project, has identified the following perceived benefits or positive social impacts relating to the proposed Project.

Please use the scale provided to indicate what priority you feel should be placed on enhancing these impacts.

If you feel there are any additional benefits of the Project that have not been identified, then please use the open text box.

7. Please use the scale provided below to indicate what priority you feel should be placed on potential positive impacts, from 1 (Not a priority) to 7 (Essential priority).

	1 - Not a priority	2 - Low priority	3 - Somewhat a priority	4 - Neutral	5 - Moderate priority	6 - High priority	7 - Essential priority
Local employment opportunities during construction or operation	○	○	○	○	○	○	○
Opportunities for local procurement	○	○	○	○	○	○	○
Project's contribution to renewable energy provision in the region	○	○	○	○	○	○	○
Project's contribution to local energy security	○	○	○	○	○	○	○
Community benefit sharing and social investment opportunities	○	○	○	○	○	○	○
Ability to participate meaningfully in the Project's assessment process	○	○	○	○	○	○	○
Opportunity for co-existence with other land uses e.g., sheep grazing, horticulture etc.	○	○	○	○	○	○	○
Contribution to the development of the Goulburn locality as a renewable energy hub	○	○	○	○	○	○	○
Addressing climate change impacts associated with other energy resources	○	○	○	○	○	○	○

Are there any other positive impacts/benefits of the Project that you can think of? (Please specify)

8. Can you think of any strategies that could be put in place to enhance these benefits/positive impacts of the Project? Please outline below.

9. Consultation undertaken in the early phases of the Project has identified the following perceived negative social impacts relating to the proposed Project.

If you feel there are any additional negative impacts of the Project that have not been identified, then please use the open text box.

Please use the scale provided below to indicate what priority you feel should be placed on addressing these impacts, from 1 (Not a priority) to 7 (Essential priority).

	1 – Not a priority	2 - Low priority	3 - Somewhat a priority	4 - Neutral	5 - Moderate priority	6 - High priority	7 – Essential priority
Impacts on the visual amenity and natural landscape values in the locality	○	○	○	○	○	○	○
Potential decline in property values	○	○	○	○	○	○	○
Reduction in land currently used for agricultural purposes	○	○	○	○	○	○	○
Risks to public safety due to bushfire threat	○	○	○	○	○	○	○
Risk to public safety due to potential flooding as a result of the Project	○	○	○	○	○	○	○
Impacts on flora and fauna in the area	○	○	○	○	○	○	○
Impacts on social amenity as a result of the potential noise from the Project	○	○	○	○	○	○	○
Impact on social amenity as a result of dust during construction	○	○	○	○	○	○	○
Inequitable distribution of Project impacts to landholders	○	○	○	○	○	○	○
A change in sense of place and attachments to the area	○	○	○	○	○	○	○
Increased traffic during construction	○	○	○	○	○	○	○
Health and wellbeing impacts as a result of potential exposure to electromagnetic fields from the Project	○	○	○	○	○	○	○

Cumulative impacts associated with the development of other renewable energy projects in the area	○	○	○	○	○	○	○
Stress, anxiety and uncertainties associated with the Project	○	○	○	○	○	○	○
Impacts associated with decommissioning of the Project and handling of waste	○	○	○	○	○	○	○
Limited potential for employment during operation	○	○	○	○	○	○	○
Lack of available workforce to service the Project	○	○	○	○	○	○	○
Decreased access to short-term accommodation in the area due to the influx of the construction workforce	○	○	○	○	○	○	○
Impacts on cultural heritage values	○	○	○	○	○	○	○
Increased division and conflict within the community as a result of the proposed Project	○	○	○	○	○	○	○
Potential for the Solar farm development to constrain future city growth	○	○	○	○	○	○	○

Are there any other potential negative impacts of the Project that haven't been noted above? (Please specify)

10. Can you think of any strategies that could be put in place to manage or mitigate any negative impacts associated with the Project? Please outline below.

11. Please rate your level of acceptance for the following, where 1 is a low level of acceptance and 7 is a high level of acceptance.

	1 - Low level of acceptance	2	3	4 - Neutral	5	6	7 - High level of acceptance
Solar farm development in the Southern Tablelands Region	○	○	○	○	○	○	○
Solar farm development in the Goulburn Mulwaree LGA	○	○	○	○	○	○	○
The development of the Gundary Solar Project	○	○	○	○	○	○	○

12. How would you rate your level of agreement to the following statements, where 1 is (Strongly disagree) and 7 is (Strongly agree).

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neutral	5 - Somewhat agree	6 - Agree	7 - Strongly agree
Lightsource bp is listening to concerns raised by the community	○	○	○	○	○	○	○
Lightsource bp has been honest in its dealings with the community in relation to its Project plans	○	○	○	○	○	○	○
I trust Lightsource bp to consider environmental and social issues appropriately in their project planning	○	○	○	○	○	○	○
I have a lack of trust in the NSW government’s planning and assessment process	○	○	○	○	○	○	○
The advantages of the development of the Gundary Solar Farm are likely to outweigh the disadvantages	○	○	○	○	○	○	○
The Gundary solar farm project is important in delivering renewable energy in NSW	○	○	○	○	○	○	○

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On site SIA / VIA Gundary Solar SIA Survey

Visual Impact Assessment

These questions will inform both the Social and Visual Impact Assessments being undertaken for the Project.

Feel free to skip these questions if you don't know the Gundary area well.

13. What are the landscape characteristics of the Gundary area that make it distinct? What words would you use to describe how this place looks and feels to a friend?

Feel free to describe things you can see (i.e. rolling pastures; fences dividing paddocks; native grasses; tall-tree wind breaks; historical buildings) or things you can feel (i.e. tranquil; rural; peaceful; productive; harsh; open).

14. What are the best lookouts/ public viewing areas in the area? If you have a visitor, where do you take them to showcase your local area?

15. Are there any areas or landscape features surrounding or within the proposed Project site that are of significant value to yourself, your business, or your community?

16. Are there things Lightsourcebp could do to reduce the visual impact of the solar farm or make it more visually appealing?

17. Below are a series of photographs taken by the Visual Impact Specialist to show a variety of landscapes across Gundary.

Which three images best encapsulate the landscape (natural and built) values of Gundary? (Please select three (3) photos)

18. Why did you select the photos above?

19. If you would like, please upload a photo that best captures the landscape values of Gundary for you.

Choose File Choose File No file chosen

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On site SIA / VIA Gundary Solar SIA Survey

Community Values and Needs

20. How would you describe your community?

21. What do you like most about living in the area?

22. What do you see as the key needs in the community? What would enhance the community?

Community Need 1	
Community Need 2	
Community Need 3	
Community Need 4	
Community Need 5	

23. Are there any ways in which Lightsource bp could support or partner with the community to address local needs?

Community Strategy 1	
Community Strategy 2	
Community Strategy 3	
Community Strategy 4	
Community Strategy 5	

24. Are there any particularly vulnerable or disadvantaged groups in your community? If so, please specify

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On site SIA / VIA Gundary Solar SIA Survey

Land Use Conflict Risk Assessment

25. What is the current use of your land/extent of current farming activities?

(Note from Soils specialist) We usually like to get whatever details we can on this one. This gives us the insight we need to apply certain multipliers and anticipated income, stocking rates etc for the financial impact assessment. In particular we like to know if they pasture improve or native pastures, or crop for fodder etc.

26. How do you think this project may impact on the current use of your land? / Do you have any concerns of the proposed development on impacting upon your land or operation?

This feeds straight in to the Land Use Conflict Risk Assessment for potential conflicts or risks of conflicts that may come up during the project approval.

On site SIA / VIA Gundary Solar SIA Survey

Information Provision & Engagement (All stakeholders)

27. Contact information (Optional)

Full Name	
Organisation/Company/Group Name	
Address	
Post Code	
Email Address	
Phone Number	

28. What are the better ways for Lightsource bp to provide information to you as part of the Project?

- [ ] Newsletter
- [ ] Face to face meetings
- [ ] Website
- [ ] Email
- [ ] Letters
- [ ] Local newspaper
- [ ] Community meetings
- [ ] Local radio
- [ ] Other (please specify)

29. Do you have a recommendation of anyone else you think we should speak with?

Gundary Solar SIA Survey

Introduction and Demographics

Lightsource bp proposes to develop a large-scale solar farm, in the locality of Gundary, New South Wales, southeast of Goulburn (see map below), in the Goulburn Mulwaree Local Government Area (LGA).

The Project is anticipated to generate approximately 400 Megawatts of solar electricity generation with a Battery Energy Storage System (BESS) with a storage capacity of 200-400 MW. It is proposed the Project will be accessed from Windellama Road off the Hume Highway, at 961 Windellama Road.

If you would like to know more about the Project, please click here to visit the Gundary Solar Farm Project website.
Gundary Solar Farm, Australia | Lightsource bp

Do you live or work in the Goulburn Mulwaree Local Government Area?

(The Goulburn Mulwaree Council area includes the townships and localities of Baw Baw, Boxers Creek, Brayton, Brisbane Grove, Bungonia, Carrick, Currawang , Goulburn, Greenwich Park, Gundary, Kingsdale, Lake Bathurst, Lower Boro, Marulan, Middle Arm (part), Mummel, Oallen, Parkesbourne, Pomeroy (part), Quialigo, Run-O-Waters, Tallong, Tarago, Tarlo, Tirrannaville, Towrang, Wayo, Windellama, Wollogorang, Woodhouselee and Yarra.)

- ◯ Yes, I live in Goulburn Mulwaree LGA
- ◯ Yes, I work in Goulburn Mulwaree LGA
- ◯ Yes, I live and work in Goulburn Mulwaree LGA
- ◯ No, I don't live or work in Goulburn Mulwaree LGA

What suburb / town do you live in?

Project with 2.5km and 4km distance lines

* Above is a map showing distances from the Project boundary. Where do you live in relation to the proposed Gundary Solar Farm?

- ◯ I live within 2.5km of the site boundary
- ◯ I live between 2.5km and 4km of the site boundary
- ◯ I live more than 4km from the site boundary

* Which stakeholder group best represents you? (Please select the one most relevant)

- ◯ Proximal landowner / resident
- ◯ Community Group/Association
- ◯ Community Resident
- ◯ Service Provider (Health, Emergency, Education, local business)
- ◯ Aboriginal or Torres Strait Islander Group/Corporation
- ◯ Accommodation provider
- ◯ Other (please specify)

Prior to this survey, were you aware of the proposed Gundary Solar Farm Project?

- ◯ Yes
- ◯ No

If yes, how did you hear about the Project? (Select all that apply)

- ☐ Local news articles
- ☐ Direct engagement with the Project Team
- ☐ Through people I know in the area
- ☐ Project website
- ☐ Other (please specify)
- ☐ Social media
- ☐ Project newsletter or other information distributed by Lightsource bp
- ☐ Attendance at events about the Project

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Gundary Solar SIA Survey

Demographics

Which gender do you identify with?

- ◯ Female
- ◯ Male
- ◯ Other / prefer not to say

Which is your age group?

- ◯ Under 18
- ◯ 18-34 years
- ◯ 35-54 years
- ◯ 55-64 years
- ◯ 65+ years

Do you identify as Aboriginal and/or Torres Strait Islander?

- ◯ Aboriginal
- ◯ Torres Strait Islander
- ◯ Both
- ◯ Neither

How long have you lived in the Goulburn Mulwaree Local Government Area?

Years

Months

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Gundary Solar SIA Survey

Community Group Details (Community Groups/ Associations)

Please provide details of your group including name, year established and approximate membership numbers.

What is the main purpose or objectives of your group?

Do you see any opportunities for your organisation and Lightsource bp to work together in relation to the Project?

Gundary Solar SIA Survey

Impacts (All stakeholders)

Consultation undertaken in the early phases of the Project, has identified the following perceived benefits or positive social impacts relating to the proposed Project.
Please use the scale provided to indicate what priority you feel should be placed on enhancing these impacts.
If you feel there are any additional benefits of the Project that have not been identified, then please use the open text box.

Please use the scale provided below to indicate what priority you feel should be placed on potential positive impacts, from 1 (Not a priority) to 7 (Essential priority).

	1 - Not a priority	2 - Low priority	3 - Somewhat a priority	4 - Neutral	5 - Moderate priority	6 - High priority	7 - Essential priority
Local employment opportunities during construction or operation	○	○	○	○	○	○	○
Opportunities for local procurement	○	○	○	○	○	○	○
Project's contribution to renewable energy provision in the region	○	○	○	○	○	○	○
Project's contribution to local energy security	○	○	○	○	○	○	○
Community benefit sharing and social investment opportunities	○	○	○	○	○	○	○
Ability to participate meaningfully in the Project's assessment process	○	○	○	○	○	○	○
Opportunity for co-existence with other land uses e.g., sheep grazing, horticulture etc.	○	○	○	○	○	○	○
Contribution to the development of the Goulburn locality as a renewable energy hub	○	○	○	○	○	○	○
Addressing climate change impacts associated with other energy resources	○	○	○	○	○	○	○

Are there any other positive impacts/benefits of the Project that you can think of? (Please specify)

Can you think of any strategies that could be put in place to enhance these benefits/positive impacts of the Project? Please outline below.

Consultation undertaken in the early phases of the Project has identified the following perceived negative social impacts relating to the proposed Project.

If you feel there are any additional negative impacts of the Project that have not been identified, then please use the open text box.

Please use the scale provided below to indicate what priority you feel should be placed on addressing these impacts, from 1 (Not a priority) to 7 (Essential priority).

	1 – Not a priority	2 - Low priority	3 - Somewhat a priority	4 - Neutral	5 - Moderate priority	6 - High priority	7 – Essential priority
Impacts on the visual amenity and natural landscape values in the locality	○	○	○	○	○	○	○
Potential decline in property values	○	○	○	○	○	○	○
Reduction in land currently used for agricultural purposes	○	○	○	○	○	○	○
Risks to public safety due to bushfire threat	○	○	○	○	○	○	○
Risk to public safety due to potential flooding as a result of the Project	○	○	○	○	○	○	○
Impacts on flora and fauna in the area	○	○	○	○	○	○	○
Impacts on social amenity as a result of the potential noise from the Project	○	○	○	○	○	○	○
Impact on social amenity as a result of dust during construction	○	○	○	○	○	○	○
Inequitable distribution of Project impacts to landholders	○	○	○	○	○	○	○
A change in sense of place and attachments to the area	○	○	○	○	○	○	○
Increased traffic during construction	○	○	○	○	○	○	○
Health and wellbeing impacts as a result of potential exposure to electromagnetic fields from the Project	○	○	○	○	○	○	○

Cumulative impacts associated with the development of other renewable energy projects in the area	○	○	○	○	○	○	○
Stress, anxiety and uncertainties associated with the Project	○	○	○	○	○	○	○
Impacts associated with decommissioning of the Project and handling of waste	○	○	○	○	○	○	○
Limited potential for employment during operation	○	○	○	○	○	○	○
Lack of available workforce to service the Project	○	○	○	○	○	○	○
Decreased access to short-term accommodation in the area due to the influx of the construction workforce	○	○	○	○	○	○	○
Impacts on cultural heritage values	○	○	○	○	○	○	○
Increased division and conflict within the community as a result of the proposed Project	○	○	○	○	○	○	○
Potential for the Solar farm development to constrain future city growth	○	○	○	○	○	○	○

Are there any other potential negative impacts of the Project that haven't been noted above? (Please specify)

Can you think of any strategies that could be put in place to manage or mitigate any negative impacts associated with the Project? Please outline below.

Please rate your level of acceptance for the following, where 1 is a low level of acceptance and 7 is a high level of acceptance.

	1 - Low level of acceptance	2	3	4 - Neutral	5	6	7 - High level of acceptance
Solar farm development in the Southern Tablelands Region	○	○	○	○	○	○	○
Solar farm development in the Goulburn Mulwaree LGA	○	○	○	○	○	○	○
The development of the Gundary Solar Project	○	○	○	○	○	○	○

How would you rate your level of agreement to the following statements, where 1 is (Strongly disagree) and 7 is (Strongly agree).

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Neutral	5 - Somewhat agree	6 - Agree	7 - Strongly agree
Lightsource bp is listening to concerns raised by the community	○	○	○	○	○	○	○
Lightsource bp has been honest in its dealings with the community in relation to its Project plans	○	○	○	○	○	○	○
I trust Lightsource bp to consider environmental and social issues appropriately in their project planning	○	○	○	○	○	○	○
I have a lack of trust in the NSW government’s planning and assessment process	○	○	○	○	○	○	○
The advantages of the development of the Gundary Solar Farm are likely to outweigh the disadvantages	○	○	○	○	○	○	○
The Gundary solar farm project is important in delivering renewable energy in NSW	○	○	○	○	○	○	○

Gundary Solar SIA Survey

Visual Impact Assessment

These questions will inform both the Social and Visual Impact Assessments being undertaken for the Project.

Feel free to skip these questions if you don't know the Gundary area well.

What are the landscape characteristics of the Gundary area that make it distinct? What words would you use to describe how this place looks and feels to a friend?

Feel free to describe things you can see (i.e. rolling pastures; fences dividing paddocks; native grasses; tall-tree wind breaks; historical buildings) or things you can feel (i.e. tranquil; rural; peaceful; productive; harsh; open).

What are the best lookouts/ public viewing areas in the area? If you have a visitor, where do you take them to showcase your local area?

Are there any areas or landscape features surrounding or within the proposed Project site that are of significant value to yourself, your business, or your community?

Are there things Lightsourcebp could do to reduce the visual impact of the solar farm or make it more visually appealing?

Below are a series of photographs taken by the Visual Impact Specialist to show a variety of landscapes across Gundary.

Which three images best encapsulate the landscape (natural and built) values of Gundary? (Please select three (3) photos)

Why did you select the photos above?

If you would like, please upload a photo that best captures the landscape values of Gundary for you.

Choose File Choose File No file chosen

Gundary Solar SIA Survey

Community Values and Needs

How would you describe your community?

What do you like most about living in the area?

What do you see as the key needs in the community? What would enhance the community?

Community Need 1	
Community Need 2	
Community Need 3	
Community Need 4	
Community Need 5	

Are there any ways in which Lightsource bp could support or partner with the community to address local needs?

Community Strategy 1

Community Strategy 2

Community Strategy 3

Community Strategy 4

Community Strategy 5

Are there any particularly vulnerable or disadvantaged groups in your community? If so, please specify

Gundary Solar SIA Survey

Service Capacity (Accommodation Providers)

Please provide an overview of the services you provide and some background on your organisation.

How long has the organisation been in operation? (Please enter years of operation to the nearest whole number i.e., 25)

How many rooms do you manage?

What has been your approximate occupancy rate in the past 12 month? (Percentage % out of 100)

Describe any annual or seasonal trends in the supply and demand of your service.

What clients / customers do you predominately service? *(i.e., tourists, business travellers, construction workers, families, social housing, crisis accommodation)*

Describe your current capacity to provide your service?

- ◯ No capacity at present / already under pressure
- ◯ Under capacity / able to increase or take on greater demand
- ◯ Depends on the time of year/season
- ◯ Other

Do you feel there is adequate accommodation in your local area to meet current demand?

- ◯ Yes
- ◯ No
- ◯ Unsure

Do you have plans to expand your business/service in the next five years?

- ◯ Yes
- ◯ No
- ◯ Unsure

Lightsource bp have advised that the project, if approved, would provide up to 400 jobs over a 20-month construction period, and would be predicted to commence in 2025. If the Project is approved, would you like to be involved in providing housing or services to this workforce?

- ◯ Yes
- ◯ No
- ◯ Unsure

If yes, in what ways would you like to be involved? (Select all that apply)

- ◯ I would like to accommodate the workforce in my existing accommodation
- ◯ I would consider building, retrofitting or adapting new accommodation to house this workforce
- ◯ I would consider changing my delivery model to house more or different groups
- ◯ I would consider providing additional services or infrastructure to the construction workforce (i.e. catering, bus shuttles, health services)
- ◯ Other

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Gundary Solar SIA Survey

Service Capacity (Service providers)

What type of service do you provide?

- ◯ Health provider
- ◯ Education provider
- ◯ Emergency service
- ◯ Local business

In what industries does your service operate? (Tick all that apply)

- ☐ Agriculture
- ☐ Mining
- ☐ Manufacturing
- ☐ Electricity, gas, water and waste services
- ☐ Construction
- ☐ Wholesale trade
- ☐ Retail trade
- ☐ Accommodation and food services
- ☐ Transport, postal and warehousing
- ☐ Information media and telecommunications
- ☐ Rental, hiring and real estate services
- ☐ Professional, scientific and technical services
- ☐ Administrative and support services
- ☐ Public administration and safety
- ☐ Education and training
- ☐ Health care and social assistance
- ☐ Arts and recreation services
- ☐ Other (please specify)

What kind of products or services do you offer?

In which of the following areas does your business provide goods/services? (tick all that apply)

- [ ] Goulburn Mulwaree LGA
- [ ] City of Shoalhaven
- [ ] Upper Lachlan Shire
- [ ] Queanbeyan-Palerang Regional Council
- [ ] Wingecarribee Shire
- [ ] Other states and territories (Victoria, NT, ACT, SA, TAS)
- [ ] Other LGA within NSW (please specify)

Is your business an Aboriginal owned and operated business?

- ◯ Yes
- ◯ No

Approximately how many people do you employ? *(If operate globally, just in Australia. If you are a sole trader, please say 1)*

Of your employees, approximately how many are Aboriginal and /or Torres Strait Islander?

What category best reflects your annual business turnover?

- ◯ Zero to less than $50K
- ◯ $50k to less than $100k
- ◯ $100k to less than $200K
- ◯ $200k to less than $500k
- ◯ $500k to less than $2m
- ◯ $2m to less than $5m
- ◯ $5m to less than $10m
- ◯ $10m or more

How much capacity does your business or service have to accommodate the development of further renewable energy projects in the area?

- ◯ Little to no capacity
- ◯ Some capacity to take on small projects
- ◯ Some capacity to take on larger projects
- ◯ A lot of capacity to take on projects of any size
- ◯ No direct relevance to renewable energy but can provide goods and services to employees and families generally
- ◯ Other (please specify)

How much capacity would you say your business has to alter or change the goods and services you generate to better suit the renewable energy sector?

- ◯ Little to no capacity
- ◯ Some capacity to take on small projects
- ◯ Some capacity to take on larger projects
- ◯ A lot of capacity to take on projects of any size
- ◯ Other (please specify)

Do you currently, or have you previously, worked with renewable energy companies?

- ◯ No, we have not worked with renewable energy companies
- ◯ Yes, we are currently working with renewable energy companies
- ◯ Yes, we have previously done some work with renewable energy companies
- ◯ Yes, we have previously worked extensively with renewable energy companies
- ◯ Other (please specify)

On a scale of one (1) to ten (10) how interested are you in working with renewable energy companies in the future? *Where one (1) means you have no interest at all and ten (10) means you are extremely interested*

1 10

If you indicated some interest in working with a renewable energy company, what kind of support might you need to enable that to happen?

- ☐ Help with tenders or applying for work
- ☐ More information from renewable energy companies about what they need
- ☐ Assistance in building understanding / capacity of your business to supply what renewable energy companies need
- ☐ Training for employees
- ☐ Contact with people within renewable energy companies that can help answer any questions about potential opportunities
- ☐ Ability to connect with other businesses to collaborate on larger projects
- ☐ Regular meetings with renewable companies about their future needs so I can keep my business prepared
- ☐ Access to qualified and skilled employees
- ☐ Other (please specify)

Gundary Solar SIA Survey

Information Provision & Engagement (All stakeholders)

What additional information would you like to receive on the Project and/or the assessment process?

Would you like to be kept up to date with Project information? (If yes, please ensure you have entered your contact details below)

- ◯ Yes, I'd like to be contacted directly to discuss the Project
- ◯ Yes, I'd like to receive emails with Project updates
- ◯ No

Contact information (Optional)

Full Name	
Organisation/Company/Group Name	
Address	
Post Code	
Email Address	
Phone Number	

What are the better ways for Lightsource bp to provide information to you as part of the Project?

- ☐ Newsletter
- ☐ Face to face meetings
- ☐ Website
- ☐ Email
- ☐ Letters
- ☐ Local newspaper
- ☐ Community meetings
- ☐ Local radio
- ☐ Other (please specify)

Do you have anything else to add or any further questions?

Do you have a recommendation of anyone else you think we should speak with?

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PROJECT NAME: Umwelt Goulburn Solar
PROJECT #: 6565
DOCUMENT TYPE: Draft Questionnaire
CREATED BY: Craig Stuchbury and James Parker
VERSION #: 06

Preamble

Hello, my name is …… and I'm calling from Taverner Research. We are conducting a research survey about a proposed solar farm at Gundary, near Goulburn.

I was hoping to speak to someone aged 18 years or older. Is that you?

IF NOT TARGET A RESPONDENT OLDER THAN 18. IF NOT AT HOME ARRANGE A CALLBACK

The survey will take about 15 minutes to complete, and all responses are confidential. can we do it now? IF NOT ARRANGE A CALLBACK

This call will be recorded and/or monitored for quality assurance and training purposes.

S1. Live or work in Goulburn Mulwaree LGA

Before we commence, I just have to make sure you qualify for an interview…Do you live or work in the Goulburn Mulwaree Local Government Area?

SINGLE

1. Yes, I live in the Goulburn Mulwaree LGA
2. Yes, I work in the Goulburn Mulwaree LGA
3. Yes, I live and work in the Goulburn Mulwaree LGA
4. No, I don't live or work in the Goulburn Mulwaree LGA [TERMINATE]

IF S1=1 OR 3 (LIVE IN LGA) ASK S2A. ALL OTHERS SKIP TO S2B.

SINGLE.

S2a. Town live

What town or village do you live in or nearest to?

1. Baw Baw
2. Boxers Creek
3. Brayton
4. Brisbane Grove
5. Bungonia Carrick
6. Currawang
7. Goulburn
8. Greenwich Park
9. Gundary
10. Kingsdale
11. Lake Bathurst
12. Lower Boro
13. Marulan
14. Middle Arm (part)
15. Mummel
16. Oallen
17. Parkesbourne
18. Pomeroy (part)
19. Quialigo
20. Run-O-Waters
21. Tallong
22. Tarago
23. Tarlo
24. Tirrannaville
25. Towrang
26. Wayo
27. Windellama
28. Wollogorang
29. Woodhouselee
30. Yarra

IF S1=2 OR 3 (WORK LGA) ASK S2B. ALL OTHERS SKIP TO D1.

SINGLE.

S2b. Town work

What town or village do you work in or nearest to?

1. Baw Baw
2. Boxers Creek
3. Brayton
4. Brisbane Grove
5. Bungonia Carrick
6. Currawang
7. Goulburn
8. Greenwich Park
9. Gundary
10. Kingsdale
11. Lake Bathurst
12. Lower Boro
13. Marulan
14. Middle Arm (part)

15. Mummel
16. Oallen
17. Parkesbourne
18. Pomeroy (part)
19. Quialigo
20. Run-O-Waters
21. Tallong
22. Tarago
23. Tarlo
24. Tirrannaville
25. Towrang
26. Wayo
27. Windellama
28. Wollogorang
29. Woodhouselee
30. Yarra

IF S1=1 OR 3 (LIVE IN LGA) ASK D1. ALL OTHERS SKIP TO D2.

D1. Length of time lived in LGA

And how long have you lived in the Goulburn Mulwaree Local Government Area?

DO NOT READ OUT SINGLE RESPONSE

1. Less than 5 years
2. 5-10 years
3. 11-20 years
4. More than 20 years

TEXT

D2 Name

And could I just get your first name for the survey please?

(ACCEPT NA IF THEY DON'T WISH TO TELL YOU THEIR NAME)

SINGLE

Q2. Aware of project

Thanks (D2). To give you a little context, Lightsource bp proposes to develop a large-scale solar farm, in the locality of Gundary, New South Wales, in the southeast of the Goulburn Mulwaree Local Government Area (LGA).

The Project is anticipated to generate approximately 400 Megawatts of solar electricity generation with an associated Battery Energy Storage System. The Project would be accessed from Windellama Road (961) off the Hume Highway. The land is currently used to graze sheep, with Lightsource bp intending to continue grazing sheep below the solar panels should the

project be approved. The site covers approx. 700 hectares, will operate for at least 35 years and will create up to 400 full time jobs during construction.

Prior to this survey, were you aware of the proposed Gundary Solar Farm Project?

SINGLE RESPONSE

1. Yes
2. No

IF Q2=1 (AWARE OF PROJECT) ASK Q3A-Q3B. ALL OTHERS SKIP TO Q4.

Q3a. Level of awareness of project

Please rate your level of knowledge about the Gundary Solar Farm on a scale from 1 to 7, where 1 means you have very little knowledge and 7 means you have a high level of knowledge

SINGLE RESPONSE

1. 1 Very little knowledge
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7 High levels of knowledge

Q3b. How hear about the project

(D2) How did you hear about the Project?

AID IF NECESSARY ACCEPT MULTIPLE RESPONSE

1. Local news articles
2. Direct engagement with the Project Team
3. Through people I know in the area
4. Project website
5. Social media
6. Project Newsletter or letter drop from Lightsouce BP
7. Other (please specify)
8. Don’t know/can’t recall[DO NOT READ OUT, EXCLUSIVE]

Q8. Benefits

Can you think of any positive impacts or opportunities associated with the Gundary Solar Farm? What are they?

DO NOT AID MULTIPLE RESPONSE

1. Local employment opportunities during construction or operation
2. Opportunities for local procurement
3. Project's contribution to renewable energy provision in the region
4. Project's contribution to local energy security
5. Community benefit sharing and social investment opportunities
6. Ability to participate meaningfully in the Project' assessment process
7. Opportunity for co-existence with other land uses e.g., sheep grazing, horticulture etc.
8. Contribution to the development of the Goulburn locality as a renewable energy hub
9. Addressing climate change impacts associated with other energy resources
10. Other (please specify)
11. No, can't think of any benefits [EXCLUSIVE] SKIP TO Q11

Q10. Strategies for positive impacts

Can you think of anything that Lightsource bp could do to increase these positive impacts?

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

Q11. Negative social impacts

Can you think of any negative impacts or concerns associated with the Gundary Solar Farm? What are they?

DO NOT AID MULTIPLE RESPONSE

1. Impacts on the visual amenity and natural landscape values in the locality
2. Potential decline in property values
3. Reduction in land currently used for agricultural purposes
4. Risks to public safety due to bushfire threat
5. Risk to public safety due to potential flooding as a result of the Project
6. Impacts on flora and fauna in the area
7. Impacts on social amenity as a result of the potential noise from the Project
8. Impact on social amenity as a result of dust during construction
9. Inequitable distribution of Project impacts to landholders
10. A change in the sense of place and attachments to the area
11. Increased traffic during construction
12. Health and wellbeing impacts as a result of potential exposure to electromagnetic fields from the Project
13. Cumulative impacts associated with the development of other renewable energy projects in the area
14. Stress, anxiety and uncertainties associated with the Project
15. Impacts associated with decommissioning of the Project and handling of waste
16. Limited potential for employment during operation
17. Lack of available workforce to service the Project
18. Decreased access to short-term accommodation in the area due to the influx of the construction workforce
19. Impacts on cultural heritage values
20. Increased division and conflict within the community as a result of the proposed Project
21. Constraints on the future growth of Goulburn due to use of land for Solar Farms not housing
22. Other (please specify)
23. No, can't think of any issues [EXCLUSIVE] SKIP TO Q14

Q13. Strategies to minimise negative impacts

(D2) How could Lightsource bp minimise the negative impacts of the proposed solar farm? Is there anything they could do to address or reduce your concerns?

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

Q14. Acceptance

On a scale of 1-7, where one is low acceptance and 7 is high acceptance, how accepting are you of the following:

READ OUT SCALE AS OFTEN AS NECESSARY

RANDOMISE

1. Solar farm development in the Southern Tablelands Region
2. Solar farm development in the Goulburn Mulwaree LGA
3. The development of the Gundary Solar Project

1. Low level of acceptance
2. 2
3. 3
4. Neutral
5. 5
6. 6
7. High level of acceptance

Q15. Agreement

(D2) Please rate your level of agreement to the following statements, where 1 is a Strongly disagree 7 is Strongly agree.

READ OUT IF NECESSARY: "LSbp is Lightsource BP"

RANDOMISE

1. LSbp is listening to concerns raised by the community
2. LSbp hasn't been honest in its dealings with the community in relation to its Project plans
3. I trust LSbp to consider environmental and social issues appropriately in their project planning
4. I have a lack of trust in the NSW government's planning and assessment process
5. The benefits of the development of the Gundary Solar Farm are likely to outweigh the disadvantages
6. The Gundary solar farm project is important in delivering renewable energy in NSW

1. Strongly disagree
2. Disagree
3. Somewhat disagree
4. Neutral
5. Somewhat agree
6. Agree
7. Strongly agree
8. Don't know/unsure

Q16. Landscape characteristics

What words would you use to describe to a friend how the site and the Gundary area more broadly currently looks and feels?

Feel free to describe things you can see (i.e. rolling pastures; fences dividing paddocks; native grasses; tall-tree windbreaks; historical buildings) or things you can feel (i.e. tranquil; rural; peaceful; productive; harsh; open)

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

Q17. Lookouts

What are the best lookouts/public viewing areas in the area? If you have a visitor, where do you take them to showcase your area?

TRY TO GATHER BETWEEN TWO AND FIVE LOOKOUTS IF POSSIBLE.
[5 TEXT BOXES, 30 CHARACTERS EACH]

Q18. Significant areas

Are there any areas or landscape features surrounding or within the proposed Project site that are of significant value to yourself, your business, or your community?

[5 TEXT BOXES, 30 CHARACTERS EACH]

Q19. Do to reduce visual impact

(D2) Are there things that Lightsource bp could do to reduce the visual impact of the solar farm or make it more visually appealing?

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

_____

_____

Q20. Additional info sought

What additional information would you like to receive on the Project and/or the assessment process?

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

_____

_____

Q21. Wish to be contacted

Would you like to be kept up to date with Project information?

READ OUT MULTIPLE RESPONSE
Researcher note: All project information is via email only

1. Yes, I'd like to be emailed directly to discuss the Project
2. Yes, I'd like to receive emails with Project updates
3. No [EXCLUSIVE]

IF Q21=3 (NOT WANT TO BE CONTACTED) SKIP Q22 TO Q23.

TEXT ROWS

Q22. Contact info

Contact information

[3 TEXT BOXES, 30 CHARACTERS EACH]

1. Full name:
2. Email address: New email protocol applies

ASK ALL

Q23. Better ways to provide information

What are the best ways for Lightsource bp to provide information to you as part of the Project?

DO NOT READ OUT MULTIPLE RESPONSE

1. Newsletter
2. Website
3. Letters
4. Community meetings
5. Face to face meetings
6. Email
7. Local newspaper
8. Local radio
9. Other (please specify)
10. Don't know/can't say/don't care [EXCLUSIVE]

Q24. Additional comments

D3 Do you have anything else to add or any further questions we can pass on to the project team?

PROBE FULLY FOR COMPLETE ANSWER RECORD VERBATIM CONTROL THE CALL

D4. Age

Just before we finish, into which of the following age groups would you fall?

READ OUT EXCEPT PREFER NOT TO SAY SINGLE RESPONSE

1. 18 – 34 years
2. 35 – 54 years
3. 55 – 64 years
4. 65+ years
5. Prefer not to say [DO NOT READ OUT]

D5. Gender

With which gender do you identify?

DO NOT READ OUT SINGLE RESPONSE

1. Male
2. Female
3. Other / prefer not to say

D6. ATSI

And finally, do you identify as Aboriginal and/or Torres Strait Islander?

DO NOT READ OUT SINGLE RESPONSE

1. Aboriginal
2. Torres Strait Islander
3. Both
4. Neither

OUTRO: Thanks so much (D2), that's the end of the survey, which was sponsored by LightsourceBP and Umwelt. We greatly appreciate your time and feedback.

ISO and CLOSE

Gundary Solar Farm Neighbourhood Benefit Sharing Program

The Gundary Solar Farm is a proposed 400MWdc (320MWac) solar farm and battery energy storage system (BESS) located southeast of Goulburn, New South Wales, within the local government area of Goulburn-Mulwaree Council.

Lightsource bp is considering a range of benefit sharing programs as part of its project development in order to deliver significant benefits to the broader community.

SHARING THE BENEFITS AT THE NEIGHBOURHOOD LEVEL

Lightsource bp has established a Neighbourhood Benefit Sharing Program to ensure those residents living closest to the project can share in its direct financial benefits. The Program will commence if the project is approved, and construction begins.

Under the Program, residences within 1 kilometre (km) of the project will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residences within 500m of the project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program, as outlined below. The Program has been benchmarked against industry standards and takes into account the nature of the landscape surrounding the project.

Signing an agreement under the Program does not restrict neighbours from expressing their views on the project at any time, either to the project owner or regulatory bodies.

ELIGIBILITY CRITERIA

- Residence benefits are applicable in relation to dwellings only, not land without dwellings.
- Eligible dwellings must not be dilapidated.
- Dwellings must have existed by February 28, 2024.

Lightsource bp is committed to supporting the local community by sharing the benefits of this project. We invite all community members to get in touch and provide input on how we can best deliver our projects and initiatives to have a sustainable and positive impact on the community.

The team can be contacted via a toll-free phone number or via email:

1300 873 575
gundarysolar@lightsourcebp.com

BENEFIT STRUCTURE

Benefits are calculated on the distance of a residence to the project boundary.

Sign-on payment: A once-off payment of $5,000 when the Neighbourhood Benefit Sharing Agreement is signed to cover legal costs and to reimburse for time spent understanding the agreement.

Construction Benefits:

- All residences (dwellings) within 1km of the project boundary will be eligible to receive a home energy system, including rooftop solar and a battery as part of the Construction Neighbourhood Benefit Sharing Program.
- The value of the home energy system is up to $20,000. Alternatively, those residence who do not elect to receive the home energy system will be eligible to receive a one-off payment of $15,000.
- The Construction Neighbourhood Benefit Sharing Program will be rolled out following the commencement of construction of the project.

Operation Benefits:

- All residences (dwellings) within 500 meters of the project boundary will be eligible to receive annual Operation Neighbourhood Benefit Sharing payments. Residence can opt for either:
  - Annual payments of $5,000 (indexed annually to CPI) for the project's 40-year lifespan, or
  - Frontloaded annual payments of $20,000 (indexed annually to CPI) for 10 years.
- Payments associated with the Operation Neighbourhood Benefit Sharing Program will commence following the commencement of commercial operation of the project.

lightsource bp

Gundary Solar Farm Project

Lightsource bp is proposing to develop the Gundary Solar Farm Project approximately 10km southeast of Goulburn off Windellama Road.

The project would consist of a 400MWdc (320MWac) solar farm and a battery energy storage system.

Drop-in community information sessions

Lightsource bp invites you to meet the project team and specialist assessment experts from Umwelt Environmental and Social Consultants at an informal drop-in session.

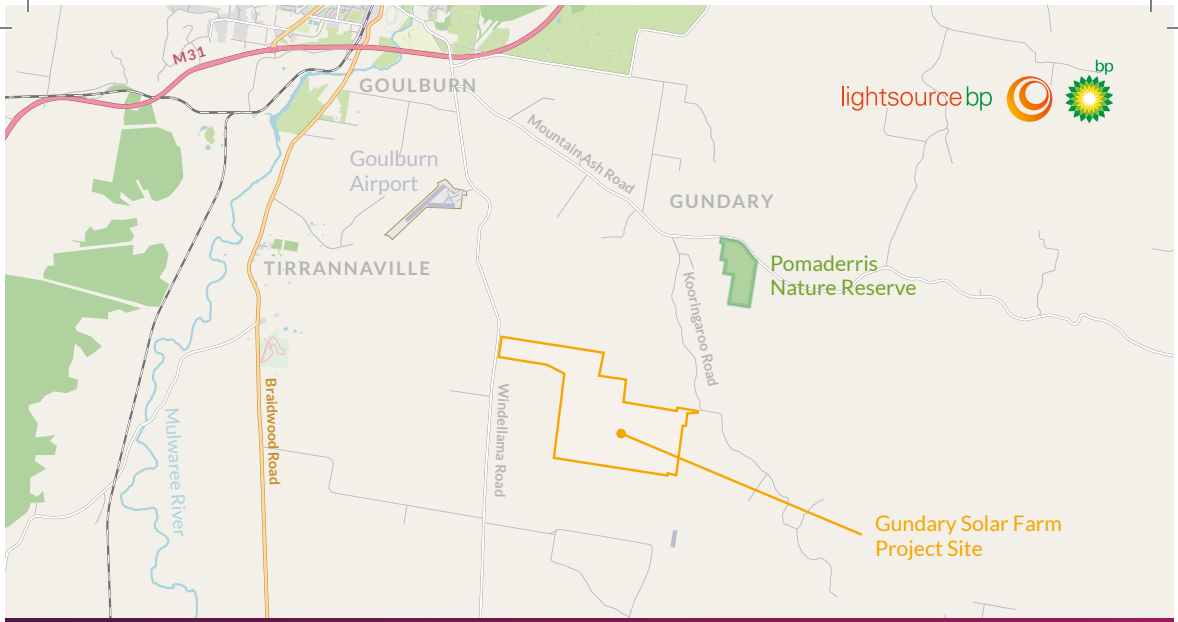
Please feel free to drop in at any time during the sessions to meet the team and learn more about the project.

Country Women's Association (CWA)
Goulburn Rooms, 2 Montague Street, Goulburn

Monday 25 March 2024
2pm – 6pm

Tuesday 26 March 2024
8am – 12pm

Light catering will be supplied by the Goulburn CWA Branch



lightsource bp

bp

Please register your interest in these sessions by entering your contact details here: https://www.research.net/r/GundaryMarch2024DropInSessions or by scanning the QR code: ➤

For more information or if you have any questions or feedback, please get in touch with the project team: Phone: 1300 873 575 (free call) | Email: gundarysolar@lightsourcebp.com

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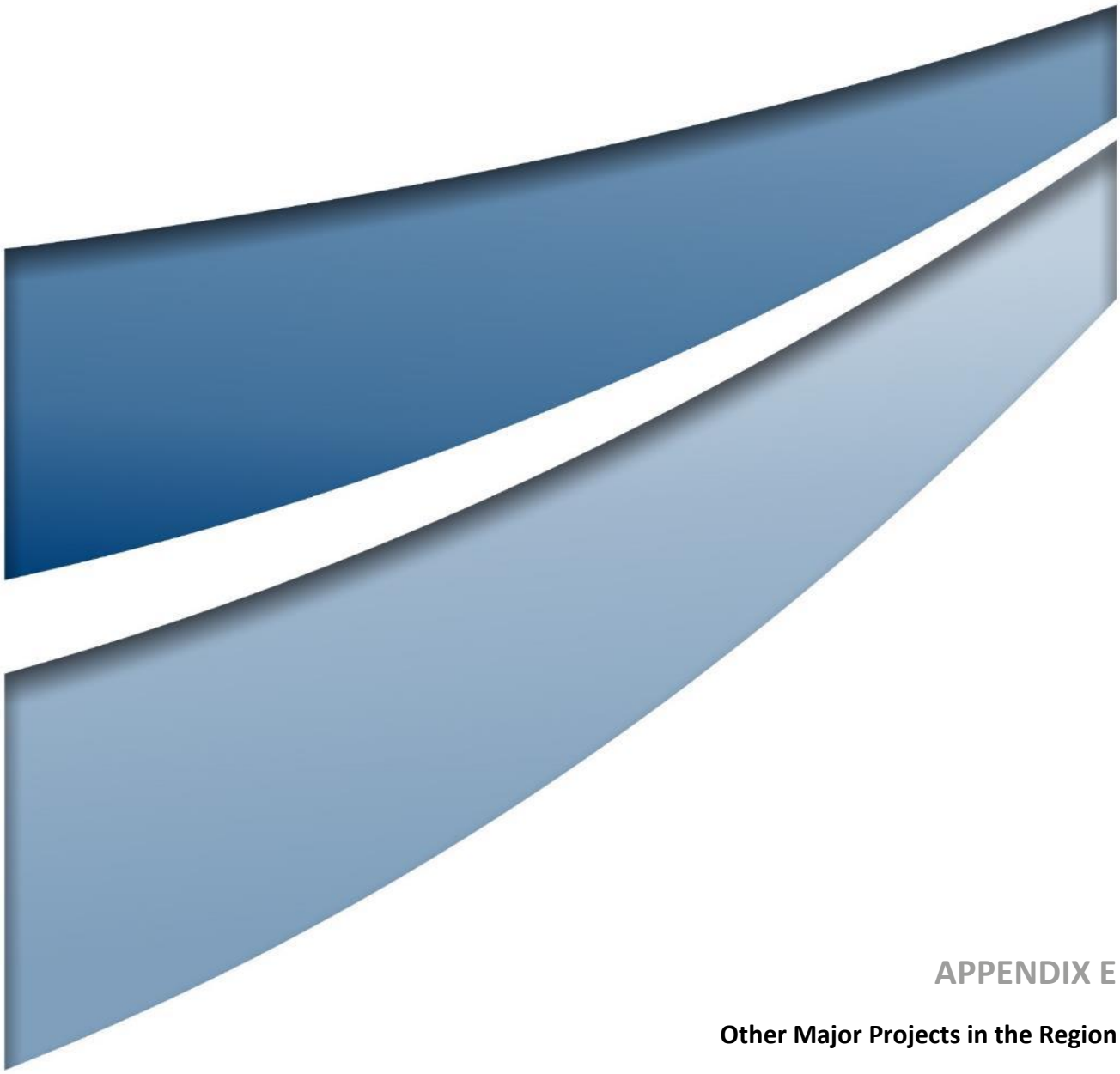
For more information or if you have any questions or feedback, please get in touch with the project team:

Phone: 1300 873 575 (free call)
Email: gundarysolar@lightsourcebp.com
Website: www.lightsourcebp.com/au/projects/gundary-solar-farm

or scan this QR code:



APPENDIX E

Other Major Projects in the Region

1.0 Major Projects

Table 1.1 Major Projects in the Region

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
Renewable Energy Project – Proposed / Under Assessment					
Merino Solar Farm, **ITP**	Tirrannaville, Goulburn Mulwaree LGA	1 km west	Prepare EIS	• 450 MW solar farm with 300 MW BESS. • Located very close to the Goulburn Airport. • Construction from early-mid 2025 to mid-late 2026, duration of 12–18 months. • Land is zoned RU1 primary production under the LEP, current land use is agriculture. • Generate up to 200–300 FTE jobs during construction, with 4 FTE jobs during operation and another 50 casual staff. • Access to the northern site is expected to be provided via a new access driveway linking to Braidwood Road (via Lot 2 DP1140024) but could potentially utilise existing arrangements from Windellama Road or Gundary Lane. The southern site is expected to be accessed either directly from Braidwood Road or from Painters Lane.	If approved, cumulative impact is **likely** and **significant** due to proximity between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Noise, glint and glare and visual impacts due to close proximity. • Competition for housing and services from incoming workforces. • Biodiversity impacts (perceived loss of biodiversity and habitat, impacts on threatened species and communities). • Agriculture (loss of agriculture activity / prime agricultural land). • Potential for consultation fatigue for proximal land owners, due to close proximity. • Changes to sense of place for proximal landholders.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
					• Potential for labour shortages as concurrent projects compete for local workers.
Western Range Solar Farm, **Base International**	Gunning, Upper Lachlan Shire LGA	46 km west	Prepare EIS	• 175 MW solar farm and 50 MW BESS. • Land is zoned RU2 Rural Landscape under the LEP, current land use is agriculture. • Construction is expected to take 18 months, however it is unknown when this will commence. As the project is in 'prepare EIS' phase, the construction timeframe may overlap with the Project. • The project will employ approximately 100 people during the peak of construction and eight (8) full time equivalent operational workers. • It is unknown at this stage what the expected traffic movements will be, however, the Hume Highway will be the primary road used to access the site.	If approved, cumulative impact is **possible** due to proximity between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Competition for housing and services from incoming workforces. • Potential for consultation fatigue for proximal landowners, due to close proximity. • Potential for labour shortages as concurrent projects compete for local workers.
Wattle Creek Energy Hub, **Spark Renewables**	Marulan, Upper Lachlan Shire LGA	50 km northeast	Preparing scoping report	• 500 MW wind and solar farm and 700 MW BESS. • Seemingly more opposition regarding the wind component, in comparison to solar and battery. • The project will employ approximately 300 people during the peak of construction and 10 full time equivalent operational workers. • It is unknown what the expected traffic movements will be, however, the Hume Highway will likely be the primary road used to access the site.	If approved, cumulative impact is **possible** due to proximity between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Competition for housing and services from incoming workforces.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
					• Potential for consultation fatigue for proximal land owners, due to close proximity. • Potential for labour shortages as concurrent projects compete for local workers.
Hume link, **Transgrid**	Located across 5 LGAs: Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley, Upper Lachlan Shire	55 km north, at the nearest point to Gundary Solar Farm	Exhibition	• New 500 kV transmission line which will connect Wagga Wagga, Bannaby and Maragle. • Development footprint = unknown, however the transmission line will be 360 km long with a 60–70 m wide easement. • Construction of the proposal is targeted to commence in 2024. Once construction has commenced, the proposal is estimated to take approximately two years to construct. • The project will employ approximately 400–1,000 people during the peak of construction. • It is unknown what the expected traffic movements will be, however Hume Highway will be one of the primary road used to access the site.	If approved, cumulative impact is **possible** due to proximity between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Competition for housing and services from incoming workforces. • Biodiversity impacts (loss of biodiversity and habitat, impacts on threatened species and communities). • Potential for consultation fatigue for proximal land owners, due to close proximity. • Potential for labour shortages as concurrent projects compete for local workers.
Renewables Projects – Approved / Construction not yet commenced					
Marulan Solar Farm, **Terrain Solar**	Marulan, Goulburn Mulwaree LGA	35 km northeast	Approved Aug 2023	• 152 MW solar farm. • Development footprint = 406 ha.	Cumulative impact is **likely** due to proximity between projects, and potential for construction timeframe overlap.

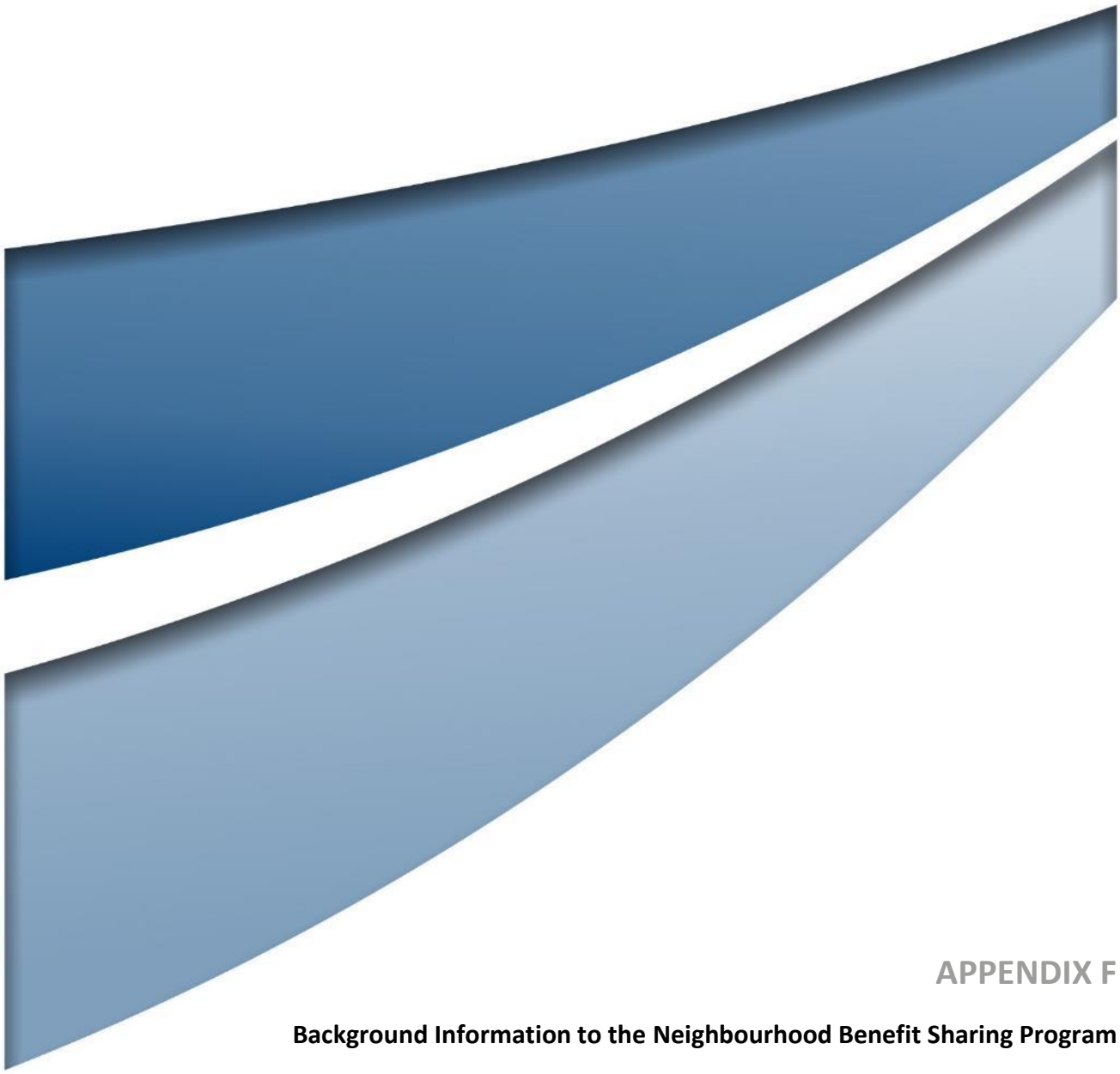
Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
				• Land is zoned RU1 primary production under the LEP, current land use is agriculture. • Construction is expected to commence 2024 and take 18 months, exclusive of 3 months for mobilising/demobilising at the beginning and end of the project. Expected to be operational mid 2025. • The project will employ approximately 300 people during the peak of construction, around five (5) full time equivalent operational workers and has the potential to employ up to 50 casual workers during maintenance periods. • It is estimated that there will be approximately 13 heavy vehicle trips per day (maximum 28 trips per day) and 100 light vehicle trips per day (maximum 160 trips per day). Hume Highway and Munro Road will be the primary access roads to the site.	Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Competition for housing and services from incoming workforces. • Potential for consultation fatigue for proximal landowners, due to close proximity. • Changes to sense of place for proximal community. • Potential for labour shortages as concurrent projects compete for local workers.
Blind Creek Solar Farm-**Blind Creek Solar Farm Pty Ltd**	Bungendore, Palerang LEP	80 km southwest	Approved July 2023	• 350 MW solar farm and 300 MW BESS. • Located approximately 8 km north-west of Bungendore, NSW. • Development footprint = 680–700 ha. • Zoned RU1 Primary Production, current land use agriculture. • Construction is expected to take 12-18 months, commencing Q1 2024,and be operational as of 2026. • The project will employ approximately 300 people during the peak of construction and five (5) full time equivalent operational workers. • It is expected that an average of 62 vehicle movements per day (48 of which are light vehicles), and a peak of 170 vehicle movements per day will be	Cumulative impact is **possible** due to distance between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Competition for housing and services from incoming workforces. • Potential for labour shortages as concurrent projects compete for local workers.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
				undertaken during construction (100 of which are light vehicles). The Hume Highway will be the primary road used to access the site, with other local roads including Braidwood Road, Bungendore Road and Tarago Road.	
Crookwell 3 Wind Farm, **Global Power Generation Australia Pty Ltd**	Roslyn, Upper Lachlan Shire LGA	50 km north	Approved Oct 2020	• 58 MW wind farm. • Located approximately 17 kilometres south-east of Crookwell and 25 km north-west of Goulburn. • Size of site = 1,500 ha. • Construction is ongoing, with no clear date of expected completion. • The project will employ approximately 40 full time jobs during construction and 6 permanent jobs during the operational phase. • Access to Crookwell 3 South is via Crookwell Road, and access to Crookwell 3 East is via Woodhouselee Road, and through an ungazetted Greywood Siding Road as one of the access options. Picton Road and Hume Highway/Motorway will be the primary road used to access the site.	Cumulative impact is **possible but limited** due to distance between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Competition for housing and services from incoming workforces. • Potential for labour shortages as concurrent projects compete for local workers.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
Other Projects – Proposed / Approved and not yet constructed					
Wingecarribee-Goulburn Water Pipeline (Highland Source Project), **Goulburn Mulwaree Council**	Goulburn, Goulburn Mulwaree LGA	10 km north	Approved – November 2010	• 83 km water pipeline and associated infrastructure from Wingecarribee to Goulburn. • Construction is expected to take 12 months, however it is unknown when this will commence. • The project will employ approximately 60 people during the peak of construction and one (1) full time equivalent operational workers. • It is unknown what the expected traffic movements will be, however Hume Highway will be the primary road used to access the site.	Cumulative impact is **possible but limited** due to distance between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Competition for housing and services from incoming workforces.
Goulburn Poultry Processing Mixed Use Development, **Woodlands Ridge Poultry Pty Ltd**	Goulburn, Goulburn Mulwaree LGA	11 km north	Under Assessment – More Information Required	• Cold storage and distribution centre; poultry processing plant; childcare centre; and other associated infrastructure and works including earthworks. • Located in Goulburn. • 8.3 ha site • Construction expected to take 12 months, however it is unknown when this will commence. • The project will employ approximately 100 people during the peak of construction. At peak operation, the development will employ 264 people. Employees will be working over two shifts of 132 employees per shift at the facility. • Estimated peak hour traffic generation of the proposed facility is some 230 to 240 vehicles per hour two-way. Based on RMS traffic generation rates, the development would have an estimated daily traffic	Cumulative impact is **possible but limited** due to distance between projects, project scale and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Competition for housing and services from incoming workforces.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
				generation of some 1,500 vehicles, of which some 10 per cent would be trucks. • Access to the site from the Hume Highway is via Sydney Road which is an approved B-double route. Vehicles from the north of Goulburn destined for the site are likely to travel west along Sydney Road connecting onto Common Street and thence to the site.	
Marulan Quarry, **Global Quarries Australia Pty Ltd**	Marulan, Goulburn Mulwaree LGA	30 km northeast	Under Assessment – Preparation EIS	• Development of a quarrying operation on Lots 3 and 4 of DP 247199, and Lot 7001 of DP 1025585. • Located approximately 12 kilometres south west of Marulan and 18 km east of Goulburn. • Size of site = 82.2 ha. • Construction timing is unknown, so assumed it will occur at the same time as Gundary SF. • Construction and operational employment opportunities is unknown. • An average of 45 trucks per day will transfer product from the site via the existing forestry haul road, Winfarthing Road and the Hume Highway to access the Sydney and the regional cement market. • EIS being prepared, with no indication of when it will be submitted to DPE.	Cumulative impact is **possible but limited** due to distance between projects, project scale and potential for construction timeframe overlap. • Traffic and transport impacts as both projects propose to use Hume Highway.

Project	Location	Approximate distance to Project	Status	Details	Implications for Cumulative Social Impact
Woodlawn Advanced Energy Recovery Centre, **Veolia**	Tarago, Goulburn Mulwaree LGA	45 km south	Response to submissions	• Energy Recovery Facility for the thermal treatment of up to 380,000 tpa of residual waste feedstock, and a power plant with a nominal capacity of 30 MWh to generate up to 240,000 MW of electricity per annum. • Located approximately 6 km west of the village of Tarago, and 50 km south of Goulburn. • Size of site = 600 ha. • Construction is expected to take 36 months • The project will employ approximately 300 people during the peak of construction and 40 full time equivalent operational workers. • It is expected that 50 light vehicle movements, 40 heavy vehicle trips and 50 bus trips will be required daily at the peak of construction. Hume Highway, Braidwood Road, Goulburn Street, Bungendore Road and Collector Road will be primarily used for access to the site.	Cumulative impact is **likely** due to proximity between projects, and potential for construction timeframe overlap. Cumulative impacts would likely involve: • Traffic and transport impacts as using same transport route. • Competition for housing and services from incoming workforces. • Potential for consultation fatigue for proximal landowners, due to close proximity. • Changes to sense of place for proximal community. • Potential for labour shortages as concurrent projects compete for local workers.



APPENDIX F

Background Information to the Neighbourhood Benefit Sharing Program

Gundary Solar Farm Neighbourhood Benefit Sharing Program

The Gundary Solar Farm is a proposed 400MWdc (320MWac) solar farm and battery energy storage system (BESS) located southeast of Goulburn, New South Wales, within the local government area of Goulburn-Mulwaree Council.

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Lightsource bp has established a Neighbourhood Benefit Sharing Program to ensure those residents living closest to the project can share in its direct financial benefits. The Program will commence if the project is approved, and construction begins.

Under the Program, residences within 1 kilometre (km) of the project will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residences within 500m of the project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program, as outlined below. The Program has been benchmarked against industry standards and takes into account the nature of the landscape surrounding the project.

Signing an agreement under the Program does not restrict neighbours from expressing their views on the project at any time, either to the project owner or regulatory bodies.

ELIGIBILITY CRITERIA

- Residence benefits are applicable in relation to dwellings only, not land without dwellings.
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- Dwellings must have existed by February 28, 2024.

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BENEFIT STRUCTURE

Benefits are calculated on the distance of a residence to the project boundary.

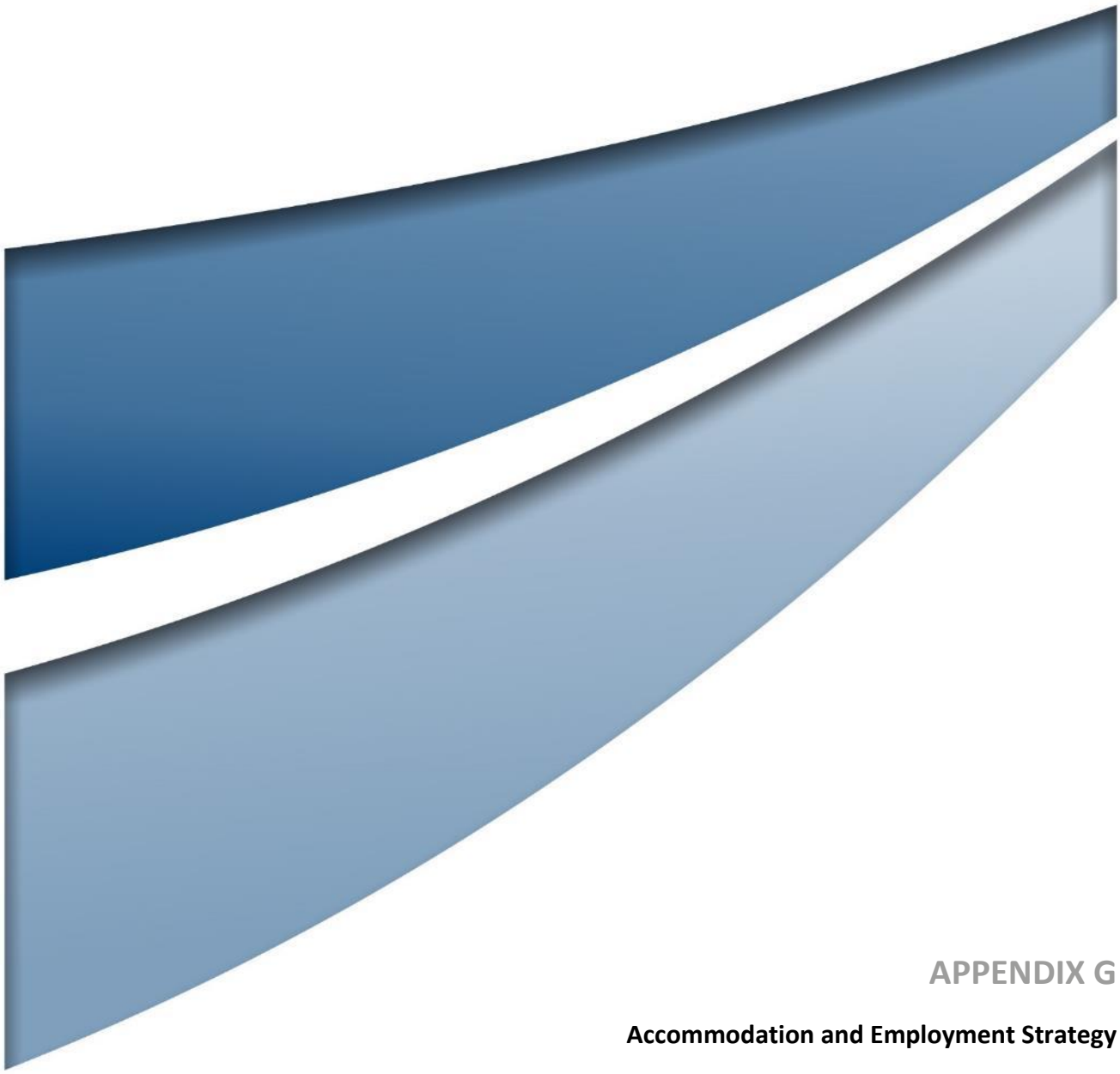
Sign-on payment: A once-off payment of $5,000 when the Neighbourhood Benefit Sharing Agreement is signed to cover legal costs and to reimburse for time spent understanding the agreement.

Construction Benefits:

- All residences (dwellings) within 1km of the project boundary will be eligible to receive a home energy system, including rooftop solar and a battery as part of the Construction Neighbourhood Benefit Sharing Program.
- The value of the home energy system is up to $20,000. Alternatively, those residence who do not elect to receive the home energy system will be eligible to receive a one-off payment of $15,000.
- The Construction Neighbourhood Benefit Sharing Program will be rolled out following the commencement of construction of the project.

Operation Benefits:

- All residences (dwellings) within 500 meters of the project boundary will be eligible to receive annual Operation Neighbourhood Benefit Sharing payments. Residence can opt for either:
  - Annual payments of $5,000 (indexed annually to CPI) for the project's 40-year lifespan, or
  - Frontloaded annual payments of $20,000 (indexed annually to CPI) for 10 years.
- Payments associated with the Operation Neighbourhood Benefit Sharing Program will commence following the commencement of commercial operation of the project.



APPENDIX G

Accommodation and Employment Strategy

umwelt
Environmental & Social Consultants

GUNDARY SOLAR FARM

Draft Accommodation and Employment Strategy

FINAL

June 2024

GUNDARY SOLAR FARM

Draft Accommodation and Employment Strategy

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Lightsource bp

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Environmental & Social Consultants

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Acknowledgement of Country

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

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
Final	Jessica Anagnostaras	28 May 2024	Malinda Facey	3 June 2024

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AES	Accommodation and Employment Strategy
ATDW	Australian Tourism Data Warehouse
BESS	Battery Storage
CEC	Clean Energy Council
CSP	Community Strategic Plan
DCP	Development Control Plan
DPE	Department of Planning and Environment (previous)
DPHI	Department of Planning, Housing and Infrastructure (current)
EIA	Economic Impact Assessment
EIS	Environmental Impact Statement
EPC	Engineering, Procurement and Construction
FTE	Full Time Equivalent
KM	Kilometre
kV	Kilovolt
LEP	Local Environmental Plan
LGA	Local Government Area
Lightsource bp	Lightsource Development Services Australia Pty Ltd
LSPS	Local Strategic Planning Statement
MW	Megawatt
MWh	Megawatt hour
NSW	New South Wales
OSOM	Oversize/Overmass
RFS	Rural Fire Service
SAL	Suburb and Locality
SALM	Small Area Labour Market
SES	State Emergency Service
SSD	State Significant Development
The Project	Gundary Solar Farm
The Proponent	Lightsource bp
TAFE	Technical and Further Education
VET	Vocational Education and Training

Table of Contents

Abbreviations i

1.0 Introduction 1

1.1 Purpose 1

1.2 Project Overview and Location 1

1.3 Project Social Locality 2

1.4 Stakeholder Consultation 7

1.5 Limitations 7

2.0 Regional Profile 9

2.1 Policy Setting 9

2.1.1 Policy Setting Summary 10

2.2 Socio-Economic Context 10

2.3 Employment and Labour Context 11

2.3.1 Summary 13

2.4 Accommodation and Housing Context 13

2.4.1 Short Term Accommodation 13

2.4.2 Sharing Economy Accommodation 17

2.4.3 Rental Accommodation 17

3.0 Cumulative Considerations 19

4.0 Local Employment Strategy 27

4.1 Purpose and Objectives 27

4.2 Overview of Potential Project Roles 27

4.2.1 Project Phases and Potential Associated Works 27

4.2.2 Overview of Likely Project Workforce Needs 28

4.3 Local Employment Target 30

4.4 Going Beyond 33

4.5 Local Employment Measures and Monitoring Plan 33

5.0 Accommodation Strategy 36

5.1 Purpose and Objectives 36

5.2 Key Workforce Accommodation Challenges 37

5.2.1 Overview of Project Accommodation Options 37

5.3 Accommodation Options 38

5.4 Workforce Accommodation Measures and Monitoring Plan 39

6.0 References 41

Figures

Figure 1.1	Estimated Construction Workforce	2
Figure 1.2	Social Locality Overview	3
Figure 1.3	Social Locality	4
Figure 1.4	Drive Time Analysis	5
Figure 2.1	Average Occupancy Rate	14
Figure 2.2	Audit of Short-Stay Accommodation Providers	16
Figure 3.1	Proposed Construction Periods for State Significant Developments in the Region	22
Figure 3.2	Average Workforce Size Over Construction Period for State Significant Developments in the Region	23
Figure 3.3	Peak Construction Workforce Periods	24
Figure 4.1	Large-scale Solar Farm Construction Occupational Composition	29

Tables

Table 1.1	Social Locality Description	6
Table 2.1	Key policies and strategies relevant for the AES	9
Table 2.2	Socio-Economic Profile Implications	10
Table 2.3	Employment and Labour Profile Implications	11
Table 2.4	Short-term Accommodation considering Occupancy Rates	15
Table 2.5	Airbnb Accommodation Availability, Considering Occupancy Rates	17
Table 2.6	Rental Availability by LGA	18
Table 3.1	State Significant Developments	20
Table 4.1	Project Phases and associated works	28
Table 4.2	Local Employment Targets	31
Table 4.3	Construction Workforce Population Change Estimates – All Scenarios	32
Table 4.4	Measures to Prioritise the Employment of Local Workers	34
Table 5.1	Overview of Accommodation Options by Scenario	38
Table 5.2	Percentage of Incoming Workforce Accommodated in each LGA by Accommodation Type	38
Table 5.3	Total Number of Rooms in each LGA by Accommodation Type	38
Table 5.4	Workforce Accommodation Measures	39

Appendices

Appendix A	Stakeholder Consultation
Appendix B	Local Government Policy and Reports
Appendix C	Regional Socio-Economic Profile
Appendix D	Employment and Labour Force Profile
Appendix E	Accommodation Housing Profile
Appendix F	Accommodation Providers

1.0 Introduction

1.1 Purpose

The Accommodation and Employment Strategy (AES) has been prepared by Umwelt for Lightsource Development Services Australia Pty Ltd (Lightsource bp) (the Proponent) for the Gundary Solar Farm (the Project) in accordance with the Secretary's Environmental Assessment Requirements (SEARs), issued for the Project on 10 November 2022 to outline the approach and strategies for the Project relating to workforce accommodation and employment.

This AES has been prepared to meet the following objectives:

- Propose measures to ensure there is sufficient accommodation for the workforce associated with the Project.
- Consider the cumulative effects associated with population influx and other developments across the region.
- Investigate options for the employment of local workers for the construction and operation of the Project.
- Include a program to monitor and review the effectiveness of the AES over the life of the Project, including regular monitoring and review during the construction phase.

1.2 Project Overview and Location

Lightsource bp proposes to develop a 400-Megawatt peak (MWp) solar photovoltaic (PV) generation facility in the locality of Gundary, within the Goulburn Mulwaree Local Government Area (LGA) in New South Wales (NSW), southeast of Goulburn. The Project is located at 961 Windellama Road, Gundary, NSW and will gain access via the existing driveway on Windellama Road. Intersection upgrades on Windellama Road are proposed to accommodate heavy vehicles.

The Project will supply electricity to the National Electricity Market via a connection to the 330 kilovolt (kV) overhead transmission line traversing the north-west corner of the Project Area. The Project will generate enough energy for about 133,000 homes and reduce carbon emissions by 670,000 tonnes. The Battery Energy Storage System (BESS) will have capacity to store up to 1,570-Megawatt hour (MWh) of on-demand energy for supply to the grid. Project specifications most relevant to the AES are as follows:

- **Construction:** Construction and commissioning of the Project will take approximately 18 to 24 months, which is planned to commence in early 2026. Operations would commence in early 2028.
- **Employment:** 400 Full time Equivalent (FTE jobs) would be generated during the 18 to 24-month construction period, with a peak of 250 FTE workers (over a nine-month period), as shown in **Figure 1.1** below. This includes an average of 155 direct FTE jobs and 245 indirect FTE jobs. The Project is expected to generate up to 4 FTE roles in the operational phase of the Project.

It is estimated that based on the average monthly workforce demand, the Project workforce will:

- Peak for 9 months with a workforce of 250 FTE jobs.
- Increase in workforce number for the initial 7 months and decrease in the final 8 months.
- Begin in Q1/Q2 2026 and continue until early 2028.

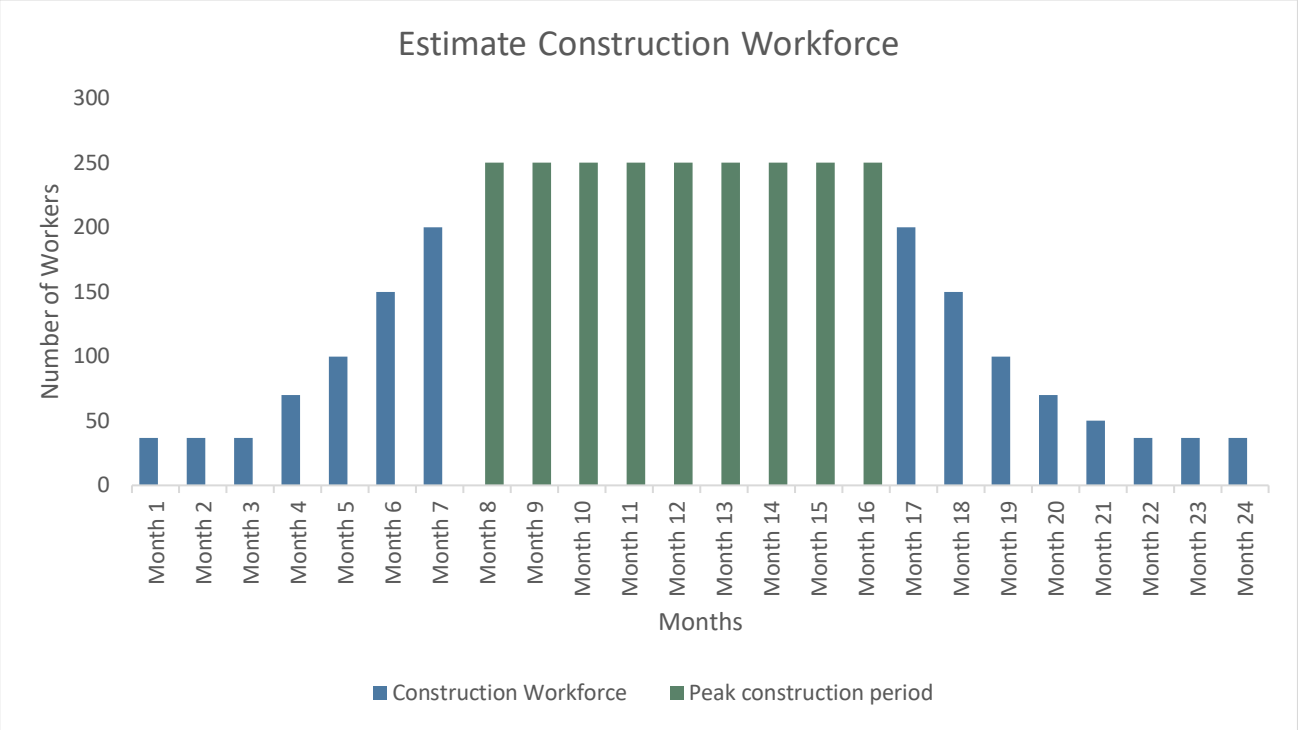

Figure 1.1 Estimated Construction Workforce[1]

Source: (Umwelt, 2024)

1.3 Project Social Locality

The social locality for the AES is based on the understanding of the Project area and nearby/affected communities relating to accommodation and employment impacts and opportunities of the Project. The townships which are expected to provide accommodation, services and employment for the Project that comprise the social locality are outlined blue in **Figure 1.2**, **Figure 1.3** and **Figure 1.4**.. It illustrates the townships within 1 hour and 1.5-hour drive from the Project. It is assumed that those townships within a 1-hour drive are most likely to service the Project's local accommodation and employment requirements due to the maximum daily commute time for workers to safely get to and from their place of work.

[1] The workforce histogram was estimated utilising the following assumptions: peak workforce of 250 FTE for 9 months, average of 155 FTE and a construction period of 24 months

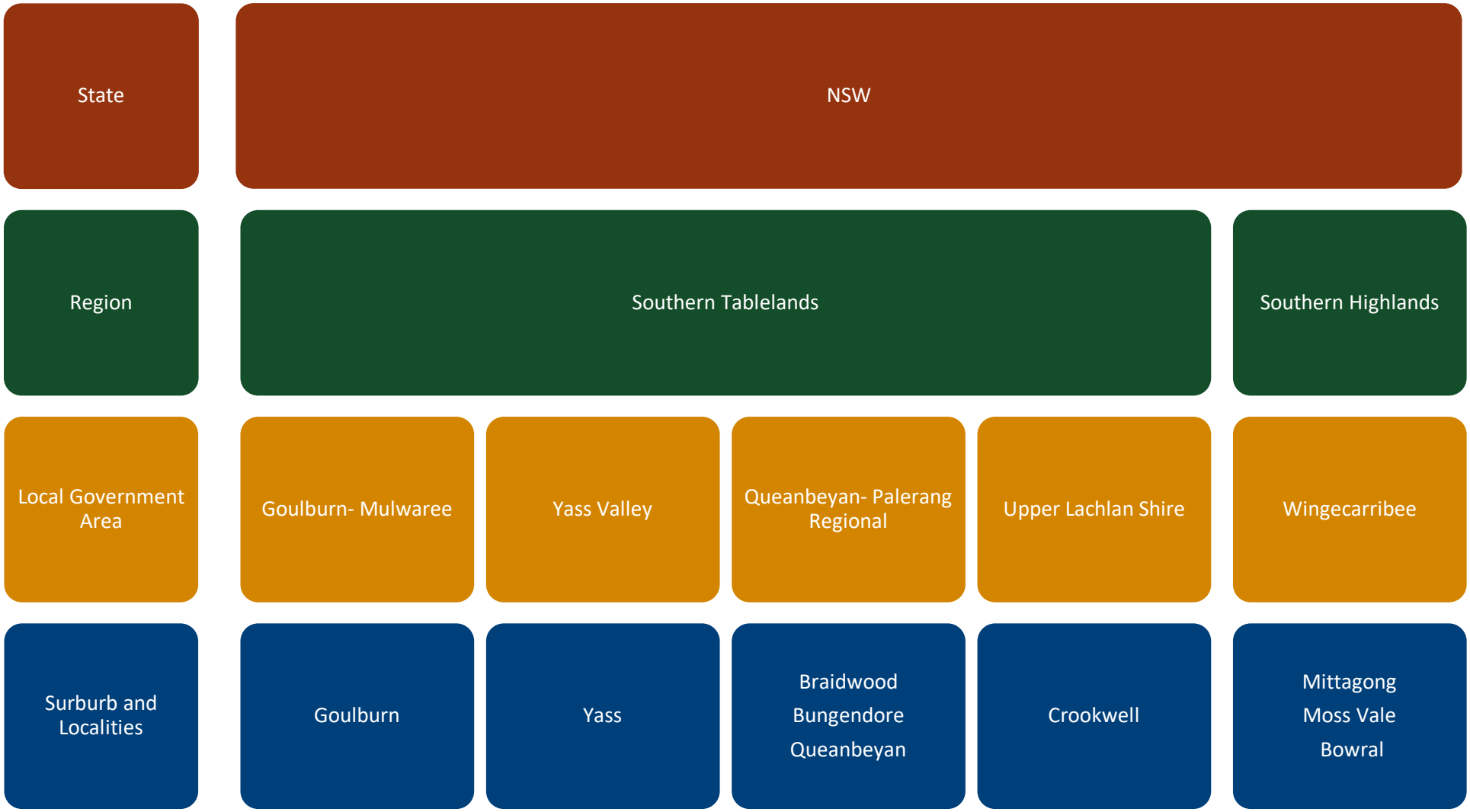

Figure 1.2 Social Locality Overview

Source: (Umwelt, 2024)

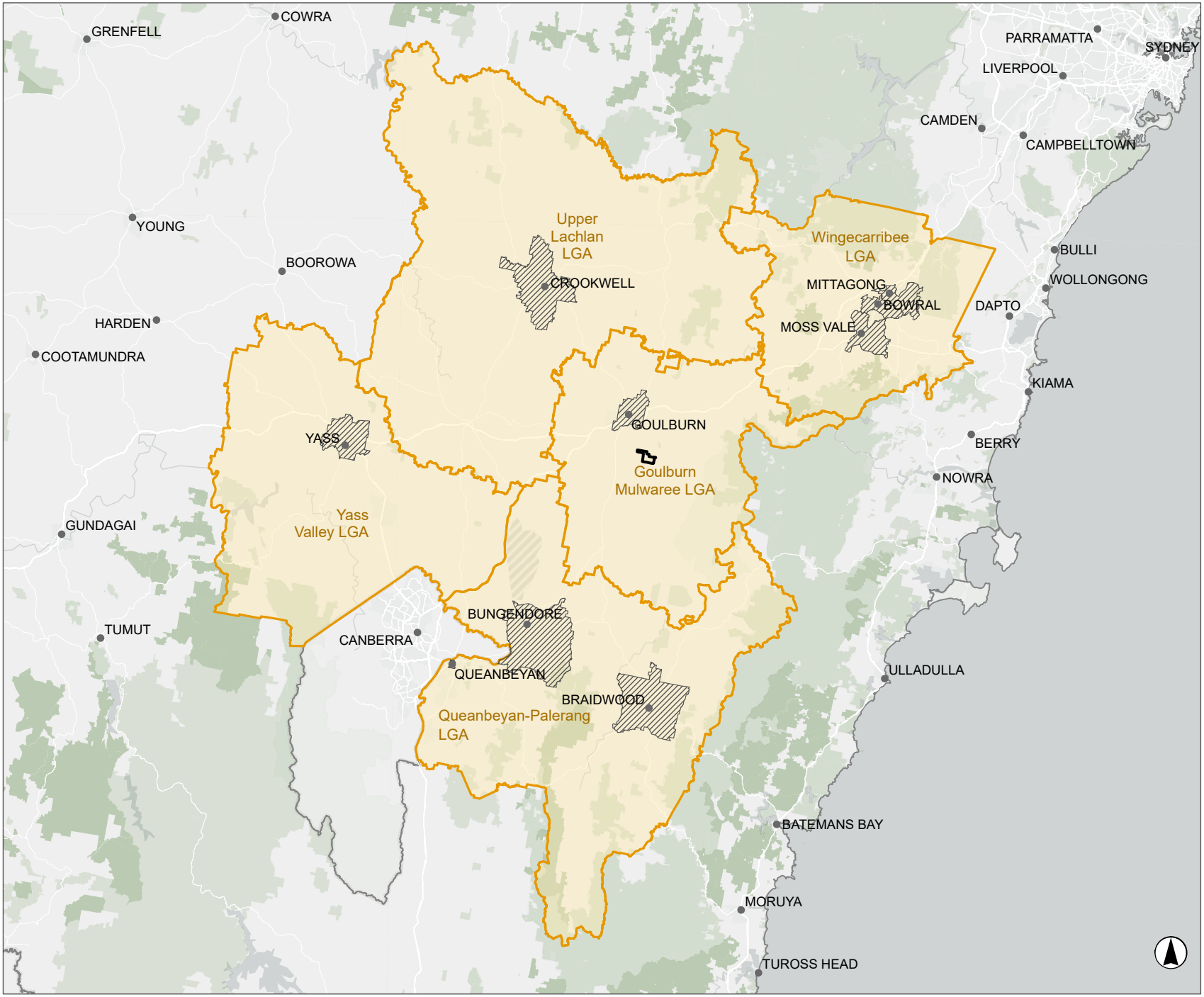

Figure 1.3

Social Locality

Legend

- Project Area
- Suburbs and Localities
- Local Government Areas
- NPWS Reserve
- State Forest

0 25 50

Kilometres

Scale 1:1,400,000 at A4

GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) **Data source:** NSW DFSI (2023)

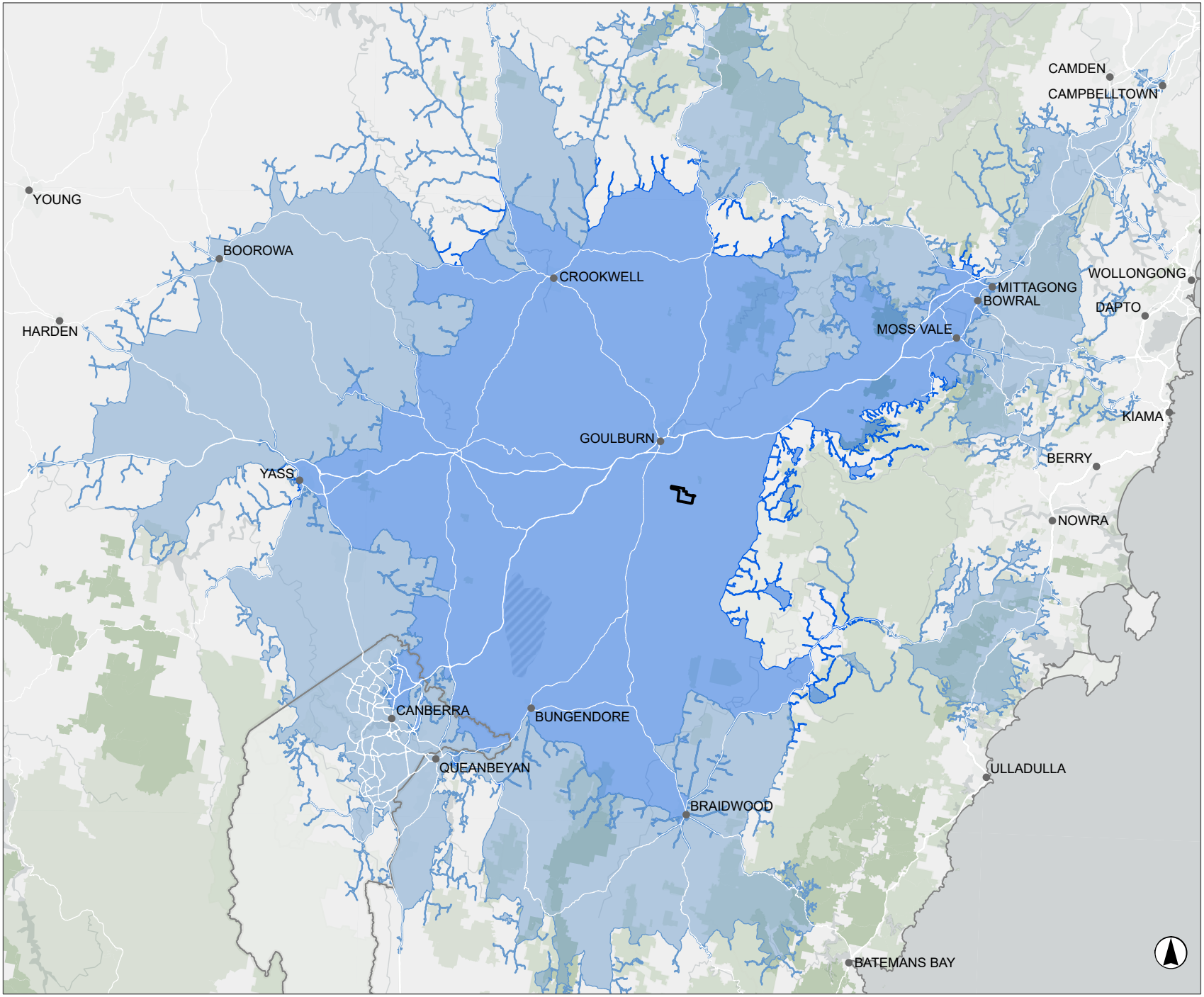

Figure 1.4

Drive-Time Analysis

Legend

- Project Area
- NPWS Reserve
- State Forest

Drive-time Distance

- 1 Hour
- 1.5 Hours

0 25 50

Kilometres

Scale 1:1,100,000 at A4

GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) **Data source:** NSW DFSI (2023)

Table 1.1 outlines the differing geographical areas which comprise the social locality. Combined, these areas are understood to be the likely catchment for the Project's accommodation and local employment requirements.

Table 1.1 Social Locality Description

Type	Area	Population (2021 Census)	Distance from Project[2]	Drive Time	Reason for inclusion
Host Local Government Area (LGA)	Goulburn-Mulwaree LGA	32,053	-		As the host LGA and closest township to the Project, Goulburn- Mulwaree and the town of Goulburn are likely to experience the highest accommodation, local employment and procurement impacts and opportunities.
Host township	Goulburn	23,963	14km	15min	
Neighbouring LGAs	Wingecarribee LGA	52,709	As neighbouring LGAs for the Project within a 1 hour driving distance, Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan-Palerang are likely to provide accommodation services and local procurement and employment for the Project, and therefore have the potential to experience accommodation and employment impacts and opportunities.		
	Yass Valley LGA	17,281			
	Upper Lachlan LGA	8,514			
	Queanbeyan-Palerang LGA	63,304			
Neighbouring towns (Suburb and Locality) (within 60-minute drive) and primary order (population over 10,000 people)	Moss Vale	9,310	80km	55min	These towns are included because their population size means they are likely to serve as higher-order townships with a greater density of businesses, services, infrastructure and workforces likely to be impacted by, and with the potential to benefit from, the Project.
	Bowral	10,764	90km	1hr	
Proximal towns (between 60- and 90-minute drive) and secondary order (population between 1,000 and 10,000 people)	Crookwell	2,686	57km	45min	These towns are included because their physical proximity means they are most likely to be impacted by the Project and most likely to provide services or accommodation to support the Project.
	Bungendore	4,745	67km	53min	
	Braidwood	1,720	84km	1hr	
	Yass	6,763	94km	1hr	
	Mittagong	6,090	95km	1hr	
	Queanbeyan	6,409	103km	1hr 15 min	

[2] Drive distance and km from 961 Windellama Rd, Gundary to township centre.

Source: (Google Maps, 2024; ABS, 2021)

1.4 Stakeholder Consultation

Targeted consultation was undertaken with key stakeholders relating to employment and accommodation landscape in the social locality. Stakeholder consultation took place in April 2024 and included:

- Consultation with the host local Council and two neighbouring Councils, to understand key concerns and opportunities associated with workforce accommodation and local procurement. Online meetings were held with Goulburn Mulwaree Council and Queanbeyan-Palerang Regional Council, while Wingecarribee provided a written response.
- A short-stay accommodation provider survey was undertaken, this targeted facilities within a 1 hour driving distance from the Project site. The survey focussed on understanding the current accommodation capacity, visitor profiles and interest in potentially hosting a portion of the Project's workforce.
- Interviews with other key stakeholders in the region including a local employment service and a regional development agency, to gain insights into the key opportunities or constraints in the region regarding accommodation, employment and training.
- **Appendix A** further details the outcomes of stakeholder consultation.

1.5 Limitations

The following limitations apply to this Strategy:

- Elements of the AES have been developed based on knowledge and information collected from secondary data sources and stakeholder consultation. It is assumed that secondary data sources contain valid, representative data and have not misconstrued information.
- Accommodation data has been analysed from the latest data available, though this is indicative of the current periods (AirDNA- December 2023, ATDW- April 2024), therefore may change once Project construction has commenced.
- Only three out of five councils within a 1-hour drive of the Project have provided input into the AES. Yass Valley and Upper Lachlan Shire were both contacted for consultation however no response was provided.
- It is acknowledged that Canberra is located a 1-hour drive from the Project Area however, for the purpose of the AES and to maximise local economic benefits for NSW, townships within NSW have been targeted for accommodation and employment modelling. **Section 5.3** outlines the option and associated constraints of utilising Canberra as an option for the surplus demand.
- The accommodation provider survey obtained responses from 21% (n=35) of accommodation providers within a 1-hour drive of the Project from a target sample size of 30%[3]. Attempted contact was from the 27th of March to the 8th of April to an additional 40 short-term accommodation providers however no

[3] The sample size of 30% was identified in order to gain a broad understanding of the current accommodation context in the region as well as to ascertain the level of interest in accommodating the Project construction workforce, and was derived data from the Australian Tourism Data Warehouse (2024).

response was provided. Further attempts were made through emailing the survey links to providers though no responses were provided through this mechanism. This may be due to limited time availability to complete phone surveys and/or a lack of interest in participating in the survey. These interviews were targeted towards accommodation providers across the social locality, as the implementation method to obtain survey responses. The following limitations therefore apply:

  - The number of responses obtained was below the target sample size.
  - No responses were gathered from service providers based in the Queanbeyan-Palerang LGA.

- The cumulative assessment in **Section 3.0** is based on public information only based on available information at the time of reporting. It is acknowledged that not all projects will proceed in accordance with the planned timeframes, with some shifting later than planned. It is also acknowledged that not all projects may be approved and proceed to be developed, therefore the assessment of the cumulative workforce across the region is an estimate only.

2.0 Regional Profile

The following regional profile includes four distinct sections:

- An overview of the publicly available strategic planning and policy documents with implications for accommodation and employment in the social locality outlined in **Section 2.1**. **Appendix B** further outlines the key opportunities and constraints relating to the AES within each relevant policy and strategy.
- A summary of high-level indicators and project implications for age, population, education and training, community facilities and services, tourism and industry and employment. A more extensive presentation of relevant data is included in **Appendix C.**
- Detailed analysis of relevant employment and labour force data to directly inform the Employment Strategy
- Detailed analysis of relevant accommodation data to directly inform the Accommodation Strategy.

Collectively these sections establish a foundational understanding of the local labour force as well as to gather potential limitations and assumptions for accommodation and local procurement for the Project.

2.1 Policy Setting

The following section provides an overview of relevant documents with implications for accommodation and employment in Goulburn-Mulwaree, Wingecarribee, Yass Valley, Queanbeyan- Palerang Regional and Upper Lachlan Shire LGAs. **Table 2.1** outlines the key strategies and polices which are relevant to understanding the current employment and accommodation capacity of the LGAs. **Appendix B** further details the summary of each of the strategies and policies as relevant for each LGA.

Table 2.1 Key policies and strategies relevant for the AES

LGA	Strategy/ Policy
Goulburn-Mulwaree	• Local Strategic Planning Statement 2020 • Urban and Fringe Housing Strategy 2020 • Tarago Village Housing Strategy 2022
Wingecarribee	• Regional Economic Development Strategy 2018 • Local Housing Strategy 2020 • Local Strategic Planning Statement 2020
Yass Valley	• Local Strategic Planning Statement 2020
Queanbeyan-Palerang	• Local Strategic Planning Statement 2020 • Residential Economic Strategy 2015
Upper Lachlan Shire	• Local Strategic Planning Statement 2020

Source: (Umwelt, 2024)

2.1.1 Policy Setting Summary

Overall, the policies and strategic plans for each Council recognise a lack of existing housing and accommodation in the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley, Queanbeyan-Palerang and Upper Lachlan Shire.

Furthermore, the policy setting in the host and neighbouring LGAs highlight current labour force constraints with key industries and local businesses struggling to fulfil job vacancies. Labour force restrictions include older and aging populations, lower population growth, limited supportive infrastructure, and lower retainment of skilled workforces. Though these plans outline strategies to increase the local labour forces and skills development, the implementation of these will be conducted over multiple decades.

2.2 Socio-Economic Context

Table 2.2 below provides an overview of the key takeaways and implications for key socio-economic indicators for Goulburn-Mulwaree, Yass Valley, Queanbeyan-Palerang Regional, Upper Lachlan Shire and Wingecarribee LGAs. **Appendix C** further details the indicators of the socio-economic context profile.

Table 2.2 Socio-Economic Profile Implications

Key Takeaway	Implication
Age and Population	
Older median age in the LGAs except for Queanbeyan-Palerang Regional LGA	Older median ages suggest a lower potential labour market, especially in the Upper Lachlan LGA. Queanbeyan-Palerang Regional LGA has a lower median age compared to NSW median age demonstrating a younger population likely to have a larger potential labour pool.
Historically lower population growth in the LGAs except for Queanbeyan-Palerang Regional LGA	Historically lower population growths in the LGAs, except Queanbeyan-Palerang Regional, are indicative of the aging population that suggests the labour pool is likely aging therefore less potential for the Project to source construction workforce locally.
Varying levels of projected population growth in the LGAs from 2021 to 2041	The LGAs of Goulburn-Mulwaree, Wingecarribee and Queanbeyan-Palerang Regional demonstrate higher relative population increases compared to NSW. These LGAs may benefit from potential new employment opportunities offered by the Project to support new labour markets.
Education and Training	
Lower attainment of bachelor degree or higher in the LGAs except for Queanbeyan-Palerang Regional LGA	The LGAs, except for Queanbeyan-Palerang Regional, had lower levels of bachelor degree education or higher attainment compared to NSW. The four LGAs with lower attainment have a lower proportion of university qualified labour force which may be employed for the construction of the Project. The design phase of a solar farm can be undertaken by either university-qualified engineers or electricians. The demand for university-qualified workers within the clean energy sector exceeds supply, with job advertisements out numbering applicants (CEC, 2022).
Higher attainment of certificate attainment in the LGAs	Higher attainment of certificate level IV and III compared to NSW, indicating a larger potential labour pool with relevant skills or ability to be upskilled for solar farm construction. Skilled tradespeople and technicians are required for large scale solar farms to assemble, build, install, operate and maintain systems. For these skilled workers the solar farm industry relies on VET and TAFEs (CEC, 2022).
Higher attainment of year 12 or below education in the LGAs	High proportion of the population who have completed year 12 equivalent or below compared to NSW, indicating a larger potential labour force which may be upskilled through further education and training opportunities.

Key Takeaway	Implication
Community Facilities and Services	
A variety of key infrastructure and services across the LGAs	Social infrastructure, facilities and services vary in availability and type across the LGAs. Incoming construction workforces may place pressure on these services which may reduce availability of the services to the local community.
Tourism	
Multiple key tourism events across the LGAs	Key tourism events which attract tourists to each LGA will have an impact on accommodation availability. Therefore, key peak tourism periods will need to be considered when assessing the likely proportion of rooms available to incoming construction workforces for the Project.
Industries of Employment	
Varying top industries of employment across the LGAs	LGAs demonstrate varying strengths in different industries. All LGAs have high employment in the construction industry indicating a potential labour pool which may be adaptable for solar farm construction job opportunities.
Varying strengths in key solar farm construction industries by gross regional value	Key industries such as transport, postal and warehousing, construction, manufacturing, wholesale trade and education and training have the potential to support the construction of large-scale solar farms due to the potential for these industries to supply services to the Project.

Source: (.idcommunity, 2021; .idcommunity, 2022; ABS, 2021)

2.3 Employment and Labour Context

This section analyses the existing employment and business profile of the social locality and assessed the opportunities for social and local procurement. **Appendix D** provides a breakdown of employment, unemployment, key industries and occupations in each LGA within the social locality, indicating that Queanbeyan-Palerang LGA has the largest capacity to support the Project. Following this, Wingecarribee LGA, Goulburn-Mulwaree LGA, and Yass Valley LGA demonstrate capacity of suitable labour pools while the capacity of Upper Lachlan Shire LGA is substantially smaller.

The below sections examine the potential to employ a local workforce, assuming the workforce is likely to be derived from two key sources:

1. Suitably skilled people who are currently unemployed and those that may require training.
2. Suitably skilled people who are currently employed but may transition to work on this Project in response to the new job opportunities.

Table 2.3 summaries the implication of the current employment capabilities and labour market opportunities within the social locality. **Appendix D** further details the relevant data to support the key takeaways and implications.

Table 2.3 Employment and Labour Profile Implications

Key Takeaway	Implication
Unemployment	
Lower unemployment rate	The LGAs have lower unemployment rates compared to NSW. Lower unemployment rates are indicative of tighter labour market conditions in the LGAs, therefore a higher potential of workforce shortages and difficulty for the Project to find and retain skilled workers (Jobs and Skills Australia, 2023).

Key Takeaway	Implication
Decline in unemployment across the LGAs since December 2020	The decline in unemployment rates across the LGAs can be indicative of the increasing demand of the labour market and people exiting the labour force. Therefore, a lower potential local labour market for the Project to utilise (Jobs and Skills Australia, 2023).
Gendered Breakdown	
Large disparities between males and females employed in key occupations, especially electricians	The significant difference between male and female employment in the key solar farm industry occupations demonstrate there will be likely barriers to reskilling or upskilling current female cohorts to relevant solar farm construction jobs, therefore consideration of addressing barriers to these occupations may need to be considered.
First Nations Participation	
Higher or on par labour force participation compared to NSW average for First Nations in the LGAs	Higher labour force participation indicates a greater provision of access to employment in the LGAs compared to broader NSW. The greater labour force pool indicates a larger labour market of First Nation people who may be able to be employed/ reskilled into the Project construction workforce.
Higher rates of unemployment in the LGAs except for Upper Lachlan Shire for First Nation people compared to the broader LGA population	The higher rate of unemployment of First Nations people can be related to socio-economic disparities which indicate vary levels of access to employment opportunities, education and supportive social infrastructure. Though overall First Nation labour force participation is higher or on par to the NSW average accessibility to jobs and education is a systemic barrier faced in regional rural areas (AIHW, 2022). Providing equitable access to opportunities for training and employment which is tailored towards First Nations will be crucial in targeting the unemployment labour pool.
Lower levels of educational attainment in Fist Nation communities	Lower levels of tertiary education in First Nations communities may impact the Projects ability to support and employ local First Nation people into the construction workforce. According to Jobs and Skills Australia, First Nations people with qualifications in high demand fields were more likely to be employed and to be working in a role directly relevant to their study. Therefore, targeted educational and training opportunities for First Nation people would increase likely participation in the construction workforce through provision of opportunities (Jobs and Skills Australia, 2023).
Key occupations in the LGAs aligning with key occupations relevant for solar farm construction	Key solar farm construction occupations such as technicians and trades workers and labourers for First Nation communities demonstrate capacity for transferrable skills or upskilling for the Project construction workforce.
Key Occupations and Industries of Employment	
Potential local labour force currently employed in the construction industry	Across the social locality there are 9,368 people employed in the construction industry which may have the potential skills which are transferrable to the construction of a solar farm (CEC, 2022). This data does not consider other concurrent SSD projects occurring in the region as well as existing local demand.
Potential local labour force currently employed as technicians and trade workers	According to the Clean Energy Council (CEC) (2022), technicians and trades workers will be a key occupation required for the construction of large-scale solar farms. It is expected that many of those currently employed in this occupation will require upskilling due to lack of specific experience in renewable energy due to being employed in other industries.
Small proportion of the social locality which specialise in the skill set of both construction and technicians and trades workers	There is a small proportion of people employed in the construction industry who are technicians and trades workers and would have relevant skills and potentially the qualifications required for the construction of a solar farm.

Key Takeaway	Implication
Potential local labour force with transferable skilled employed as electricians	Utilising the CEC assumptions on the proportion of the solar farm construction workforce which will be employed as electricians, the Project will require 26 electricians. This would equate to 2.6% of electricians in the social locality. Consultation with key stakeholders highlighted current strains in key industries, such as electricians, due to other competing industries.
Potential labour force with relevant skills	As illustrated in **Figure 4.1,** 24.9% of a solar farm construction workforce will be labourers, technicians and trades workers. This would equate to 39 people of the average workforce or 62 people during its peak for the Project's construction workforce, or 0.2% of the social localities current workforce employed in relevant industries.

Source: (Umwelt, 2024)

2.3.1 Summary

Below provides a summary of the key implications of the current employment and labour market of the social locality which have been considered for the AES:

- A tight labour market with low and declining unemployment.
- Females underrepresented in key solar farm occupations.
- Opportunity to enhance First Nation employment outcomes in the social locality.
- Limited potential labour force currently employed in key occupations with relevant skills required for solar farm construction.

2.4 Accommodation and Housing Context

In understanding the potential accommodation options which may be available to the Project workforce, workforce accommodation and housing has been defined as:

- Hotel, motel, caravan, camping and holiday park rooms run by commercial operators.
- Leasable rooms, dwellings or buildings available for rent on Airbnb.
- Residential rental properties.

2.4.1 Short Term Accommodation

Accommodation providers within a 1-hour drive distance from the Project are shown in **Figure 2.2** and based on location and proximity, are deemed the most likely to house the construction workforce.

Across the social locality there are 738 motel rooms, 634 hotel rooms and 956 caravan, camping and holiday park rooms within a 1-hour driving distance from the Project. Therefore, in total, there are 2,328 rooms available under the appropriate classification of short-term accommodation within the social locality. The following assumptions informed this audit:

- Due to suitability, it is assumed that the construction workforce would be housed in accommodation classified as motels, hotels, and caravan, camping and holiday parks and unlikely that other accommodation types such as cottages or luxury retreats would be utilised.
- All short-term accommodation has been considered as 'able to be occupied' by incoming workforces other than those which list just one room available, as they are unlikely to be sufficient to house any construction workforce due to the small size and highly constrained availability. Each room listed in short-term accommodation below has been counted as space for one person, despite some rooms including more than one bed.

2.4.1.1 Occupancy Rates and Trends

Based on findings from the accommodation provider survey, **Figure 2.1** illustrates the average occupancy rates for the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley and Upper Lachlan Shire of survey respondents. Average occupancy rates ranged from 67% in Goulburn Mulwaree LGA to 78% in Upper Lachlan LGA with an overall average occupancy rate of 73%. The average occupancy rate across Queanbeyan-Palerang LGA could not be identified due to the lack of responses to the survey in this area.

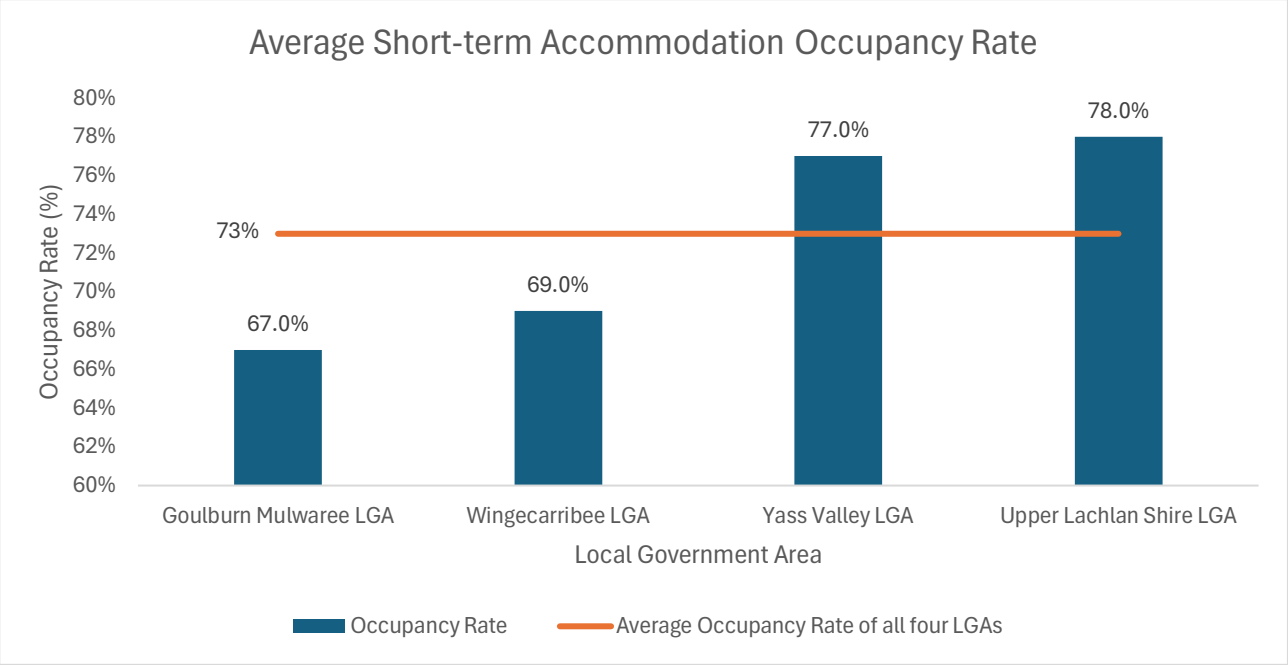

Figure 2.1 Average Occupancy Rate

Source (Umwelt, 2024)

**No. of survey respondents 34*

The accommodation provider survey found that a range of factors have impacted the availability of accommodation. This included:

- Weekends.
- School Holidays.
- Key events: Moss Show & Robertson Show.

- Seasonal trend: peaks in the summer months.
- Weddings.

Some accommodation providers stated that there would be no availability to meet additional demand from the Project, or only during the working week.

2.4.1.2 Application of Occupancy Rates to Total Available Rooms

Based upon applying the average occupancy rate of short-term accommodation across the LGAs of 73% to the total number of rooms available within a 1-hour drive of the Project, **Table 2.4** demonstrates the number of rooms in short-term accommodation would be approximately 189 rooms.

Table 2.4 Short-term Accommodation considering Occupancy Rates

Locality (LGA)	Number of Providers[4]	Total Number of Rooms	Number of rooms available (based on 73% occupancy rate)	Rooms Available to the Project (30% of available rooms)[5]
Goulburn-Mulwaree	24	529	143	43
Yass Valley	14	347	94	28
Wingecarribee	19	496	134	40
Upper Lachlan	13	143	39	12
Queanbeyan-Palerang	14	813	220	66
Total Area	**84**	**2328**	**629**	**189**

Source: (ATDW, 2024)

Appendix E details the number of rooms available in each LGA by their classification type within a 1-hour drive of the Project.

[4] Total number of providers classified as hotel, motel, caravan, camping and holiday park.
[5] For the purpose of this assessment, it is assumed a maximum of 30% of total available rooms may be available to construction workers from the Project given the volume of concurrent project and other transient workforces in the area.

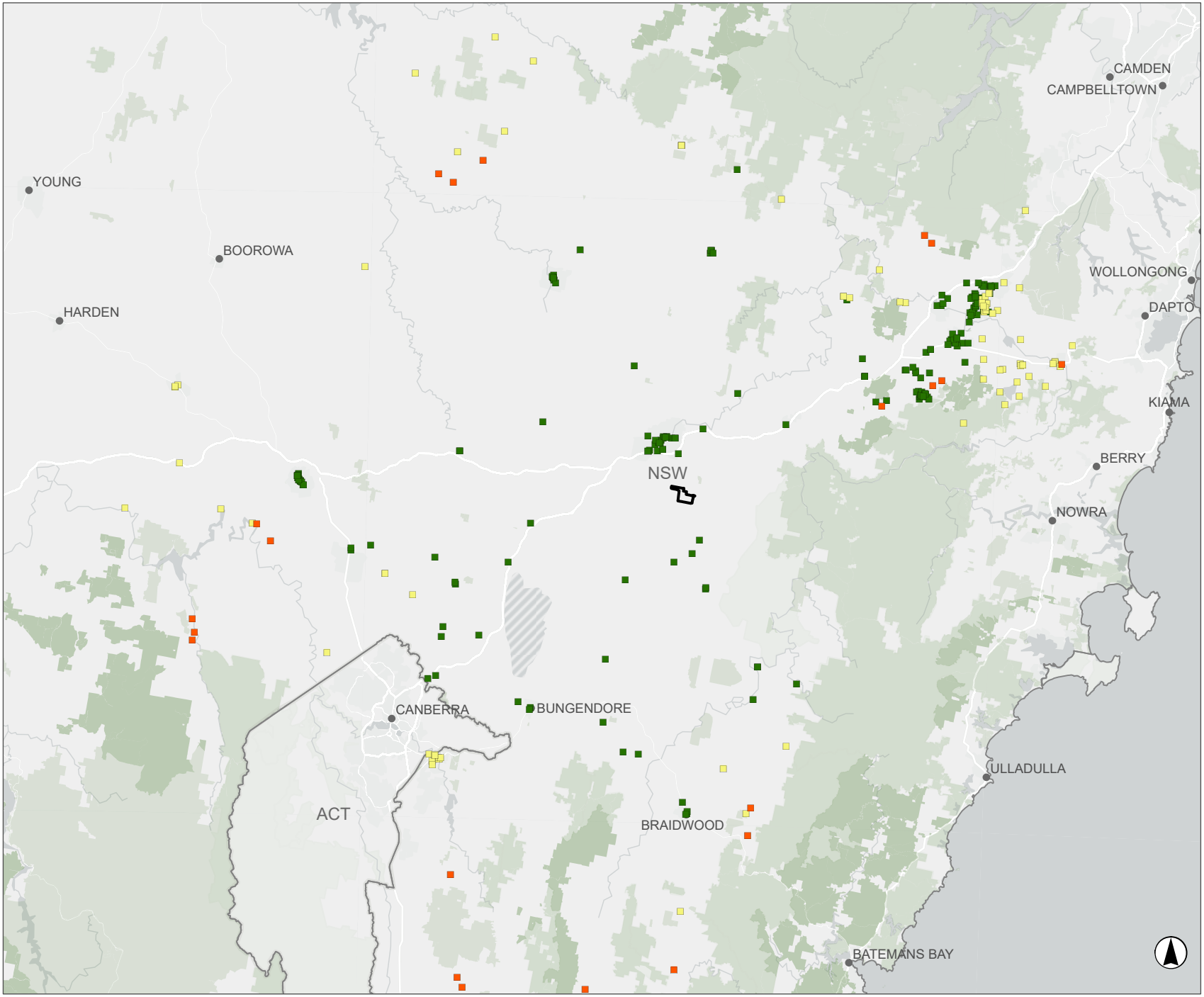

Figure 2.2

Audit of Short-Stay Accommodation Providers

Legend

- Project Area
- NPWS Reserve
- State Forest

Accommodation Provider Travel Time

- 1-Hour Drive: Short-term Accommodation
- 1.5-Hours Drive: Short-term Accommodation
- >1.5-Hours Drive: Short-term Accommodation

0 25 50
Kilometres

Scale 1:1,100,000 at A4
GDA2020 MGA Zone 55

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Image Source: ESRI Basemap (2023) **Data source:** NSW DFSI (2023)

2.4.2 Sharing Economy Accommodation

Table 2.5 considers the current available Airbnb properties in the social locality against the average occupancy rates of the LGAs. The average occupancy rate for Airbnb properties across the LGAs from December 2020 to December 2023 was 48%. **Appendix E** provides further details for each LGA occupancy rates during the same period.

The average occupancy rate has been applied to the total available listings in December 2023 of 'entire place' as well as a two-room multiple to adequately assess the potential rooms available. Based on this, there would be approximately 124 rooms available within the sharing economy market to meet the rise in demand for accommodation from the Project's construction workforce.

Table 2.5 Airbnb Accommodation Availability, Considering Occupancy Rates

LGA	Total Available Listings [6]	Average Occupancy Rate [7]	Total Available Listing (based on Average Occupancy Rate) [8]	Total available listings to the Project [9] (30% of available listings)	Assuming each Airbnb has 2 rooms on average [10]	Total available rooms to the Project [11] (30% of available rooms)
Goulburn-Mulwaree	106	48.2%	55	16	33	10
Yass Valley	85	46.3%	46	14	27	8
Wingecarribee	927	50.2%	462	138	277	83
Upper Lachlan	69	42.7%	40	12	24	7
Queanbeyan-Palerang	134	53.3%	63	19	38	11
Total Area	**1,321**	**48%**	**687**	**206**	**412**	**124**

Source: (AirDNA, 2023) [12]

2.4.3 Rental Accommodation

As highlighted in **Table 2.6,** there were 524 rentals available in April 2024 across the social locality, indicating the limited available rental stock for incoming workforces or population influx. Key townships which provide this existing supply within the LGAs include Goulburn, Bowral, Moss Vale, Yass, Mittagong, Crookwell, Bungendore and Braidwood. Vacancy rates across the LGAs ranged from 0.26% to 1.35% in April 2024 demonstrating the significant undersupply of rentals available. Based on the available rental stock,

[6] Total available listings of 'entire place; as of December 2023.
[7] Average occupancy rate from December 2020- December 2023
[8] Average occupancy rate: 48%
[9] For the purpose of this assessment, it is assumed a maximum of 30% of total available listings may be available to construction workers from the Project given the volume of concurrent project and other transient workforces in the area.
[10] Utilising the assumption that on average Airbnb properties have two rooms per home a multiplier has been added to adequately assess the rooms available.
[11] For the purpose of this assessment, it is assumed a maximum of 30% of total available beds may be available to construction workers from the Project given the volume of concurrent project and transient workforces in the area.
[12] This is an approximate estimate based on available data.

the rental vacancy rate across the LGAs is considered low, with a vacancy rate of 3% considered a healthy market (Mellick, 2021).

Based on the existing low vacancy rates and rental pressures, it is recommended that the use of rental accommodation to house the Project workforce be limited as not to place additional strain on those existing residents seeking accommodation within the area.

Table 2.6 Rental Availability by LGA

LGA	Rental Vacancy Rate (%)	Available Rental Properties	Rental Properties Available to Project Workforce (2.5% of total available)[13]
Goulburn Mulwaree	1.03%	164	4
Wingecarribee	1.05%	264	7
Yass Valley	0.46%	36	1
Upper Lachlan Shire	0.26%	14	0
Queanbeyan- Palerang Regional	1.35%	46	1
NSW	1.11%	-	-
Total Rental Stock		**524**	**13**

Source: (real estate investar, 2024)

[13] Assuming for the purpose of this assessment that the Project should aim to take up no more than 2.5% of available properties.

3.0 Cumulative Considerations

Table 3.1 demonstrates the potential State Significant Developments in the region which have the potential to have a cumulative effect on employment and accommodation in the region. As illustrated in **Figure 3.1**, there are four renewable energy projects which may have overlapping construction timeframes. **Figure 3.2** further illustrates the cumulative potential incoming workforce for the projects in the region with similar construction periods.

Figure 3.3 outlines the potential overlap of peak population influx of the combined construction workforces of the major projects in the region together with the Project's workforce. The chart shows that the Gundary Solar Farm Project's peak period of workforce influx is largely outside of and following that of the other major projects, however there may be some months of overlap, in particular with the HumeLink Project. Lastly, it is noted that the HumeLink Project proposes to accommodate its workers in accommodation facilities, with the closest proposed near Crookwell, however, the project footprint is largely covering areas further the south-west of the Project's social locality. Based on this, it is not expected that the overlapping construction timeframes will add cumulative strain on the local housing and accommodation market.

It is also acknowledged that these predictions are based on public information only based on available information at the time of reporting. It is acknowledged that not all projects will proceed in accordance with planned timeframes and that not all projects may proceed to be developed, therefore the assessment of the cumulative workforce across the region is an estimate only.

Table 3.1 State Significant Developments

Project	Location	Approximate distance to Project	Status	Details	Approximate workforce number
Renewable Energy Project – Proposed / Under Assessment					
Merino Solar Farm, ITP	Tirrannaville, Goulburn Mulwaree LGA	1 km west	Prepare EIS	450 MW solar farm with 300 MW BESS. Construction early-mid 2025 to mid-late 2026, duration of 12–18 months.	Construction: 200–300 FTE Operation: 4 FTE and 50 casual staff.
Western Range Solar Farm, Base International	Gunning, Upper Lachlan Shire LGA	50 km west	Prepare EIS	175 MW solar farm and 50 MW BESS. Unknown construction program, duration expected to 18 months	Construction: 100 FTEs Operation: 8 FTEs
Wattle Creek Energy Hub, Spark Renewables	Marulan, Upper Lachlan Shire LGA	50 km northeast	Prepare EIS	500 MW wind and solar farm and 700 MW BESS. Construction from early 2025 to late 2026, duration of 12 months.	Construction: 100 FTEs Operation: 10 FTEs
HumeLink, Transgrid	Located across 5 LGAs: Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley, Upper Lachlan Shire	55 km north, at the nearest point to Gundary Solar Farm	Prepare Amendment Report	New 500 kV transmission line which will connect Wagga Wagga, Bannaby and Maragle. Construction to commence 2024 to late 2026, duration of 24 months.	Construction: 400–1,200 FTEs
Renewable Energy Project Approved but not yet Constructed					
Marulan Solar Farm, Terrain Solar	Marulan, Goulburn Mulwaree LGA	23 km northeast	Approved Aug 2023	100 MW solar farm. Construction to commence 2024, duration of 18 months. Operational mid 2025	Construction: 300 FTEs Operational: 5 FTEs and 50 casual workers during maintenance periods.
Crookwell 3 Wind Farm, Global Power Generation Australia Pty Ltd	Roslyn, Upper Lachlan Shire LGA	33 km north	Approved Oct 2020	58 MW wind farm. Construction is ongoing, with no clear date of expected completion.	Construction: 40 FTEs Operation: 6 FTEs

Project	Location	Approximate distance to Project	Status	Details	Approximate workforce number
Springdale Solar Farm	Sutton, Yass Valley LGA	58km southwest		100MW solar farm. Construction period of up to 10 months	Construction: 200 FTEs Operation: 5 FTEs
Blind Creek Solar Farm, Blind Creek Solar Farm Pty Ltd	Bungendore, Palerang LEP	80 km southwest	Approved July 2023	350 MW solar farm and 300 MW BESS. Construction to commence early 2024, duration of 12-18 months. Operational by 2026	Construction: 300 FTEs Operation: 5 FTEs
Other State Significant Development Under Assessment					
Marulan Quarry, Global Quarries Australia Pty Ltd	Marulan, Goulburn Mulwaree LGA	15 km northeast	Under Assessment – Preparation EIS	Development of a quarrying operation Construction to commence early 2025, 6-month construction period	Construction: 30 FTEs Operation: 15 FTEs
Woodlawn Advanced Energy Recovery Centre, Veolia	Tarago, Goulburn Mulwaree LGA	29 km south	Response to submissions	Energy Recovery Facility for the thermal treatment of up to 380,000 tpa of residual waste feedstock, and a power plant with a nominal capacity of 30 MWh to generate up to 240,000 MW of electricity per annum. Construction expected to commence early 2024, with a 36-month construction period	Construction: 300 FTEs Operation: 40 FTEs

Source: (NSW Government, 2024)

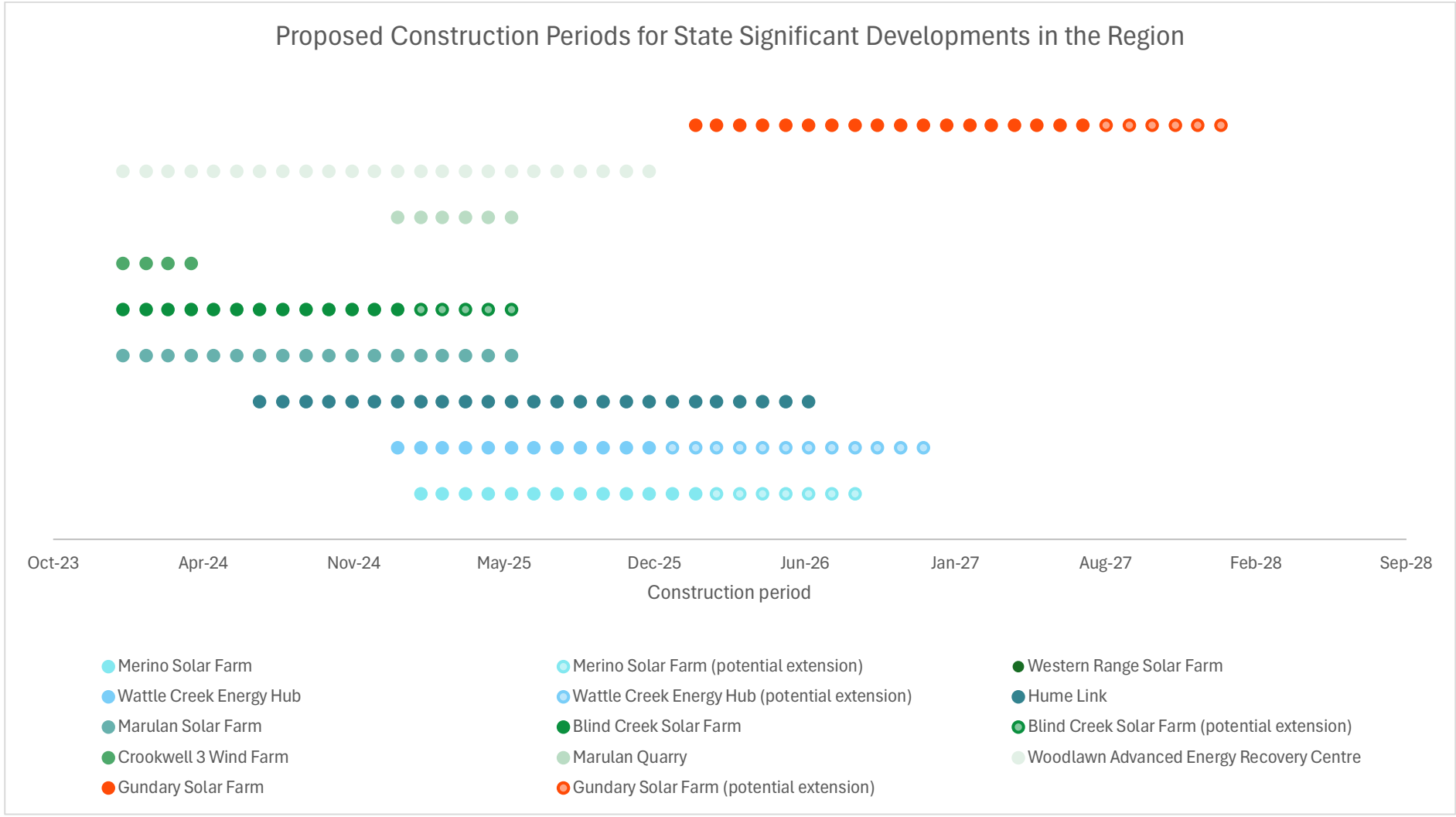


Figure 3.1 Proposed Construction Periods for State Significant Developments in the Region

Source: ((NSW Government, 2024)Umwelt, 2024)

*Note: This data has been drawn from publicly available information as of the 05/04/2024 and is indicative only. The 'extension' refers to the construction period range referenced by projects.

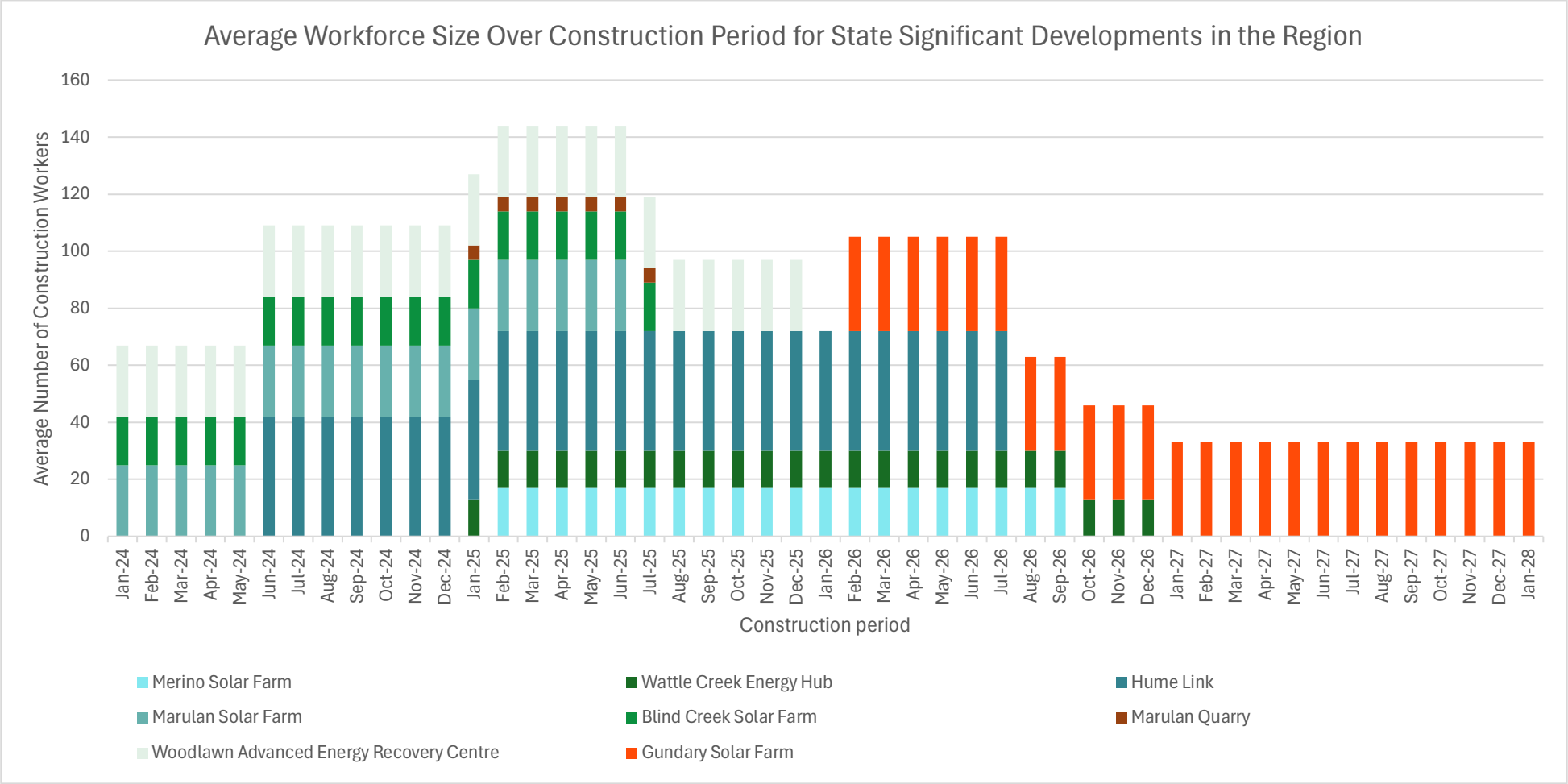


Figure 3.2 Average Workforce Size Over Construction Period for State Significant Developments in the Region

Source: ((NSW Government, 2024)Umwelt, 2024)

*Note: the construction workforce for each project has been averaged across the respective construction period. The above figure does not consider peak construction workforce.

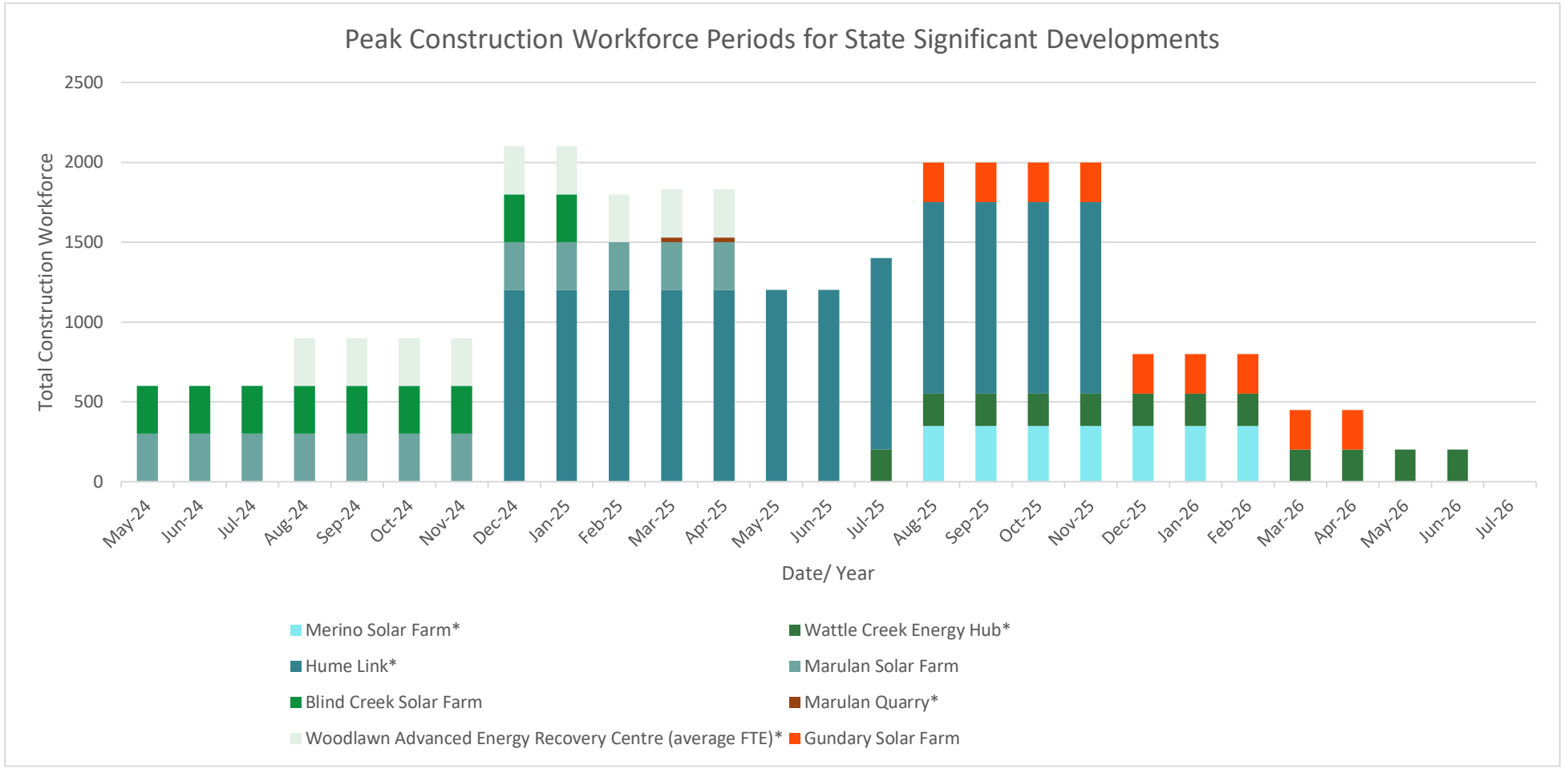


Figure 3.3 Peak Construction Workforce Periods

Source:((NSW Government, 2024) Umwelt, 2024)

**Note: Peak construction periods have been estimated based for project where the peak construction periods and timings were unknown. It has been assumed that the peak construction period will be 6-12 months and occur in the middle of the construction period of each project.*

***Woodlawn Advanced Energy Recovery Centre has utilised an average FTE in the absence of publicly available peak construction workforce data.*

Based on this, between February 2026 and September 2026 there is a potentially overlap between construction phases of the Project and other renewable energy developments, therefore increasing demand for accommodation, labour and employment across the region. It is noted that the overlap of construction timings with the Project is likely the lessen as the construction period progresses. The cumulative impacts of these projects combined may include:

- Significant competition for short-term and rental accommodation, current short-term accommodation and rental constraints in the region would be further exacerbated by nine possible concurrent renewable energy project construction phases.
- Increased competition for local labour, resulting in labour being sourced from outside of the region and likely interstate or overseas. The AES acknowledges the current and future challenges faced in the region regarding workforce procurement due to cumulative demand for labour form large infrastructure projects.
- Additional construction traffic along major transport routes and local roads that will be shared by construction traffic. As part of the Traffic Impact Assessment a Traffic Management Plan will be developed which accounts for the potential cumulative traffic impacts and suitable mitigation measures.
- Demands to other services in key townships e.g. health, food services/ facilities and education facilities. With several possible concurrent construction phases for just renewable energy projects in the region there may be a strain on current services to meet the demands of large population influxes causing significant strain on the availability of services for those communities. This can also enhance economic outcomes for local businesses due to the increased commercial activity, spending and revenue generation from workforces accessing and utilising these businesses or services within the townships.

4.0 Local Employment Strategy

4.1 Purpose and Objectives

The main objective of the Employment Strategy for the Project is to identify measures to prioritise the employment of local businesses and workers, where feasible, to maximise the benefits of the Project for the local community.

This Employment Strategy identifies the following:

- Key employment and training challenges or constraints for the Project.
- Opportunities, including communication pathways, for local businesses and industry to engage with the Project.
- A framework and strategies for monitoring and responding to employment needs for the Project.

The key objectives of the employment strategy are to:

- Implement strategies to achieve a minimum of 5% of the construction workforce sourced locally.
- Provide accessible opportunities for local procurement through effective industry engagement.
- Identify proactive measures to increase the Project's local employment and procurement target beyond the 5% base case.

4.2 Overview of Potential Project Roles

Almost 75% of jobs in renewable energy over the next 15 years are likely to be available for labourers, trades and technicians and professionals, with electricians, electrical trade assistants, mechanical trades and technicians, finance, business, legal and planning professions, and administrative staff generating the largest number of jobs (Briggs, Rutovitz, Dominish, & Nagrath, 2020). Further, while there is little information on the emerging renewable energy sector in Australia, research conducted into construction workforces in the mining industry has found that the majority of jobs created in that industry were taken by people transitioning from construction roles in other industries (Doyle, 2014). The Clean Energy Council (CEC) predict that the majority of those employed during the construction phase of a solar farm will be electricians (16.7% of the workforce) and labourers (15.5%) (CEC, n.d.).

4.2.1 Project Phases and Potential Associated Works

Table 4.1 below outlines the project phase and associated works with each phase based upon other solar farm construction and operations. These various types of works listed contextualise the roles the Project may seek to employ and procure.

Table 4.1 Project Phases and associated works

Project Phase	Type of works
Pre-Construction	Site Surveys Building/road dilapidation surveys Investigative drilling, excavation or salvage Minor clearing or translocation of native vegetation Establishing temporary site office and compounds Fencing around the perimeter of the site Installation of environmental impact mitigation measures, fencing, enabling works, Meteorological masts Flora and fauna investigations and pre-clearing surveys, inspections, specific habitat feature removal, relocation. Establishing Project Area access points, minor access roads and minor adjustments to services/utilities, signage etc. including associated vegetation removal and heritage artefact salvage.
Construction	PV solar panels Compounds Electrical network lines Battery storage Ancillary infrastructure Any temporary facilities which were not already established as part of the pre-construction minor works.
Operation Phase	Ongoing operation, monitoring (on-site and remote monitoring) and maintenance of all Project infrastructure and land during the operational lifespan of the Project. Maintenance of land. Replacement of major components as required, such as PV solar panels. This may require the use of cranes and ancillary equipment.

Source: (Umwelt, 2024)

4.2.2 Overview of Likely Project Workforce Needs

According to the Clean Energy Council (CEC, n.d.), construction jobs which are associated with the construction of large-scale solar farms are illustrated in **Figure 4.1.** These roles are likely to be required for the construction of the Project and highlight the industries and occupations which the Project may seek to employ.

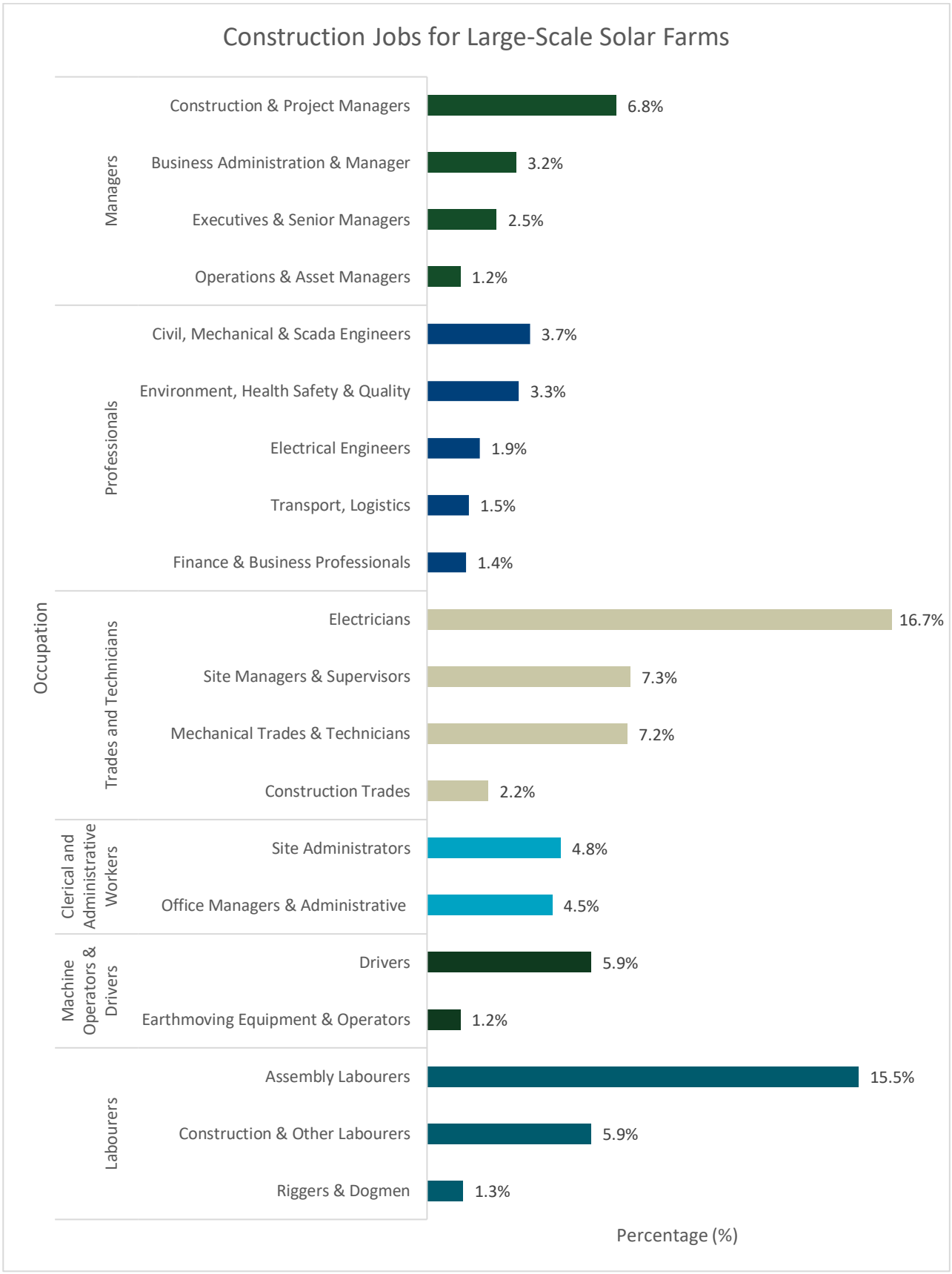


Figure 4.1 Large-scale Solar Farm Construction Occupational Composition

Source: (CEC, n.d.)

4.3 Local Employment Target

This Strategy assumes that the local workforce for the Project will be predominantly derived from people currently working as trades workers, technicians, or labourers, those working in the construction industry or those currently unemployed and looking for work. **Table 2.3** outlines the key implications of relevant skilled workforces transferring from existing jobs to the construction workforce. **Appendix D** further details the proportion of people employed in key occupations by LGA.

While the Project workforce demand is expected to be relatively smaller compared to the labour pool of relevant LGAs, there are a range of factors that are expected to limit local employment opportunities for the Project. These include:

- **A tight labour market:** during stakeholder consultation, it was highlighted that local industries are struggling to fulfill workforce needs and therefore have been looking at sourcing skilled migrant workforces to meet current or existing employment needs.
- There is a **low proportion of females employed as electricians and labourers** in the social locality compared to males indicating likely barriers to entry a male dominated workforce. This may be further exacerbated due to limited training opportunities in the social locality.
- There are **limited training facilities and courses available** at TAFEs within the social locality. Including limited appropriate courses offered at the Goulburn TAFE as raised during stakeholder consultation with Goulburn-Mulware Council and RDASNA. It is unlikely that workforces may be upskilled for the Project within the social locality without targeted funding, programs and/or collaboration.
- There is **likely 4 SSD project construction timeframes to happen concurrently** to the Project, indicating that there may be a strain to the local labour market and accommodation.
- Stakeholder consultation highlighted **significant skills drain from the area**, with local trade and construction workers delivering services in Canberra and other areas of Regional NSW. This skills drain is reportedly driven by the significant number of projects and the greater economic value of projects on offer in Canberra and other areas of Regional NSW.

It is unlikely that a significant proportion of the workforce will be able to be sourced locally given current workforce constraints as outlined during consultation and through secondary data. Therefore, it is highly likely that a large proportion of construction workforces would need to be sourced from outside of the social locality. Therefore, three local employment targets have been considered:

- Base case (5%).
- Moderate (10%).
- Aspirational (20%).

The Base case scenario (5%) has been developed as local employment target for the Project, equivalent to 13 FTEs. When tested with local Councils and key stakeholders, it was agreed that a 5% local procurement target could be achievable based on current economic conditions. It was commented that anything more than 5% would require proactive recruitment and upskilling and/or training effort by the proponent.

To reflect this, Moderate (10%) and Aspirational (20%) local employment targets have been identified, noting these would require additional effort for Lightsource bp to achieve.

Table 4.2 provides potential local employment targets that can be applied to the construction workforce. These targets have considered employment data in **Appendix D** as well as the outcomes from the stakeholder consultation in **Appendix A**, which concluded that the LGA of Goulburn-Mulwaree is experiencing a skilled worker shortage as well as limited workforce capacity.

Table 4.2 Local Employment Targets

Scenarios	Local Employment Targets	Total Local Employment	% of total unemployed[14]	% of total construction industry[15]	% of total trades, labourers and technicians[16]	Total Incoming Workforce
Base case	5%	13	0.8%	0.1%	0.1%	**237**
Moderate	10%	25	1.6%	0.3%	0.1%	**225**
Aspirational	20%	50	3.2%	0.5%	0.3%	**200**

Source: (Umwelt, 2024)

In order to a support Base case (5%) local employment target, Lightsource bp would need to:

- Establish and maintain an Expression of Interest (EOI) for contractors and services providers in the local area while in the Project planning and development phase (pre-construction).
- Advertise and promote local employment and procurement opportunities through targeted engagement collateral, local procurement sources, industry engagement, and local media.
- Collaborate with local employment providers to assist with the sourcing of local employment and procurement.
- Establish and maintain working relationships with key industry and government stakeholders in the region.

Three scenarios are considered to test the potential population change and impact of incoming construction workforce across the respective LGAs and subsequent impacts on local service provision from local employment targets. These include:

- **Scenario 1 (base case)** – assumes 5% of the Project workforce will be sourced locally, and a total of 95% of the workforce will travel to the area for the construction period, thus seeking accommodation within the region. This is considered the most likely scenario, with 13 workers sourced locally and approximately 237 travelling to the area, (for peak workforce numbers).
- **Scenario 2 (moderate)** – assumes 10% of the Project workforce will be sourced locally, and a total of 90% of the workforce will travel to the area for the construction period.

[14] Proportion of local employment target scenario of the total number of people unemployed in the social locality
[15] Proportion of local employment target scenario of the total number of people employed in the construction industry in the social locality.
[16] Proportion of local employment target scenario of the total number of people employed as trades, labourers and technicians in the social locality.

- **Scenario 3 (aspirational)** – is considered an aspirational scenario of 20% local employment and a total of 80% of the workforce will travel to the area for the construction period.

Population change estimates are provided at a LGA level only given there is insufficient data available to accurately model how the incoming workforce would be distributed within specific localities in each LGA. It should also be noted that the peak construction workforce number (250) has been used in the calculation in **Table 4.3** to represent the highest/worst case scenario. **Table 4.3** models the population change for each LGA, under the assumption that each LGA will host 100% of the incoming workforce, which is acknowledged as unlikely to occur.

Table 4.3 Construction Workforce Population Change Estimates – All Scenarios

Scenario	Population Increase	% Increase in Goulburn-Mulwaree population[17]	%increase in Wingecarribee population[18]	% increase in Yass Valley population[19]	% increase in Upper Lachlan population[20]	% increase in Queanbeyan-Palerang Regional population[21]
Scenario 1 (95% migration of construction workforce into each LGAs)	+237	+0.7%	+0.4%	+1.4%	+2.8%	+0.4%
Scenario 2 (90% migration of construction workforce into each LGAs)	+225	+0.7%	+0.4%	+1.3%	+2.6%	+0.4%
Scenario 3 (80% migration of construction workforce into each LGA)	+200	+0.6%	+0.4%	+1.2%	+2.3%	+0.3%

Source: (Umwelt, 2024)

Burdge (2004) suggests that any increase or decrease in population greater than 5% may be considered a significant population impact. In the highest impact scenario in which there is 95% workforce migration into Goulburn-Mulwaree LGA alone, would result in a population change of 0.7%, though it is unlikely that the whole construction on incoming construction workforces will be accommodated in one LGA.

Importantly, Council areas such as Yass Valley and Upper Lachlan are more likely to experience negative social impacts such as changes in community cohesion and impacts to access to services associated with temporary population changes due to their relatively small resident population. This will need to be considered as part of the accommodation strategy.

[17] Population of Goulburn- Mulwaree LGA: 32,053
[18] Population of Wingecarribee LGA: 52,709
[19] Population of Yass Valley LGA: 17,281
[20] Population of Upper Lachlan LGA: 8,514
[21] Population of Queanbeyan- Palerang Regional LGA: 63,304

4.4 Going Beyond

To increase the local employment and procurement outcomes for the Project beyond the Base Case scenario of 5%, one or multiple of the below measures would need to be resourced, funded and implemented to reach the Moderate (10%) and Aspirational (20%) scenarios:

- Provide apprenticeship and trainee opportunities.
- Active collaboration with the local TAFE, Councils, registered training providers, local industry associations, community organisations, and employment providers to develop and organise upskilling and training opportunities or partnerships.
- Develop and commit to clear pathways between training / upskilling and job opportunities on the Project.
- Fund and/or deliver a local content (or employment and procurement officer) responsible for building relationships with service providers, hard to reach groups, and support local community members to upskill or re-train for the Project. It was commented during an interview that there is likely an 'untapped' section of the local labour pool of older workers who are less likely to engage with online and modern job searching methods. These group would require additional support to engage with new employment opportunities.
- Funding transport (shuttle bus) from major townships to the Project site is expected to support engagement with residents who are upskilling or re-training. Discussions with key stakeholders noted that a shuttle bus is not likely to benefit workers already working in the industry due to expectations regarding car ownership and travel to site but may be beneficial to workers who are new to the industry.
- Employment of women and First Nations people will require specific engagement approaches and tailored training opportunities through dedicated resourcing and project prioritisation.

4.5 Local Employment Measures and Monitoring Plan

Lightsource bp is committed to monitoring and evaluating the effectiveness of the Employment Strategy. During the Project's pre-construction and construction phases, the AES would be reviewed bi-annually throughout 2025 and 2026 by the EPC Contractor to assess the effectiveness of steps taken to maximise local employment and procurement on the Project.

Local workers already residing in the area will be employed where possible. Lightsource bp and the Project EPC Contractor will adopt the measures listed in **Table 4.4,** as appropriate to prioritise the employment of local workers, and to maximise the benefits to the local community.

Table 4.4 Measures to Prioritise the Employment of Local Workers

Measure	Timing	Responsibility	Documented	KPI
Base case (5%) Local Procurement Target				
Operate an EOI Register for contractors and service providers. This includes establishment and maintenance of relationships with registered interested contractors and service providers in the local area.	Pre-Construction Construction	Lightsource bp	Register established on the Project website	Establishment and maintenance of the register.
Inform the local community and local business community of Project related opportunities. Providing open tenders which are advertised through community groups or local newspapers	Pre-Construction	Lightsource bp	Pre-Construction	Promotion of EOI through stakeholder communication channels. Number of people/businesses who have expressed interest.
Encouraging the EPC Contractor to employ locally to meet target. Utilisation of the EOI as a main source of contacts for contractors and service providers	Pre-Construction	Lightsource bp	Contractor records	Number of local contractors and workers engaged in the project.
Establish and use local networks to promote employment opportunities. Collaborate with regional procurement or industry stakeholders. Promote employment opportunities through local media sources	Pre-Construction	Lightsource bp	Contractor records	Proof engagement and collaboration with industry stakeholders. Promotion of EOI through stakeholder communication channels. Number of people/ businesses who have expressed interest.
Lightsource bp to recruit Project roles from the local area. Early consultation with local community groups and employment agencies to provide targeted and accessible advertisements and open tenders.	Pre-Construction	Lightsource bp	Employment records	Number of local contractors and workers engaged in the project.
Moderate (10%) and Aspirational (20%) Local Procurement Targets				
Consult a local employment agency to facilitate employment of local people Key local agencies may include industry groups/associations, youth employment agencies, employment providers, schools or tertiary training providers.	Pre-Construction	Lightsource bp	Employment records	Engagement records. Number of local employees.
First Nations employment Provision of accessible opportunities and working with relevant First Nations training and employment groups.	Pre-Construction	Lightsource bp	Employment and Contractor records	Number of First Nation employees. Establishment and operation of specific First Nation Programs.

Measure	Timing	Responsibility	Documented	KPI
Workforce readiness Work with local procurement stakeholders to understand workforce readiness in the local area. This may include engaging harder to reach groups who have relevant workplace skills but may lack the technology skills associated with online job seeking and resume preparation.	Pre-Construction	Lightsource bp	Lightsource bp records	Number of local employees.
Local procurement preferences Incorporate additional weighting in tenders and EOIs to prioritise procurement from local companies.	Pre-Construction	Lightsource bp	Tender documents	Number of local contractors and workers engaged in the project.
Provide transport to the site Deliver a shuttle bus service from key population centres such as Yass and/or Goulbourn to the site. It is expected that this will assist local residents engage in employment opportunities who otherwise would not be able to reach site.	Construction	Contractor	Contractor TMP	Delivery of shuttle bus service.
Establish and use local networks to promote employment opportunities. Collaborate with procurement stakeholders. Promote employment opportunities through local media sources	Pre-Construction	Lightsource bp	Contractor records	Promotion of EOI through stakeholder communication channels. Number of people/businesses who have expressed interest.
Provide local training opportunities. Targeted training opportunities for reskilling or upskilling local workforces. Work with local service providers, education providers and procurement stakeholders. Provide traineeship opportunities. Targeted female training opportunities	Pre-Construction Construction	Lightsource bp	This strategy	Number of female employees. Number of traineeships. Number of workers which have undertaken reskilling or upskilling.
Local Employment and Procurement Officer A dedicated project member located within the local community who facilitates relationships with contractors, local workforces and service providers to provide Project related opportunities.	Pre-Construction Construction	Lightsource bp	This strategy	Employment and appointment of Local Employment and Procurement Officer.

Source: (Umwelt, 2024)

5.0 Accommodation Strategy

5.1 Purpose and Objectives

The main objective of the Accommodation Strategy for the Project is to outline the measures to ensure that there is sufficient accommodation available for the construction and operation workforce associated with the Project while managing the potential effects of the workforce influx on the local community.

This Accommodation Strategy identifies the following:

- Key accommodation challenges or constraints for the Project.
- The preferred and most appropriate workforce accommodation options.
- Additional measures that would be employed to ensure sufficient accommodation.
- A framework and strategies for monitoring and responding to the workforce accommodation needs for the Project.

The Accommodation Strategy has been developed to achieve the following objectives:

- Reduce or avoid any upward pressure on housing prices, rental costs and demand that may result from the Project's activities.
- Prioritise procurement and employment of local businesses and workers to reduce impact on housing and accommodation demand.
- Adequately accommodate the construction workforce across a range of accommodation options to reduce the effect upon accommodation providers within the host LGA of Goulburn-Mulwaree.
- Monitor and adjust the Accommodation Strategy throughout the Project's development planning and construction in response to workforce needs, impacts on the community and stakeholder feedback.
- The Accommodation Strategy has utilised the following assumptions to inform the Strategy:
- 73% occupancy rate of short-term accommodation (hotel, motel, caravan, camping and holiday park rooms run by commercial operators), based upon engagement with accommodation providers within a 1-hour drive (Refer to **Section 2.4.1** and **Appendix A** for engagement outcomes).
- 48% average occupancy rate of Airbnb properties, based upon average occupancy rates across the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan- Palerang Regional from December 2020 to December 2023.
- A maximum of 30% of the total available rooms of short-term accommodation may be available to construction workers from the Project, given the volume of concurrent project and other transient workforces in the area.
- On average Airbnb properties have two rooms per home a multiplier has been added to adequately assess the rooms available. Therefore, a maximum of 30% of total available Airbnb listings/rooms

(utilising the two-room multiplier) may be available to construction workers from the Project given the volume of concurrent project and other transient workforces in the area.

- No more than 2.5% of available private rental stock be occupied by construction workers for the Project given significantly low vacancy rates across the region, as highlighted by stakeholders during consultation.
- These are conservative estimates and reflect a 'worst case scenario' in relation to accommodation availability.

5.2 Key Workforce Accommodation Challenges

The Accommodation Strategy has considered the following challenges or constraints:

- A large proportion of the estimated peak FTE **workforce will need to be sought from outside the region** (95%) and will therefore need to be accommodated locally (within 1-hour drive time).
- There are current **rental markets constraints** with extremely low vacancy rates, particularly in Yass Valley (0.46%) and the Upper Lachlan Shire (0.26%).
- There is currently **limited supply of social and affordable housing** with the social locality as well as increasing demand as identified by Goulburn Mulwaree and LSPS's. These conditions mean that housing demand from in-coming workforce could exacerbate house and rental price increases in the region.
- **Short-term accommodation availability within a 1-hour drive is currently limited** with an average occupancy rate of 73%. Current constraints to short-term accommodation availability include, weekends, school holidays, key tourism events, seasonal trends in summer, and weddings in spring.
- There is **competition for short-term accommodation** in the other LGAs, including other SSD construction workers, road repair crews, essential energy workers, parliamentary workers (Queanbeyan-Palerang LGA only), emergency medical staff such as doctors and nurses, truck drivers and other FIFO workers.
- The need to **ensure that the Project does not occupy all available housing,** restricting the Project to 30% of available temporary accommodation (hotel, motel, caravan park cabins), 30% of available Airbnb properties, and 2.5% of available rental stock.

5.2.1 Overview of Project Accommodation Options

Table 5.1 summarises the overview of potential workforce accommodation options considering the three scenarios from **Section 4.3**. As highlighted in **Table 5.1**, as local procurement increases there is less need for accommodation to house construction workforces. There is a surplus of available accommodation within a 1-hour drive of the Project under all local procurement scenarios.

Table 5.1 Overview of Accommodation Options by Scenario

Accommodation Type	Number Housed
Short-term accommodation (hotels, motels and Airbnbs)	313
Rental Accommodation	13
Total Rooms Available	326
5% scenario (237 incoming workforce)	
Total Surplus Accommodation	89
10% scenario (225 incoming workforce)	
Total Surplus Accommodation	101
20% scenario (200 incoming workforce)	
Total Surplus Accommodation	126

Source: (Umwelt, 2024)

5.3 Accommodation Options

Based on a local employment target of 5% and information presented in **Section 4.3**, this Strategy outlines the approach for the Project to appropriately house the 237 temporary incoming construction workers across the 1-hour driving distance from the site. **Table 5.2** outlines the proportion of the workforce to be housed in each LGA by accommodation type according to the total number of rooms available without causing significant strain on the current short-term accommodation and housing market. **Table 5.3** further outlines the total number of rooms available to the construction workforce by LGA and accommodation type. **Appendix F** outlines accommodation providers within a 1-hour time from the Project.

Table 5.2 Percentage of Incoming Workforce Accommodated in each LGA by Accommodation Type

Locality (LGA)	Short-term Accommodation Rooms	Airbnb Rooms	Rental Accommodation	Total
Goulburn-Mulwaree	13.4%	3.1%	1.3%	17.8%
Upper Lachlan	8.7%	2.5%	0.0%	11.2%
Wingecarribee	12.4%	25.8%	2.2%	40.4%
Yass Valley	3.7%	2.2%	0.3%	6.2%
Queanbeyan-Palerang	20.5%	3.4%	0.4%	24.3%
Total	**58.7%**	**37.0%**	**4.2%**	**100%**

Source: (Umwelt, 2024)

Table 5.3 Total Number of Rooms in each LGA by Accommodation Type

Locality (LGA)	Short-term Accommodation Rooms	Airbnb Rooms	Rental Accommodation	Total
Goulburn-Mulwaree	32	7	3	42
Upper Lachlan	21	6	0	27
Wingecarribee	30	61	5	96
Yass Valley	9	5	1	15

Locality (LGA)	Short-term Accommodation Rooms	Airbnb Rooms	Rental Accommodation	Total
Queanbeyan-Palerang	49	8	1	58
Total Rooms	**140**	**88**	**10**	**238**[22]

Source: (Umwelt, 2024)

It is acknowledged that Canberra is located a 1-hour drive from the Project site. Due to its proximity to the Project, it may be considered as another option for the surplus demand which may occur during peak cumulative demand periods. This option would only be used following the exhaustion of all NSW options for accommodation and based upon the availability within Canberra itself. It is noted that Canberra experiences fluctuations in availability of accommodation due to key political events and being host to a number of large developments and infrastructure projects.

5.4 Workforce Accommodation Measures and Monitoring Plan

Lightsource bp is committed to monitoring and evaluating the effectiveness of the Accommodation Strategy. During the Project's pre-construction and construction phases, the AES would be reviewed bi-annually by the EPC Contractor to assess the effectiveness of steps taken to secure sufficient accommodation for the workforce.

To summarise, local workers already residing in the region will be employed where possible to reduce the demand for short-term accommodation. Where local accommodation is required for non-local workers, Lightsource bp and the EPC Contractor will adopt the measures listed in **Table 5.4.**

Table 5.4 Workforce Accommodation Measures

Measure	Timing	Responsibility	Documented	KPI
Encourage the EPC Contractor to prioritise the employment of locals who already reside in the area and who will not require accommodation.	Pre-Construction	Lightsource bp	Contractor records	Number of local residents employed by the Project
Investigate and document accommodation options and explore potential accommodation partnerships in the local region – provide this information to the EPC Contractor.	Pre-Construction	Lightsource bp	This document	Number of rooms secured through partnership agreements
Operate a Housing and Accommodation Expression of Interest Register to enable local landowners, businesses and individuals to register their interest in providing accommodation services to the Project.	On-going	Lightsource bp	This strategy Lightsource bp records	Promote Housing and Accommodation EOI

[22] Total number of rooms has been rounded to the nearest whole number therefore is slightly higher than the required 237 rooms.

Measure	Timing	Responsibility	Documented	KPI
Maintain and continue to explore potential partnerships with commercial service providers, property owners or property managers who have expressed an interest in entering into a contract with the Project and/or leasing dwellings in the local area.	Pre-Construction	Lightsource bp	Lightsource bp records	Number of rooms secure through partnerships Promote Housing and Accommodation EOI
Contact local accommodation providers directly to disseminate details such as construction timing, workforce scheduling (once available) and accommodation requirements to allow them to be prepared.	Pre-Construction	Lightsource bp	Contractor records	Number of local providers contacted
Review workforce requirements regularly (e.g. monthly) during construction to ensure the objectives of the AES are being met.	Construction	Lightsource bp	Lightsource bp records	Number of completed reviews per year
Provide regular Project updates to the community via Project Newsletters, posts on the Project website.	On-going	Lightsource bp	Lightsource bp records	Number of community updates provided
Consult with stakeholders to advise about the Project and potential opportunity for Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan-Palerang accommodation operators.	Pre-Construction	Umwelt	This document	Promote Housing and Accommodation EOI

Source: (Umwelt, 2024)

6.0 References

.idcommunity. (2021). *Community Profile.* Retrieved from .idcommunity demographic resources: https://profile.id.com.au/

.idcommunity. (2022). *Economy id*. Retrieved from .idcommunity demographic resources: https://economy.id.com.au/

ABS. (2021). 2021 Census Aboriginal and/or Torres Strait Islander people QuickStats. NSW, Australia: Australian Bureau of Statistics.

ABS. (2021). Quick Stats. NSW, Australia: Australian Bureau of Statistics.

ABS Table Builder Pro. (2021). *ABS Table Builder Pro*. Retrieved from Australian Bureau of Statistics: https://tablebuilder.abs.gov.au/webapi/jsf/tableView/openTable.xhtml

AIHW. (2022). *2.07 Employment*. Retrieved from AIHW National Indigenous Australians Agency: https://www.indigenoushpf.gov.au/measures/2-07-employment

AirDNA. (2023, December). AirDNA MSR Matching Australia Regions 2023. Australia: AirDNA.

AirDNA. (2024). *Market Report Summary (MSR)*. Retrieved from AirDNA: https://enterprise-help.airdna.co/en/articles/8185674-market-summary-report-msr

ATDW. (2024, Apirl 3). ATDW_Accomm as of 03 Apr_2024. *Australian Tourism Data Warehouse Accommodation as of 03 April 2024*. Australia: Australian Tourism Data Warehouse.

Briggs, C., Rutovitz, J., Dominish, E., & Nagrath, K. (2020). *Renewable energy jobs in Australia: Stage One.* Sydney: Clean Energy Council .

Burdge, R. J. (2004). *The Concepts, Process and Methods of Social Impact Assessment.* Middleton: Social Ecology Press.

CEC. (2022). *Skilling the Energy Transition.* Clean Energy Council.

CEC. (n.d.). *Large-Scale Solar Careers*. Retrieved from Clean Energy Council: https://www.cleanenergycouncil.org.au/advocacy-initiatives/workforce-development/careers-guide/large-scale-solar

Doyle, M.-A. (2014). Labour movements during the resources boom. *REserve Bank of Australia Bulletin*.

DPE. (2023). *Draft Temporary and Seasonal Workers' Accommodation Guideline.* Department of Planning and Environment.

Elton Consulting. (2020). *Urban and Fringe Housing Strategy.* Goulburn Mulwaree: Goulburn Mulwaree Council.

Ethos Urban. (2024). *Economic Impact Assessment- Gundary Solar Farm.*

Google Maps. (2024). *Google Maps*. Retrieved from Google Maps: https://www.google.com.au/maps

Goulburn Mulwaree Council. (2020). *Local Strategic Planning Statement.* Goulburn Mulwaree: Goulburn Mulwaree Council.

Goulburn Mulwaree Council. (2022). *Tarago Village Housing Strategy.* Goulburn Mulwaree Council.

Jobs and Skills Australia. (2023). *First Nations People Workforce Analysis.* Australian Government.

Jobs and Skills Australia. (2023). *The Clean Energy Generation.* Australian Government.

Mellick, J. (2021, August 17). *How do vacancy rates affect rental yields?* Retrieved from Blue Wealth Propoerty: https://smart2.bluewealth.com.au/the_research_blog/vacancy-rates-affect-rental-yields/#:~:text=Vacancy%20rates%20give%20an%20indication%20of%20the%20percentage,3%25%20is%20considered%20equilibrium%20%28a%20balanced%20healthy%20market%29.

mychoiceschools. (n.d.). *2023 Best Schools in NSW*. Retrieved from mychoiceschools: https://mychoiceschools.com.au/new-south-wales/

NSW Government. (2021). *NSW Population Projections*. Retrieved from NSW Planning Portal: https://www.planningportal.nsw.gov.au/populations

NSW Government. (2024). *Major Projects*. Retrieved from NSW Government: https://www.planningportal.nsw.gov.au/major-projects

Queanbeyan- Palerang Regional Council. (2015). *Residential and Economic Stragey 2015-231.* Queanbeyan-Palerang Regional Council.

Queanbeyan Palerang Regional Council. (2020). *Local Strategic Planing Statement.* Queanbeyan Palerang Regional Council.

real estate investar. (2024, April). *Investment Property*. Retrieved from real estate investar: https://www.realestateinvestar.com.au/property/

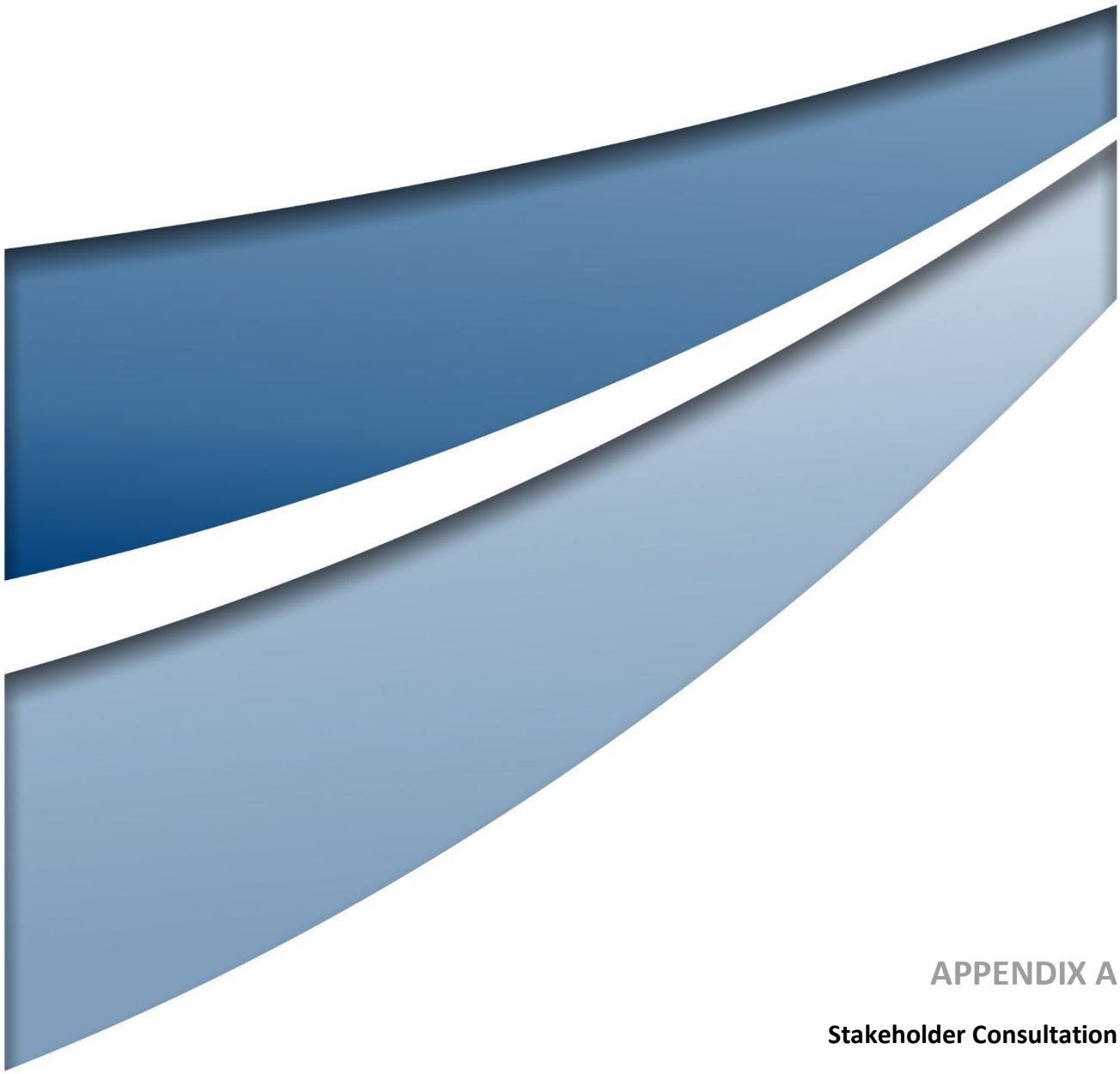
SALM. (2023, September). *Small Area Labour Markets*. Retrieved from Australian Government- Jobs and Skills Australia: https://www.jobsandskills.gov.au/data/small-area-labour-markets

Wingecarribee Shire Council. (2018). *Regional Economic Development Strategy 2018-2022.* Wingecarribee: Wingecarribee Shire Council.

Wingecarribee Shire Council. (2020). *Housing Our Community.* Wingecarribee: Wingecarribee Shire Council.

Wingecarribee Shire Council. (2020). *Wingecarribee 2040- Local Strategic Planning Statement.* Wingecarribee Shire Council.

Yass Valley Council. (2020). *Local Strategic Planning Statement.* Yass Valley Council.



APPENDIX A

Stakeholder Consultation

A.1Council Engagement Outcomes

Goulburn Mulwaree Council

The meeting with Goulburn Mulwaree Council was focussed on the development of the AES for the Project, in particular key considerations relating to the accommodation and employment capacity of the LGA.

Council stated that there are multiple State Significant Developments planned and occurring in the LGA, placing strain on temporary accommodation and employment. Council's previous experience with SSD projects, as well as other constraints in the region, informed their insights into potential local procurement targets and accommodation supply. This has been reflected in the assumptions when assessing possible employment targets and availability of accommodation.

Council emphasised the current barriers to housing the Project construction workforce in the LGA. This included:

- The current lack of social and affordable housing for lower socio-economic residents.
- A saturated rental market with high demand raising rental prices.
- Competition for short-term accommodation from other transient workforces such as road repair crews, essential energy workers, emergency medical staff such as nurses and doctors, truck drivers and FIFO workers.
- Cumulative demand of other concurrent state significant developments projects and high tourism demand on weekends.

Council suggested a variety of suitable mitigation measures which would reduce the impact of an incoming construction workforce on the current housing market. Those strategies included, collaboration agreements and targeted funding for increasing housing stock, building a temporary workers accommodation/ village on site or the construction of permanent accommodation which can then be sold back to the community.

Council emphasised the current local employment capacity within the LGA is limited due:

- To low unemployment.
- Local industries struggling to fill similar positions.
- Competition of other key markets such as trades and manufacturing.
- A tight construction market.
- Other concurrent construction workforces looking for local employment.
- A limited skilled workforce with other industries investigating the potential of skilled migrant workforces.

These barriers would likely impact the Project's local employment targets and be further exacerbated if not properly considered.

The LGA is currently experiencing limited training opportunities due to low utilisation of the local TAFE, thereby limiting available trades course provided. Other key factors which may impact the upskilling or reskilling of the population highlighted by Council included non-compatible skill sets within the existing workforces, with many currently employed in extractive industries which are unlikely to have transferable skills.

Queanbeyan- Palerang Regional Council

The meeting with Queanbeyan-Palerang Regional Council was to discuss the LGAs current accommodation and employment capacity to inform the AES. Council indicated that there are limited State Significant Developments occurring in the LGA, though the LGA's proximity to Canberra has a significant effect on the current labour market.

To expand, it was described that the proximity of the LGA to Canberra is understood to cause a skills and workforce drainage from the LGA, with many residents commuting to Canberra for work. Furthermore, the Council stated that community interest in job opportunities associated with the Project may be limited due to preferences to work in Canberra, as it would be a shorter commute. Other barriers to local procurement in the LGA include limited training facilities, with many residents travelling to Canberra for facilities. The local TAFE is currently underutilised and provides limited courses, while residents also rely on Goulburn TAFE for provision of other courses.

Council further stated that there is capacity to house the construction workforces in existing tourism accommodation with providers stating a preference for consistent occupancy through contracts with projects. Council further emphasised that while they may not be able to provide local employment opportunities for the Project, housing the construction workforce would economically benefit the LGA.

Wingecarribee Shire Council

Wingecarribee Shire Council's feedback regarding the current housing market capabilities of the LGA stated that there is a lack of affordable housing in the region to rent or buy. There are plans to increase provision of housing in the LGA though this is limited due to little no to capacity of local infrastructure or services. Council further stated their LGA would be unlikely to assist in providing accommodation for construction workforces for the Project.

A.2Accommodation Provider Survey Outcomes

A survey was conducted with short term accommodation providers within a 1-hour drive of the Project in the social locality. A sample size of 30% of short-term accommodation providers was identified in order to gain a broad understanding of the current accommodation context in the region as well as to ascertain the level of interest in accommodating the Project construction workforce. This sample size was derived data from the Australian Tourism Data Warehouse (2024).

Table A.1 demonstrates the identified sample size and completed sample size across the five LGAs for short-term accommodation within a 1hr drive of the Project. The sample size demonstrates the distribution of accommodation available in each LGA. Only 20% of accommodation providers responded to the survey, leaving a sample short fall in Wingecarribee LGA and Queanbeyan-Palerang LGA.

Table A.1 Short-term accommodation sample design and participation results

Location	Sample Size[23]	Completed
Wingecaribee Shire	24	10
Upper Lachlan Shire	5	5
Goulburn Mulwaree	10	14[24]
Yass Valley	6	6
Queanbeyan Palerang	5	0
Total	**50**	**35**

Source: (Umwelt, 2024)

During the survey, short-term accommodation providers were asked if they would be interested in housing the Project's construction workforce. 34 out of 35 respondents stated yes while one stated they were unsure. Though occupancy rates across the LGAs indicated there is limited capacity to house the construction workforce, accommodation providers stated interest in housing the construction workforces due to the likely security of contracts.

A.3Employment Provider Interview Outcomes

Consultation with local employment providers aimed to provide context to the current employment capacity of the region and opportunities to enhance local procurement. Through the engagement, it was described that the employment provider assists in providing connections and networks for the local community as well as local businesses to provide connections with job and procurement opportunities.

The employment provider emphasised current local labour market constraints which have impacted the existing labour pool. It was noted that major projects in the region such as HumeLink have impacted the availability of skilled workers such as electricians. It was described that the requirements to fulfil solar farm construction jobs, as well as the time needed to train people, will further limit the potential local labour pool. Other local industries which are competing for similar workforces are construction and trades industries.

Regarding the feasible local procurement targets for the Project, the interviewee stated it was unlikely that local procurement of more than 5% of total peak FTE would be achievable due to the current labour market constraints. Anything higher would require proactive and substantial effort in training opportunities and upskilling or reskilling the current labour pools.

Furthermore, it was stated that there is an older workforce which is underutilised in the region. The Project could seek to target this population group through increasing accessibility of job opportunities into the construction workforce through mechanisms such as tailored procurement engagement and changes to job applications.

Examples of projects in the region which has shown good practice to support local procurement were shared: the HumeLink Project which has a dedicated resource to connect the local community to jobs and procurement opportunities. HumeLink also advertises tenders in open forums such as local Facebook

[23] Total number of accommodation providers in each LGA divided by percentage of total number of providers across the social locality. This total was then divided by 30% to determine the sample number.

[24] Completed participation in Goulburn-Mulwaree LGA was higher than sample size due to response rate and availability to complete the survey.

groups or posters in local stores, providing key information of jobs requirements and assistance in how best to apply through mechanisms that are tailored to the local community to maximise accessibility.

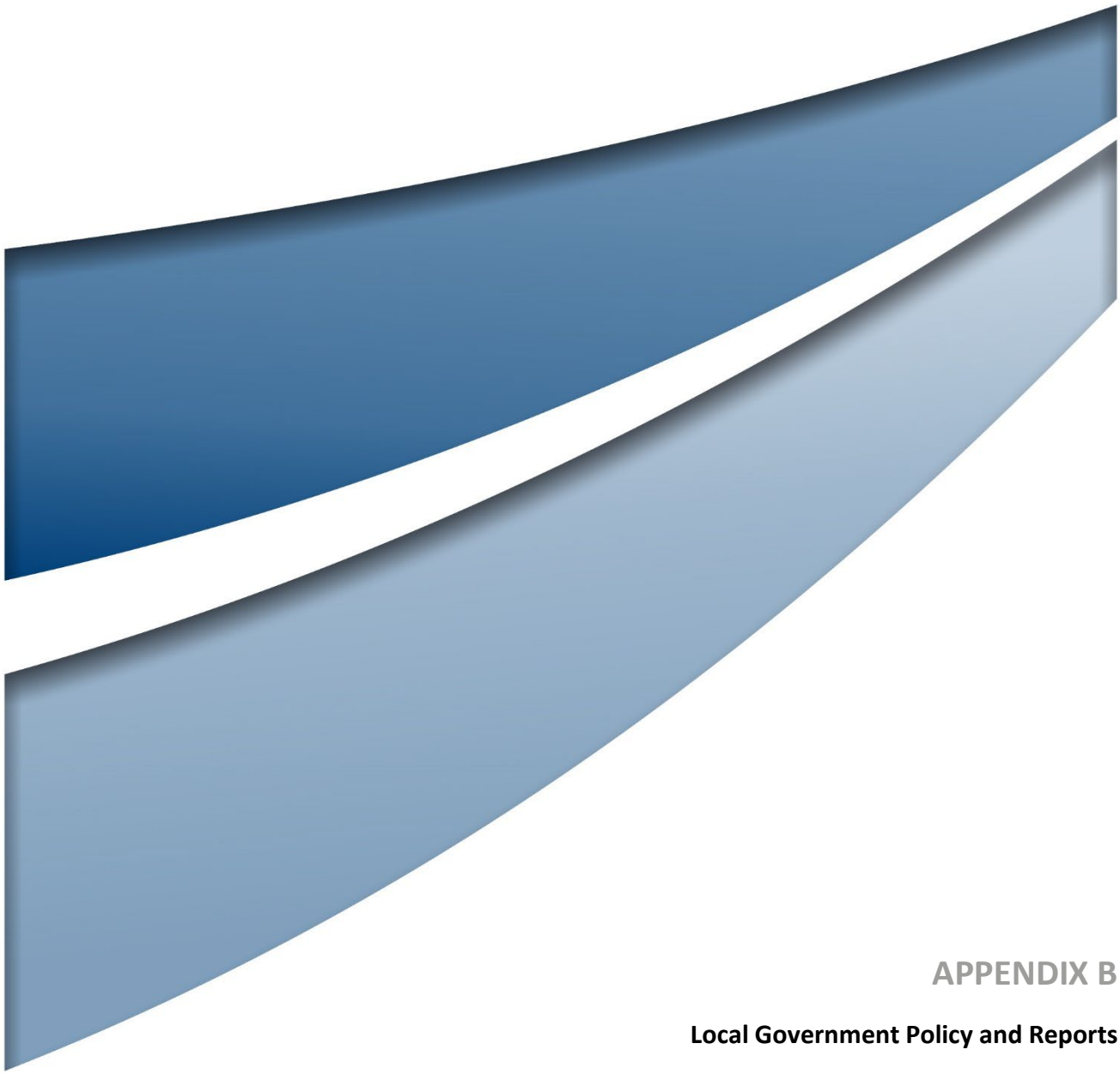
A.4Regional Development Interview Outcomes

The meeting with Regional Development Australia – Southern NSW & ACT (RDASNA) was to discuss the current housing and employment capabilities and constraints of the region and raise opportunities which may enhance local procurement and accommodation. RDASNA covers the LGAs of Bega Valley, Eurobodalla, Goulburn Mulwaree, Hilltops, Queanbeyan-Palerang, Snowy Monaro, Upper Lachlan, Wingecarribee, Yass Valley and the ACT.

RDASNA stated significant concern regarding the current housing market and limitations within the Goulburn area. Current low vacancy rates in the rental market have impacted the ability of other industries, such as essential workers, to find long-term and short-term rentals in the LGA. RDASNA suggested that long-term benefits such as legacy housing would greatly benefit the community beyond the Project lifecycle as well as improve community acceptance of the Project.

Key industries such as construction workers and electricians are often limited in the region due to high demand with local workers and businesses booked well in advance. Concerns regarding local employment benefits were raised due to the potential for local procurement to been sought across the LGAs of Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan- Palerang. The spread of local procurement, as well as accommodation utilisation, across multiple LGAs, would reduce Goulburn-Mulwaree's potential economic benefits from the Project. Furthermore, current skills drain to other large development such as the Humelink Project and road infrastructure upgrades have impacted the region. Mitigation measures included targeted training opportunities within the local area with direct employment opportunities for the Project.

The flow on effects of a lower local procurement rate was a key impact raised. If a significant number of the peak construction workforce were expected to be housed within existing accommodation, there would be impacts on local services such as health, childcare and education which are currently experiencing limited to no availability.



APPENDIX B

Local Government Policy and Reports

B.1Local Government Policy and Reports

Goulburn Mulwaree Council

Goulburn Mulwaree LGA is the host LGA of the Project. Key planning instruments in Goulburn-Mulwaree LGA include the Local Strategic Planning Statement (LSPS) (2020), Urban and Fringe Housing Strategy (2020) and Tarago Village Housing Strategy (2022). These strategies outline the region's goals regarding economic development including housing, accommodation and employment targets and strategies to meet the community's needs.

Key themes across these planning instruments and strategies which are relevant to the AES include:

- Need for new employment opportunities.
- Diversify housing options to support a variety of population groups.
- Increase local employment and procurement opportunities to support local workers and businesses.
- Plans to increase housing in outer suburbs and areas of the LGA.

Wingecarribee Council

Wingecarribbee LGA is located northeast within a 1 hour driving distance of the Project and therefore may house some of the construction workforce as well as providing employment and procurement opportunities for the Project. Key planning instruments which may be relevant to the AES include Council's Regional Economic Development Strategy (2018), Local Housing Strategy (2020), and LSPS (2020).

Key themes across the strategies relevant for the AES include priorities to:

- Enhance opportunities for students including in training.
- Diversify housing options including increasing housing stock in the priority areas of Bowral, Mittagong and Moss Vale.
- Provide services and infrastructure to meet current and future population demands.
- Attract new people to the region to support the local economy.

Yass Valley Council

Yass Valley LGA, located west of the Project within a 1-hour drive distance, is expected to be a key employment and accommodation service area for the Project. Key planning instruments which are relevant for the AES and relate to employment, procurement and housing include the LSPS (Yass Valley Council, 2020).

The plan refers to growth within the region being accommodated within Yass, Murrumbateman, and the proposed cross border development at Parkwood.

The LGA's growth principals which relate to housing and employment include:

- Focus growth in Yass and Murrumbateman townships.

- Focus on housing in existing urban centres.
- Maximise opportunities for tourism, industry, and investment within the Yass Valley.

Queanbeyan Palerang Regional Council

Queanbeyan-Palerang Regional Council located south within a 1-hour drive of the Project has the potential to supply workers and housing for the construction workforce. Key planning instruments relevant for the AES include Council's LSPS (2020) and the Residential and Economic Strategy (2015).

Key themes in these strategies relevant to employment and accommodation include goals to:

- Provide greater housing supply to meet demand including diversifying housing options.
- Increase infrastructure and services.
- Increase local employment opportunities so residents can work within the LGA.

Upper Lachlan Shire Council

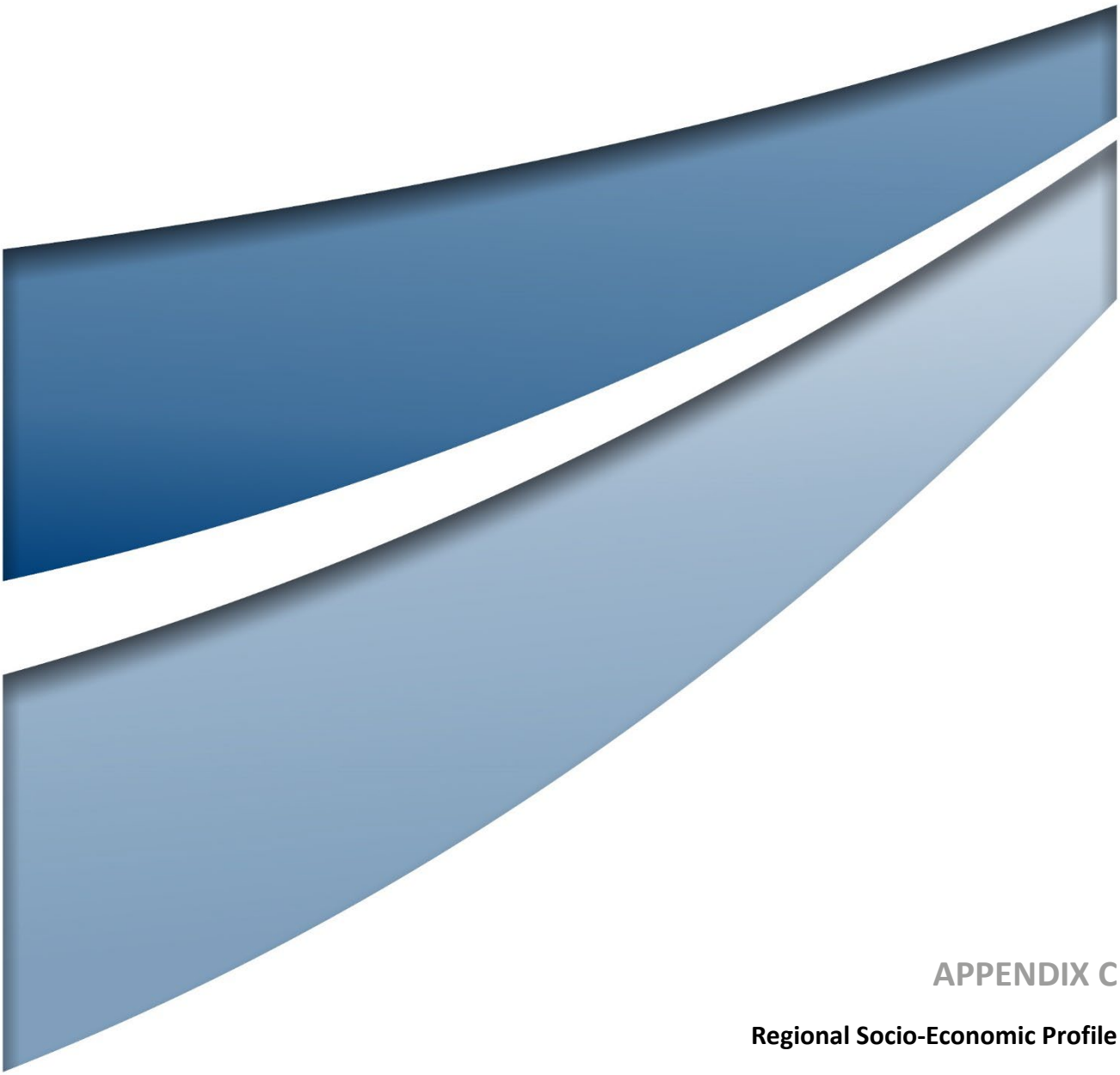
The Upper Lachlan Shire located north within a 1-hour drive of the Project has the potential to provide local accommodation and employment for the Project. The LSPS highlights key opportunities and constraints currently experienced in the regain relevant to the AES.

The Upper Lachlan Shire's vision for the future to 2040 is:

> *"A district of villages in a beautiful diverse landscape with a prosperous agricultural and energy economy connected to Sydney, Canberra and international markets".*

The LSPS indicates the following employment constraints which are relevant for the AES:

- Increasing and aging population.
- Limited young people and families.
- Limited workforce to fulfil current job vacancies.
- Current undersupply of social, affordable housing and rentals.
- Increase in demand for senior housing.
- Current areas which are experiencing greater housing demand and limited supply include Taralga, Lagan and Binda.



APPENDIX C

Regional Socio-Economic Profile

C.1 Regional Socio-Economic Profile

In defining the social locality for Project, statistical areas prescribed by the Australian Bureau of Statistics (ABS) have been used. The primary communities of interest that comprise the social locality are outlined in **Section 1.3.**

Throughout this section, tables are coloured coded to show where LGA attributes are lower (red) or higher (green) than NSW metrics as show in **Table A.2.**

Table A.2 Table Colour Scheme Meaning

Colour	Meaning
	Figure lower than NSW average or median
	Figure higher than NSW average or median

Source: (Umwelt, 2024)

Median Age and Population

Table A.3 provides an overview of existing and projected population in the LGAs of Goulburn- Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan- Palerang Regional. An analysis of population growth and population projects suggests that the LGAs will continue to increase leading up to 2041.

A review of median ages in the LGAs highlights that Goulburn-Mulwaree, Wingecarribee, Yass Valley and Upper Lachlan Shire have higher median ages compared to NSW, with Upper Lachlan Shire having a substantially high median age of 49. Comparatively, Queanbeyan- Palerang Regional has a younger median age (38).

Table A.3 Population Overview by LGA

	Goulburn-Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA	NSW
Population	32,053	52,709	17,281	8,514	63,304	8,072,163
Median Age	41	48	43	49	38	39
Population growth 2011 to 2021	+4,572 14.26% increase	+8,314 15.77% increase	+2,261 13.08% increase	+1,321 15.52% increase	+10,781[25] 17.03% increase	+ 1,154,505 16.68% increase
Projected population growth 2021 to 2041	+8,396 26.19% increase	+18,649 35.38% increase	+3,242 18.76% increase	+1,369 16.08% increase	+20,715 32.72% increase	1,706,176 21.14% increase

Source: (ABS, 2021; NSW Government, 2021)

[25] The LGA of Queanbeyan- Palerang was not formed until 2016 therefore for the analysis of population change, the ABS boundaries of Queanbeyan LGA and Palerang LGA have been used to best demonstrate the same area as 2021.

Table A.4 Implication

Key Takeaway	Implication
Older median age in the LGAs except for Queanbeyan-Palerang Regional LGA	An older median age across all LGAs except for Queanbeyan- Palerang Regional LGA compared to NSW suggests a lower potential labour market, especially in Upper Lachlan LGA. Queanbeyan- Palerang Regional LGAs lower median age compared to NSW demonstrates a younger population therefore likely to have a larger potential labour pool.
Historically lower population growth in the LGAs except for Queanbeyan- Palerang Regional LGA	The historically lower population growths in the LGAs except Queanbeyan- Palerang Regional are indicative of the aging population which demonstrates that the labour pool is likely aging therefore less potential for the Project to source construction workforce locally.
Varying levels of projected population growth in the LGAs from 2021 to 2041	The LGAs of Goulburn- Mulwaree, Wingecarribee and Queanbeyan- Palerang Regional demonstrate higher population increase compared to NSW. These LGAs may benefit from potential new employment opportunities offered by the Project to support new labour markets.

Source: (Umwelt, 2024)

Education and Training

Table A.5 provides an overview of the key educational and training characteristics across the LGAs. Data indicates that there is a greater proportion of people who have completed Certificate IV and III in comparison to NSW. It also highlights a lower percentage of people who have completed a bachelor degree in Goulburn-Mulwaree, Wingecarribee, Yass Valley and Upper Lachlan Shire LGAs.

Table A.5 Education and Training Overview by LGA

	Goulburn-Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA	NSW
Proportion of population with bachelor degree education or higher	3,723 14.2%	11,208 25.5%	3,778 27.2%	1,110 15.6%	14,348 28.2%	1,838,502 27.8%
Proportion of the population with a Certificate level IV and III	5,688 28.2%	7,926 18.0%	2,486 17.9%	1,449 20.4%	8,798 17.2%	988,777 15%

	Goulburn-Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA	NSW
Proportion of the population with Year 12 or below attainment	10,597 40.2%	20,181 45.9%	6,609 47.6%	4,275 60.0%	23,657 46.2%	2,359,237 35.8%

Source: (ABS, 2021)

Table A.6 Implication

Key Takeaway	Implication
Lower attainment of bachelor degree or higher in the LGAs except for Queanbeyan- Palerang Regional LGA	The LGAs except for Queanbeyan- Palerang Regional had lower bachelor's degree education or higher compared to NSW. Therefore, the four LGAs with lower attainment have a lower potential skilled labour force which may be utilised for the construction of the Project. The design phase of a solar farm can be undertaken by either university-qualified engineers or electricians. The demand for university-qualified workers within the clean energy sector exceeds supply, with job advertisements out numbering applicants. (CEC, 2022).
Higher attainment of certificate attainment in the LGAs	LGAs have a higher attainment of certificate level IV and III compared to NSW. Therefore, demonstrating a larger potential labour pool with relevant skills or ability to be upskilled for solar farm construction. Skilled tradespeople and technicians are required for large scale solar farms to assemble, build, install, operate and maintain systems. For these skilled workers the solar farm industry relies on VET and TAFEs (CEC, 2022).
Higher attainment of year 12 or below education in the LGAs	The LGAs have a high proportion of the population who have completed year 12 equivalent or below compared to NSW. Therefore, the LGAs indicate a larger potential labour force which may be upskilled through further education and training opportunities if provided by the Proponent.

Source: (Umwelt, 2024)

Community Facilities and Services

Table A.7 outlines community facilities and services across the LGAs which may be utilised by construction workforce if housed in those regions.

Table A.7 Community Facilities and Services

	Goulburn-Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA
Health Services	Goulburn Base Hospital (80 beds) Other medical services and specialist practitioners	Bowral & District Hospital (94 beds) Variety of community and private healthcare centres	Yass District Hospital	1 mental health service And 1 medical practitioner office	Queanbeyan Hospital and Health Service Queanbeyan District Hospital
Educational Options	TAFE NSW NSW Police Force Academy 14 primary schools 3 high schools 1 special needs school Public, catholic, private	18 primary schools 8 high schools 2 special needs school Public, catholic and private TAFE NSW University of Wollongong (Southern Highland Campus)	8 primary schools 1 high school With catholic and public TAFE NSW	9 primary school 1 high schools All public	9 primary schools 5 high schools ranging from public, catholic and private TAFE NSW
Key Transport Infrastructure	Hume Highway Goulburn Railway	Hume Highway Illawara Highway Southern railway line	Hume Highway Barton Highway Federal Highway Southern Railway line	Hume Highway Federal Highway Melbourne-Sydney Railway line	Federal Highway Kings Highway The Southern Railway line
Employment Services	atWork Australia (Disability Employment Services) MBC Employment		Sureway Employment and Training		

	Goulburn-Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA
Cultural & Entertainment Facilities	Goulburn Regional Art Gallery Goulburn Rail Heritage Centre Goulburn Historic Waterworks Museum St Clair Villa Museum Goulburn Mulwaree Library	3 Libraries 29 Community Halls 2 Youth Centres 4 Community Service Centres 10 Senior Citizen Centres 16 Oval Playing Fields 31 Rectangular Playing Fields 38 Tennis Courts (1 district facility and 29 local facilities) 4 Swimming Pools (1 currently closed) 7 Netball Courts 1 Velodrome 4 Indoor Courts	Yass Showground (including Yass Indoor Stadium) Carey's Cave Yass Valley Library Cooma Cottage and numerous wineries.	Gunning Showground Endeavour Park Crookwell Library	Braidwood Museum Queanbeyan Museum Queanbeyan Printing Museum Yesteryear Museum Queanbeyan Library The Q (Queanbeyan Performing Arts Centre) Heather McKay Indoor Sports Centre
Housing Services	Anglicare-Goulburn Community Housing Program Goulburn Homelessness Support Service	Argyle Housing	Yass Valley Homelessness Support Service Anglicare Housing and Homelessness Support		Queanbeyan Homelessness Support Service
Police Stations	Goulburn Correctional Facility Goulburn Police Station	Southern Highlands Police Station	Yass Police Station	Gunning Police Station Crookwell Police Station	Queanbeyan Police Station

Source: (mychoiceschools, n.d.; .idcommunity, 2021)

Table A.8 Implication

Key Takeaway	Implication
A variety of key services across the LGAs	These key services which vary across the LGAs demonstrate capacity to support the incoming construction workforce which will utilise services in key regions. Incoming construction workforces related to the Project may also put pressure on these services which would reduce availability of the services to the local community.

Source: (Umwelt, 2024)

Tourism

Table A.9 highlights key tourism events across the LGAs. These events attract tourists to the region during key months, varying across the LGAs. These events will likely have an impact accommodation availability in the region.

Table A.9 Key Tourism Events

Event	Location	Month
Goulburn Mulwaree		
St Saviour's Community Markets	Goulburn	Monthly
Goulburn Rotary Swap Meet	Goulburn	April
Goulburn Rotary Parkside Markets	Goulburn	Monthly
Tag20 Anzac Cup	Goulburn	April
Goulburn Carnival of Cups	Goulburn	April
Goulburn Poultry Fancier's Society-Annual Show	Goulburn	May
Annual Goulburn Lilac City Festival	Goulburn	October
Wingecarribee		
Tulip Time	Wingecarribee	July
SRLX Cattle Sale Day	Moss Vale	Weekly
Yass Valley		
Binalong Community Markets	Binalong	Monthly
Yass Railway Museum Artisan Markets	Yass	Monthly
Queanbeyan Palerang		
Bungendore Harvest Festival	Bungendore	April
Christmas in July	Queanbeyan	July
Patches Asphalt Queanbeyan Rodeo	Queanbeyan	March
Upper Lachlan Shire		
Crookwell Country Weekend	Crookwell	March

Source: (Umwelt, 2024)

Table A.10 Implication

Key Takeaway	Implication
Multiple key tourism events across the LGAs	Key tourism events which attract tourists to each LGA will have an impact on accommodation availability. Therefore, restricting options for incoming workforce related to the Project which will need to be considered for the purpose of the AES.

Source: (Umwelt, 2024)

Key Industry Sectors

The key employing industries in the Goulburn-Mulwaree LGA include health care and social assistance, public administration and safety, construction, retail trade and education and training.

Table A.11 provides an overview of the top five industries of employment and the top five industries by gross regional value added for the LGAs.

Table A.11 Top 5 Industries Overview

	Goulburn- Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA	NSW
Top 5 industries of employment	• Health Care and Social Assistance (15.7%) • Public Administration and Safety (10.7%) • Construction (10.5%) • Retail Trade (9.8%) • Education and Training (7.5%)	• Health Care and Social Assistance (13.5%) • Construction (10.6%) • Education and Training (9.5%) • Retail Trade (8.9%) • Accommodation and Food Services (8.0%)	• Public Administration and Safety (19.5%) • Construction (12.2%) • Health Care and Social Assistance (9.9%) • Education and Training (9.1%) • Professional, Scientific and Technical Services (8.2%)	• Agriculture, Forestry and Fishing (24.2%) • Health Care and Social Assistance (11.3%) • Public Administration and Safety (10.5%) • Construction (7.9%) • Education and Training (7.4%)	• Public Administration and Safety (26.2%) • Construction (11.6%) • Health Care and Social Assistance (9.7%) • Professional, Scientific and Technical Services (7.8%) • Education and Training (7.3%)	• Health Care and Social Assistance (15.1%) • Retail Trade (9.4%) • Professional, Scientific and Technical Services (9.3%) • Education and Training (9.1%) • Construction (9.0%).

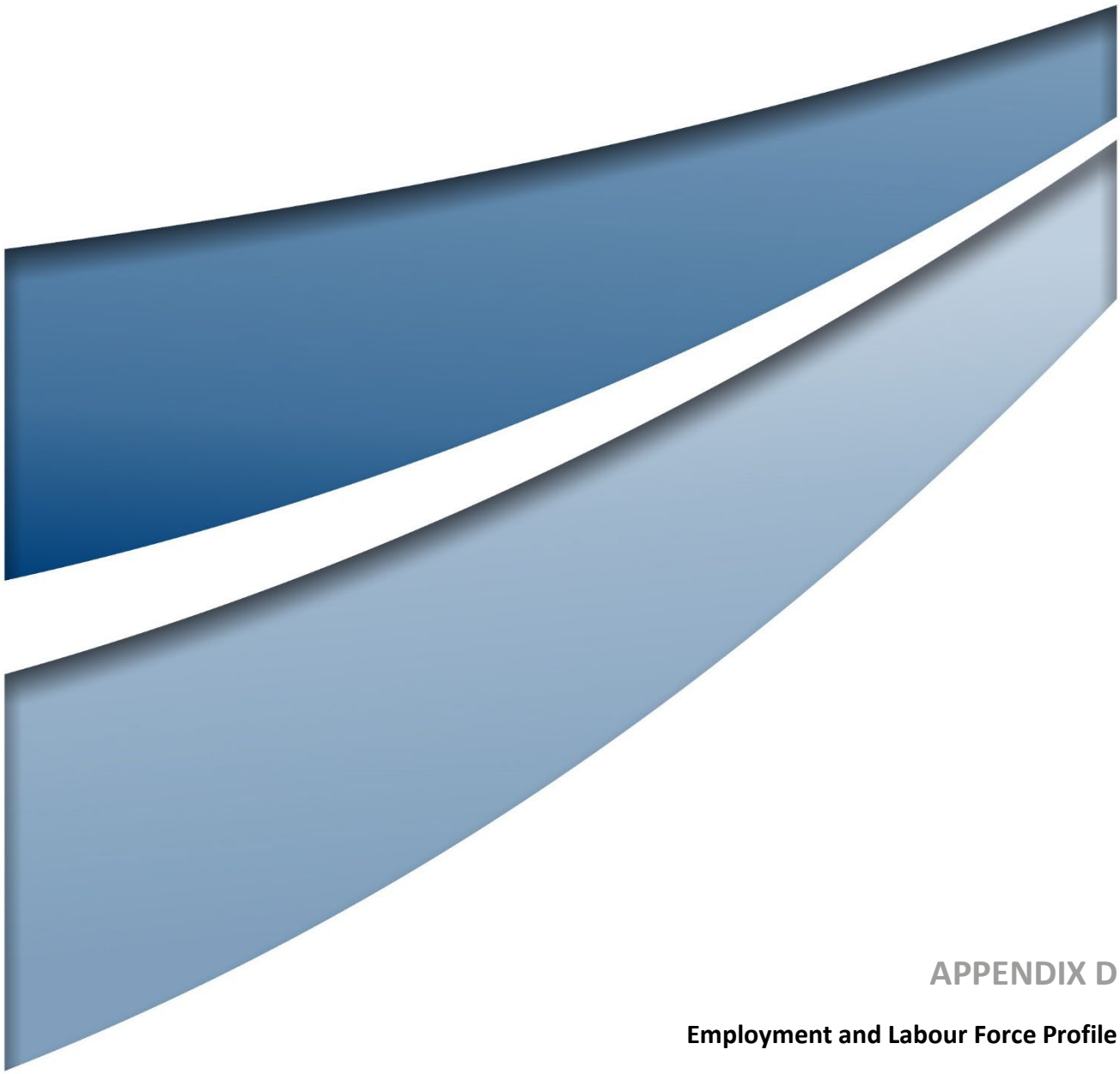
	Goulburn- Mulwaree LGA	Wingecarribee LGA	Yass Valley LGA	Upper Lachlan Shire LGA	Queanbeyan-Palerang Regional LGA	NSW
Top 5 industries by gross regional value	• Health Care and Social Assistance ($210.9m) • Construction ($182.9m) • Public Administration and Safety ($152.0m) • Manufacturing ($140.2m) • Transport, Postal and Warehousing ($103.7m)	• Health Care and Social Assistance ($274.4m) • Construction ($267.0m) • Manufacturing ($256.0m) • Professional, Scientific and Technical Services ($243.3m) • Wholesale Trade ($184.0m)	• Agriculture, Forestry and Fishing ($105.6m) • Construction ($67.1m) • Health Care and Social Assistance ($46.7m) • Professional, Scientific and Technical Services ($41.4m) • Public Administration and Safety ($31.8m)	• Agriculture Forestry and Fishing ($135.0m) • Construction ($34.6m) • Health Care and Social Assistance ($20.5m) • Education and Training ($16.1m) • Professional, Scientific and Technical Services ($16.1m)	• Public Administration and Safety ($428.6m) • Construction ($14.6m) • Healthcare and Social Assistance ($162.4m) • Professional, Scientific and Technical Services ($141.3m) • Manufacturing ($129.0m)	• Manufacturing ($205,096.5 m) • Construction ($187,706 m) • Financial and Insurance Services ($147,216.8 m) • Rental, Hiring and Real Estate Services ($122,531 m) • Professional, Scientific and Technical Services ($108,997.8 m).

Source: (.idcommunity, 2022; .idcommunity, 2021)

Table A.12 Implication

Key Takeaway	Implication
Varying top industries of employment across the LGAs	The LGAs demonstrate varying strengths in different industries. All the LGAs have high employment in the construction industry indicating a potential labour pool which may be able to be reskilled or upskilled for solar farm construction.
Varying strengths in key solar farm construction industries by gross regional value.	Key industries such as transport, postal and warehousing, construction, manufacturing, wholesale trade and education and training have the potential to support the construction of large-scale solar farms due to the potential for these industries to supply services to the Project.

Source: (Umwelt, 2024)



APPENDIX D

Employment and Labour Force Profile

D.1 Employment and Labour

Throughout this section, tables are coloured coded to show where LGA attributes are lower (red) or higher (green) than NSW metrics as show in **Table D.1.**

Table D.13 Table Colour Scheme Meaning

Colour	Meaning
	Figure lower than NSW average or median
	Figure higher than NSW average or median

Source: (Umwelt, 2024)

This strategy has analysed the existing employment and business profile of the social locality and assessed the opportunities for social and local procurement maximisation. **Table D.2** provides a breakdown of employment, unemployment, key industries and occupations in each LGA within the social locality, indicating that Queanbeyan- Palerang LGA has the largest capacity to support the Project. Following this, Wingecarribee LGA, Goulburn- Mulwaree LGA, and Yass Valley demonstrate capacity while the capacity of Upper Lachlan Shire LGA is substantially smaller.

Table D.2 Potential Project Workforce

Locality	Total Labour force[26]	Unemployment rate[27]	Unemployed people[28]	Number of people employed in construction industry	Estimate of people unemployed in the construction industry[29]	Number of people employed in relevant occupations[30]	Estimate of people unemployed in relevant occupations[31]	Number of people employed as electricians	Estimate of unemployed electricians[32]	Number of people with relevant skills	Estimate of unemployed people with relevant skills[33]
Goulburn Mulwaree LGA	16,724	2.60%	533	1,507	39	3,878	101	164	4	3,220	84
Wingecarribee LGA	27,530	1.40%	291	2,547	36	6,065	85	265	4	5,739	80
Yass Valley LGA	10,063	1.10%	139	1,094	12	1,946	21	121	1	1,716	19
Upper Lachlan Shire LGA	4,709	1.50%	82	317	5	934	14	30	0	848	13
Queanbeyan-Palerang Regional LGA	39,192	1.10%	510	4,024	44	6,973	77	435	5	6,436	71
Total	98,218		1,555	9,489	136	19,796	298	1,015	15	17,959	266

Source: (ABS Table Builder Pro, 2021; SALM, 2023)

[26] Total labour force as of September 2023 (SALM, 2023)
[27] Unemployment rate as of September 2023 (SALM, 2023).
[28] Total people unemployed as of September 2023 (SALM, 2023).
[29] This is an estimate calculated by applying the unemployment rate to the number of people in the construction industry.
[30] Relevant occupations have been defined as labourers, and technicians and trade workers.
[31] This is an estimate calculated by applying the unemployment rate to the number of people with relevant occupations.
[32] This is an estimate calculated by applying the unemployment rate to the number of people employed as electricians.
[33] Relevant skills have been defined as those with qualifications in the engineering and related technologies, and architecture and building fields of study.

Unemployment

The most recent unemployment data from December 2023 indicates that Goulburn-Mulwaree had a significantly higher unemployment rate of 2.6% compared to the other LGAs. This is lower compared to the NSW rate of 3.3%. The LGAs of Upper Lachlan Shire (1.5%), Wingecarribee (1.4%), Yass Valley (1.1%), Queanbeyan- Palerang (1.1%) had subsequently lower unemployment rates. In the 3 years from December 2020, December 2023 had the lowest recorded unemployment rate across all the LGAs. This suggests there is a lower labour market of unemployed people for the Project to source construction workforce from.

Figure D.1 provides an overview of unemployment trends from September 2020 to September 2023 for the LGAs.

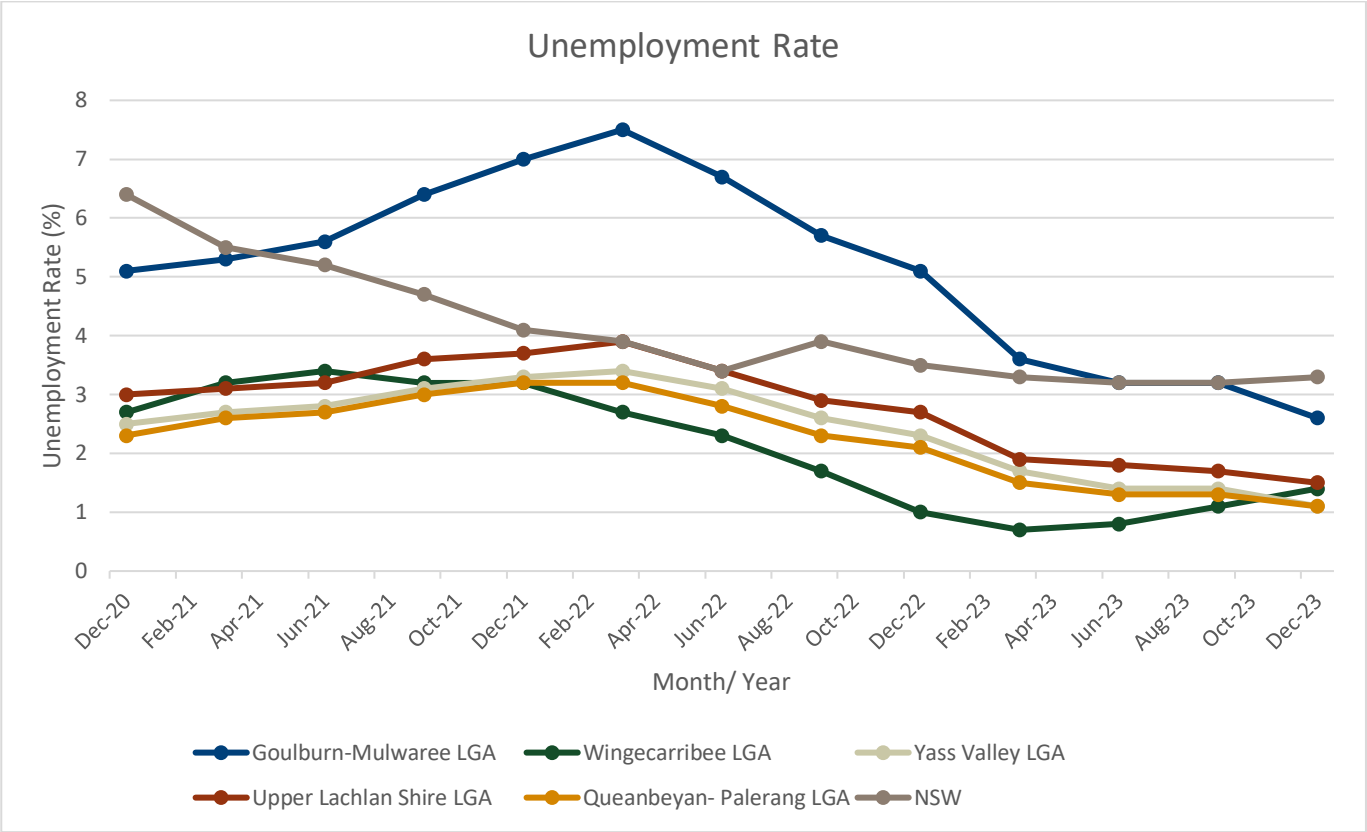


Figure D.1 Unemployment Trends by LGA

Source: (SALM, 2023)

Table D.4 Implication

Key Takeaway	Implication
Lower or on par unemployment rate in December 2023	The LGAs have lower unemployment rates compared to NSW. Lower unemployment rates are indicative of tighter labour market conditions in the LGAs therefore a higher potential of workforce shortages and difficulty for the Project to find and retain skilled workers (Jobs and Skills Australia, 2023).
Decline in unemployment across the LGAs since March 2022	The decline in unemployment rates across the LGAs can be indicative of the increasing demand of the labour market and people exiting the labour force. Therefore, a lower potential local labour market for the Project to utilise (Jobs and Skills Australia, 2023).

Source: (Umwelt, 2024)

Gender

Table D.5 illustrates the difference between males and females employed in key solar farm construction industries of electricians and labourers. When compared to NSW, the LGAs of Goulburn-Mulwaree, Wingecarribee, and Queanbeyan have on par proportion of females employed as electricians though demonstrate a significant difference in ratio to men employed in the same occupation. Furthermore, there are no recorded female electricians in Yass Valley LGA while Upper Lachlan Shire recorded the highest representation of female electricians of 10%. Similarly, the proportion of female employed as labourers in the LGAs was on par with NSW with Queanbeyan-Palerang Regional having a slightly lower proportion. It is understood that to meet current demand for renewable energy workforces, female employment in key occupations needs to rise. Barriers which have historically affected women entering these male dominated industries have included gender discrimination and bullying in the workplace and do not feel they have equal access to career progression opportunities, salary advancement or mentoring (Jobs and Skills Australia, 2023).

Table D.5 Key Solar Farm Industries by Gender

LGA	Goulburn-Mulwaree		Upper Lachlan Shire		Wingecarribee		Yass Valley		Queanbeyan-Palerang Regional		NSW	
Key Occupations												
Gender	**Labourers**	**Electricians**	**Labourers**	**Electricians**	**Labourers**	**Electricians**	**Labourers**	**Electricians**	**Labourers**	**Electricians**	**Labourers**	**Electricians**
Male	1,113	166	265	32	1,430	256	450	116	1,662	418	195,644	37,566
Female	637	3	152	3	839	5	211	0	683	14	105,325	703

LGA	Goulburn-Mulwaree		Upper Lachlan Shire		Wingecarribee		Yass Valley		Queanbeyan-Palerang Regional		NSW	
Total	1,751	164	419	30	2,265	265	662	121	2,346	435	300,969	38,269
% Female	36%	2%	36%	10%	37%	2%	32%	0%	29%	3%	35%	2%

Source: (ABS Table Builder Pro, 2021)

Table D.6 Implications

Key Takeaway	Implication
Large disparities between males and females employed in key occupations especially electricians	The significant difference between male and female employment in the key solar farm industry occupations demonstrate there will be likely barriers to reskilling or upskilling current female cohorts to relevant solar farm construction jobs therefore consideration of addressing barriers to these occupations will need to be considered.

Source: (Umwelt, 2024)

First Nations

First Nations people are an underrepresented group within renewable energy workforces. **Table D.7** demonstrates labour force participation of First Nations people across the LGAs compared to NSW. All LGAs except for Goulburn Mulwaree have a higher labour force participation compared to NSW with Goulburn Mulwaree marginally lower. Furthermore, the LGA of Yass Valley has the highest unemployment rate of the LGAs as well as compared to NSW.

Table D.7 First Nations Labour Force Participation, 2021

Employment	Goulburn Mulwaree	Upper Lachlan Shire	Wingecarribee	Yass Valley	Queanbeyan-Palerang Regional	NSW
In the Labour Force	54.9%	64.2%	62.5%	64.2%	70.8%	56.5%
Full Time	52.7%	60.0%	52.1%	53.0%	64.3%	48.9%
Part Time	30.7%	28.3%	32.5%	31.7%	22.0%	30.4%
Unemployed	9.5%	2.5%	5.5%	10.4%	5.8%	9.8%

Source: (ABS, 2021)

Table D.8 Implications

Key Takeaway	Implication
Higher or on par labour force participation for First Nations in the LGAs	Higher labour force participation indicates a greater provision of access to employment in the LGAs. The greater labour force pool indicates a larger labour market of First Nation people who may be able to be employed/ reskilled into the construction workforce.
Higher rates of unemployment in the LGAs except for Upper Lachlan Shire for First Nation people compared to the broader LGA population	The higher rate of unemployment of First Nation people can be related to socio-economic disparities which indicate vary levels of access to employment opportunities, education and supportive social infrastructure. Providing equitable access to opportunities for training and employment which is tailored towards First Nations will be crucial in targeting the unemployment labour pool.

Source: (Umwelt, 2024)

Table D.9 illustrates the educational attainment of First Nations people across the LGAs. Goulburn Mulwaree LGA demonstrated lower attainment at a bachelor degree or above level of education compared to NSW. The remaining LGAs demonstrated higher attainment levels compared to NSW. All LGAs demonstrated higher attainment in certificate level education. The LGAs of Yass Valley and Queanbeyan-Palerang Regional had the highest year 12 attainment compared to the other LGAs and NSW.

When compared to the broader LGA communities (refer to **Appendix C**) attainment of a bachelor degree or above and certificate level attainment were lower.

Table D.9 First Nations Highest Educational Attainment

Highest Educational Attainment	Goulburn Mulwaree	Upper Lachlan Shire	Wingecarribee	Yass Valley	Queanbeyan-Palerang Regional	NSW
Bachelor Degree or above	6.1%	10.2%	9.9%	12.3%	13.8%	8.3%
Certificate IV and III	20.3%	23.5%	23.4%	21.0%	20.6%	18.1%
Year 12	12.1%	12.3%	11.4%	14.2%	15.8%	13.3%

Source: (ABS, 2021)

Table D.10 Implication

Key Takeaway	Implication
Lower levels of educational attainment in Fist Nation communities	Lower levels of tertiary education in First Nation communities may impact the Projects ability to support and employ local First Nation people into the construction workforce. According Jobs and Skills Australia, First Nations people with qualifications in high demand field were more likely to be employed and to be working in a role directly relevant to their study, therefore targeted educational and training opportunities for First Nation people would increase likely participation in the construction workforce through provision of opportunities (Jobs and Skills Australia, 2023).

Source: (Umwelt, 2024)

Table D.11 illustrates the distribution of varying top three occupations for First Nation people across the LGAs. Common occupations across the LGAs include labourers, community and personal service workers and technicians and trades workers.

Table D.11 First Nations Top 3 Occupations

Top Occupations	Goulburn Mulwaree	Upper Lachlan Shire	Wingecarribee	Yass Valley	Queanbeyan-Palerang Regional	NSW
1	Community and Personal Service Workers (17.3%)	Managers (19.2%)	Labourers (16.8%)	Managers (14.8%)	Clerical and Administrative Workers (16.6%)	Community and Personal Service Workers (17.8%)
2	Labourers (16.0%)	Technicians and Trades Workers (15.0%)	Technicians and Trades Workers (16.4%)	Community and Personal Service Workers (14.8%)	Technicians and Trades Workers (15.7%)	Labourers (14.2%)
3	Technicians and Trades Workers (14.5%)	Labourers (15%)	Community and Personal Service Workers (14.2%)	Technicians and Trades Workers (14.3%)	Professionals (15.5%)	Technicians and Trades Workers (14.0%)

Source: (ABS, 2021)

Table D.12 Implication

Key Takeaway	Implication
Key occupations aligning with key occupations relevant for solar farm construction	Key solar farm construction occupations such as technicians and trades workers and labourers for First Nation communities demonstrate capacity for transferrable skills or upskilling for the Project construction workforce.

Source: (Umwelt, 2024)

Key Occupations and Industries of Employment

Figure D.2 illustrates the proportion of people in the LGAs employed in the construction and as technicians and trade workers. Across the LGAs there are 9,386[34] people employed in the construction industry and 12,349 employed as technicians and trade workers. Of those employed in the key industries and occupation there are 4,577 people currently employed with the likely skills needed for the construction of the solar farm. Research undertaken in the resources sector highlights that the majority of workers employed in construction in resource projects transitioned from construction roles in other sectors such as residential or infrastructure sectors (Doyle, 2014). A similar trend is considered likely in renewable energy. Similarly, research suggests that almost 75% of jobs in renewable energy over the next 15 years are likely to be available for labourers, trades and technicians and professionals (Briggs, Rutovitz, Dominish, & Nagrath, 2020).

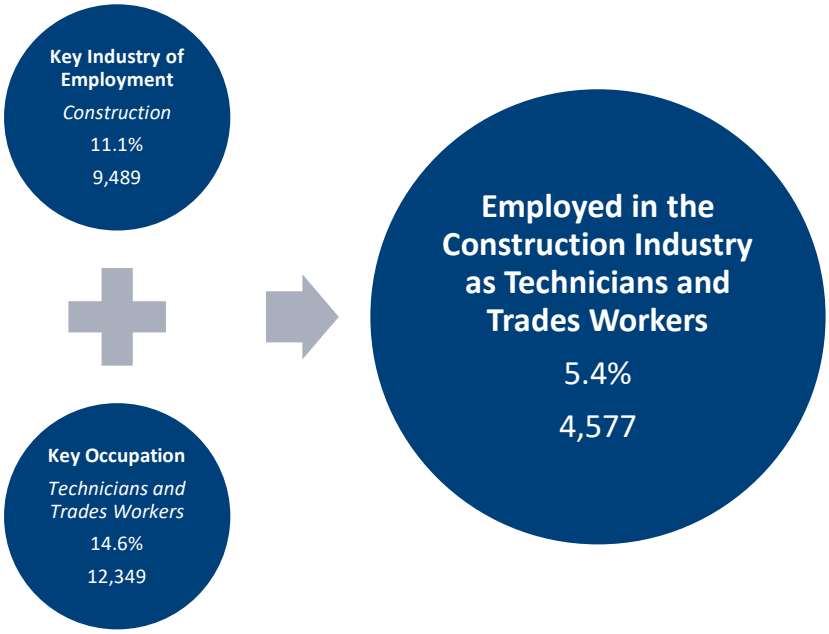


Figure D.2 Key Industry of Employment by Sector of all LGAs

Source: (ABS Table Builder Pro, 2021)

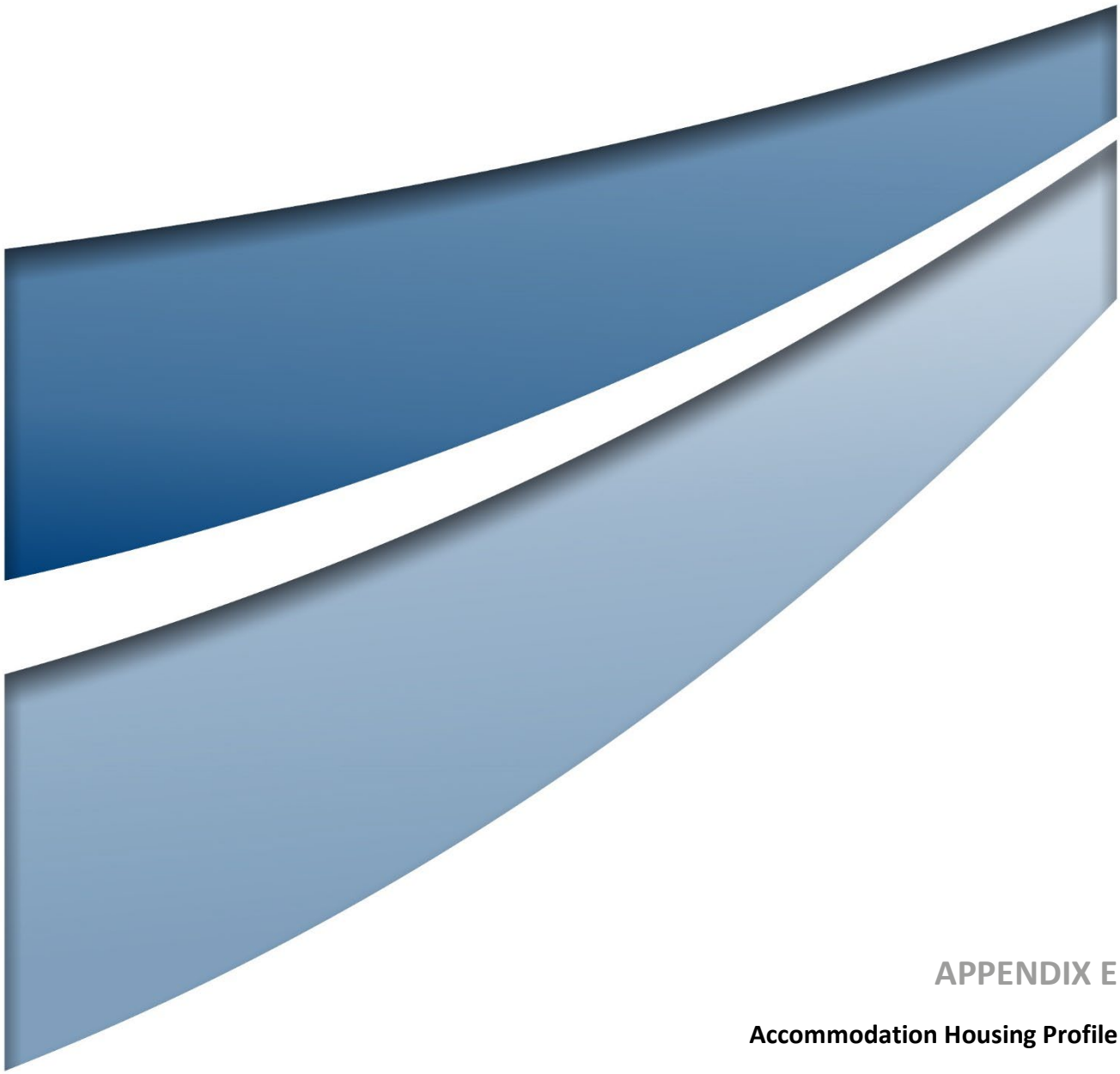
Table D.13 Implication

Key Takeaway	Implication
Potential local labour force currently employed in the construction industry	Across the social locality there are 9,368 people employed in the construction industry which may have the potential skills which are transferrable to the construction of a solar farm (CEC, 2022). This data does not consider the cumulative impacts of the other concurrent SSD projects occurring in the region.

[34] This number may vary from other totals of people employed in the construction industry due to ABS randomly adjusting data to avoid release of confidential data.

Key Takeaway	Implication
Potential local labour force employed as technicians and trade workers	According to the CEC (2022), technicians and trades workers will be a key occupation required for the construction of large-scale solar farms. Though many of those currently employed in this occupation will require upskilling due to lack of specific experience in renewable energy due to being employed in other industries.
Small proportion of the social locality which specialise as employed in the construction industry and technicians and trades workers	There is a small proportion of people employed in the construction industry who are technicians and trades workers therefore would have relevant skills and potentially the qualifications required for the construction of a solar farm.

Source: (Umwelt, 2024)



APPENDIX E

Accommodation Housing Profile

E.1 Accommodation Housing

In assessing the potential accommodation options which may be available to the construction workforce, in this AES are defined as:

- Hotel, motel, caravan, camping and holiday park rooms run by commercial operators.
- Leasable rooms, dwellings or buildings offered for rent on Airbnb.
- Residential rental properties.

This section considers levels of availability of this type of accommodation, based on the following assumptions and limitations:

- 73% occupancy rate of short-term accommodation, as based upon accommodation providers within a 1-hour drive via telephone surveys. (Refer to Section 3.2 for further information).
- 48% average occupancy rate of Airbnb, as based upon average occupancy rates across the LGAs of Goulburn- Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan Shire and Queanbeyan- Palerang Regional from December 2020 to December 2023.
- For the purpose of this assessment, it is assumed a maximum of 30% of total available rooms of short-term accommodation may be available to construction workers from the Project given the volume of concurrent project and other transient workforces in the area.
- For the purpose of this assessment, it is assumed that on average Airbnb properties have two rooms per home a multiplier has been added to adequately assess the rooms available. Therefore, a maximum of 30% of total available Airbnb listings/rooms (utilising the two-room multiplier) may be available to construction workers from the Project given the volume of concurrent project and other transient workforces in the area.
- It is recommended that no more than 2.5% of available rental stock be occupied by construction workers for the Project given significantly low vacancy rates and due to recommendation made by key stakeholders during consultation.
- These are conservative estimates and reflect a 'worst case scenario' in relation to accommodation availability.

Short Term Accommodation

- For the purposes of this analysis, all short-term accommodation has been considered as 'able to be occupied' by incoming work forces. However, it is unlikely that certain accommodation types, e.g., cottages or luxury retreats will be utilised by the incoming workforce. Each room listed in short-term accommodation has been counted as space for one person, despite some rooms including more than one bed. This assumption is therefore less conservative. Furthermore, accommodation which has been identified within a 1-hour drive distance as shown in **Figure 2.2** has been utilised for the assessment as the most likely to house the construction workforce.

Short-term Accommodation Options

Table E.1 demonstrates the number of rooms available in each LGA by their classification type within a 1-hour drive of the Project. It has been determined that the construction workforce is likely to be housed in accommodation classified as motels, hotels and caravan, camping and holiday parks due to the suitability of the accommodation. Furthermore, accommodation which has listed one room available has been removed from analysis as is unlikely to house any construction workforce. Across the LGAs there are 738 motel rooms, 634 hotel rooms and 956 caravan, camping and holiday park rooms. Therefore, there are 2,328 rooms available under the appropriate classification of short-term accommodation within the social locality.

Table E.1 Total number of rooms in the LGAs by classification type

Locality	Total Number of Providers[35]	Listing/ Classification Type										Total Number of Rooms
		Motels[36]		Hotel[37]		Caravan, Camping and Holiday Parks[38]		Apartments[39]		Other[40]		
		Number of providers	Number of rooms	Number of providers	Number of rooms	Number of providers	Number of rooms	Number of providers	Number of rooms	Number of providers	Number of rooms	
Goulburn-Mulwaree	39	12	331	2	67	10	131	3	204	12	54	787
Upper Lachlan Shire	20	2	36	5	38	6	69	1	3	6	39	185
Wingecarribee Shire	92	7	166	10	311	2	19	3	32	70	395	923
Yass Valley	21	8	185	3	41	3	121	1	50	6	72	469
Queanbeyan - Palerang	16	2	20	2	177	10	616	0	0	2	9	822
Total	**188**	**31**	**738**	**22**	**634**	**31**	**956**	**8**	**289**	**96**	**569**	**3,186**

Source: (ATDW, 2024)

[35] Number of providers as of April, 2024 (ATDW, 2024)
[36] Motels are classified as: motels; motels, hotels; and motels, retreats and lodges
[37] Hotels are classified as: hotel; hotel, motel; and hotel, retreat and lodges
[38]Caravan, Camping and Holiday Parks are classified as: caravan, camping and holiday parks; caravan, camping and holiday parks, cottages, farm stays; caravan, camping and holiday parks, cottages, retreat and lodges, farm stays; caravan, camping and holiday parks, retreat and lodges; caravan, camping and holiday parks, farm stays.
[39] Apartments are classified as: apartments; apartment cottages; apartment, motels; apartment, hotels; apartment, bed and breakfast.
[40] Other are classified as: farm stays; holiday houses; bed and breakfast; retreat and lodges; bed and breakfast, cottages, farm stays, holiday houses, retreat and lodges; backpackers and hostels, bed and breakfast; bed and breakfast, cottages, holiday houses; cottages, farm stays, holiday houses; bed and breakfast, farm stays; cottages, retreat and lodges; farm stays, retreat and lodges; cottages, farm stays; bed and breakfast, hotels, retreat and lodges; farm stays, holiday houses; bed and breakfast, holiday houses; farm stays, caravan, camping and holiday parks

Airbnb Accommodation

For the purposes of this study, an 'entire place' on Airbnb has been counted as 2 beds, undertaking the assumption that on average Airbnb homes have two rooms per listing.

Airbnb accommodation has been utilised for analysis as a potential accommodation option for the Project due to its suitability. **Figure D.3, Figure D.4, Figure D.5, Figure D.6** and **Figure D.7**, illustrates occupancy rates of Airbnbs and Hotel Comparable[41] accommodation categories in the LGAs. Average occupancy rates range from 42.7% to 53.3% from December 2020 to December 2023.

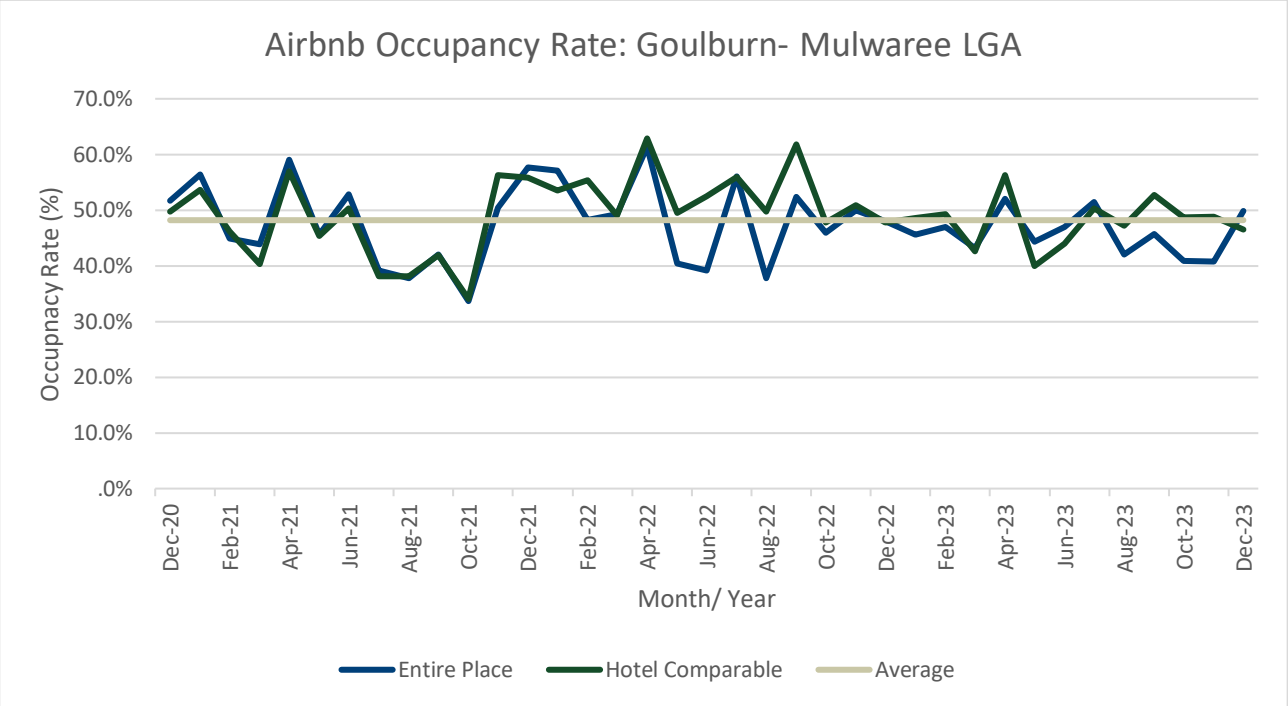


Figure D.3 Airbnb Occupancy Rates, Goulburn Mulwaree LGA

Source: (AirDNA, 2023)

[41] The metric includes only Studio and one-bedroom entire place rentals. These listings are most likely to compete directly with hotels. (AirDNA, 2024)

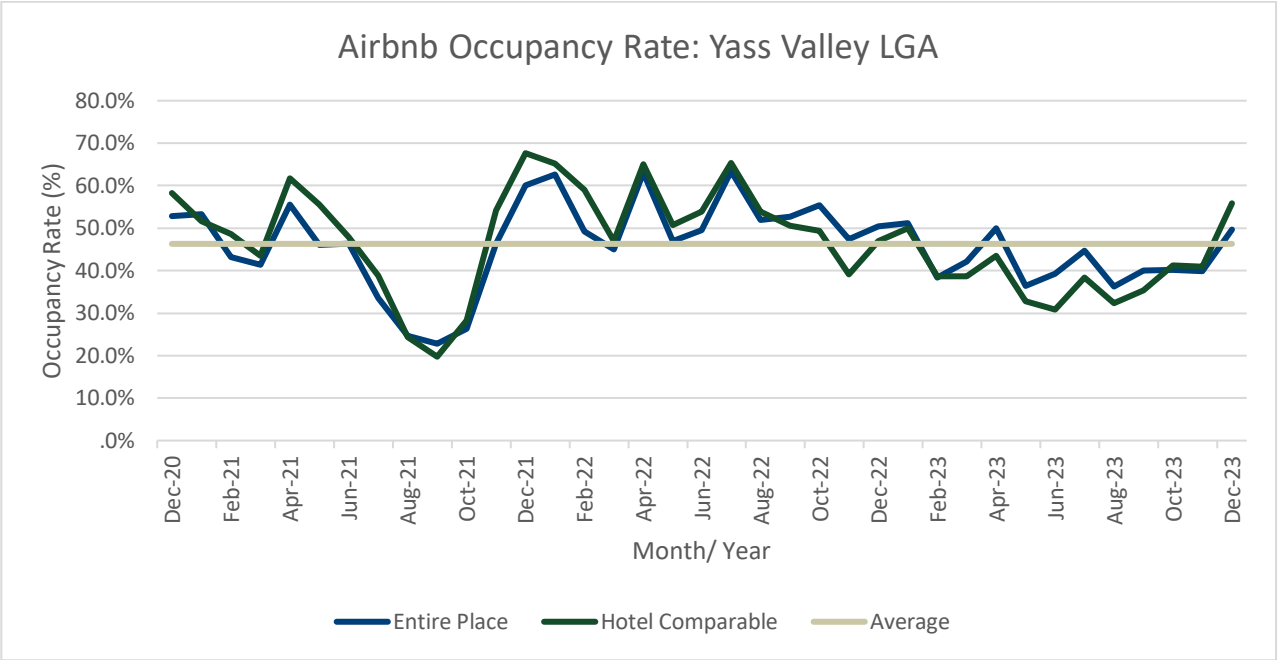


Figure D.4 Airbnb Occupancy Rates, Yass Valley LGA

Source: (AirDNA, 2023)

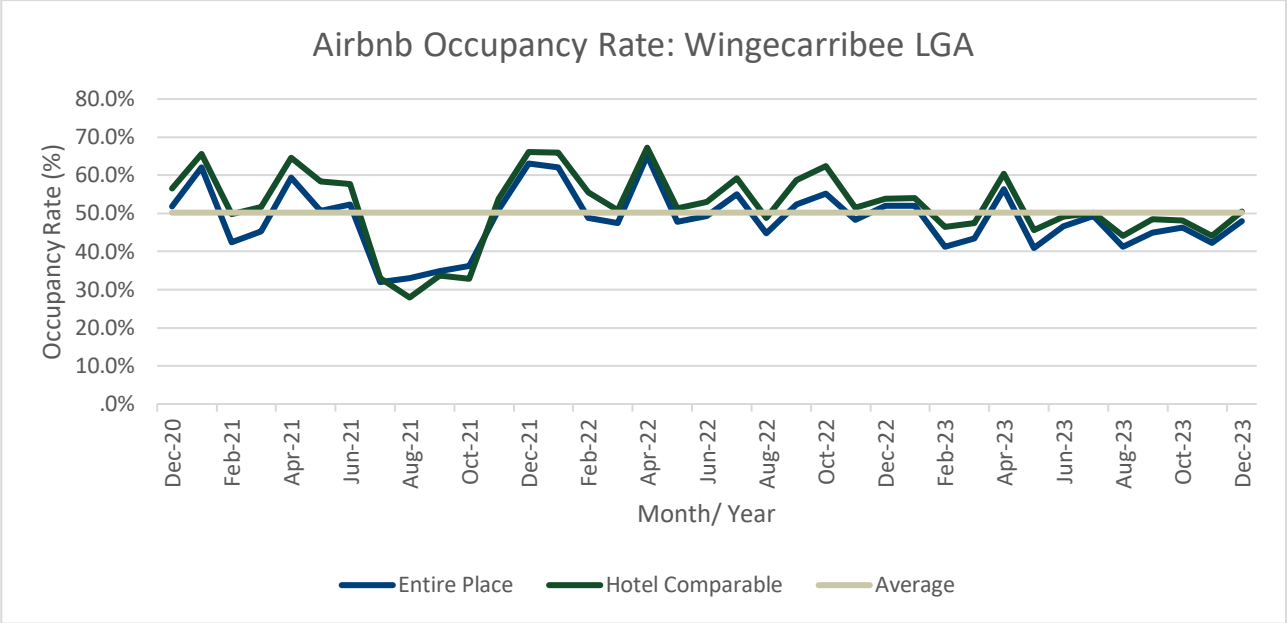


Figure D.5 Airbnb Occupancy Rates, Wingecarribee LGA

Source: (AirDNA, 2023)

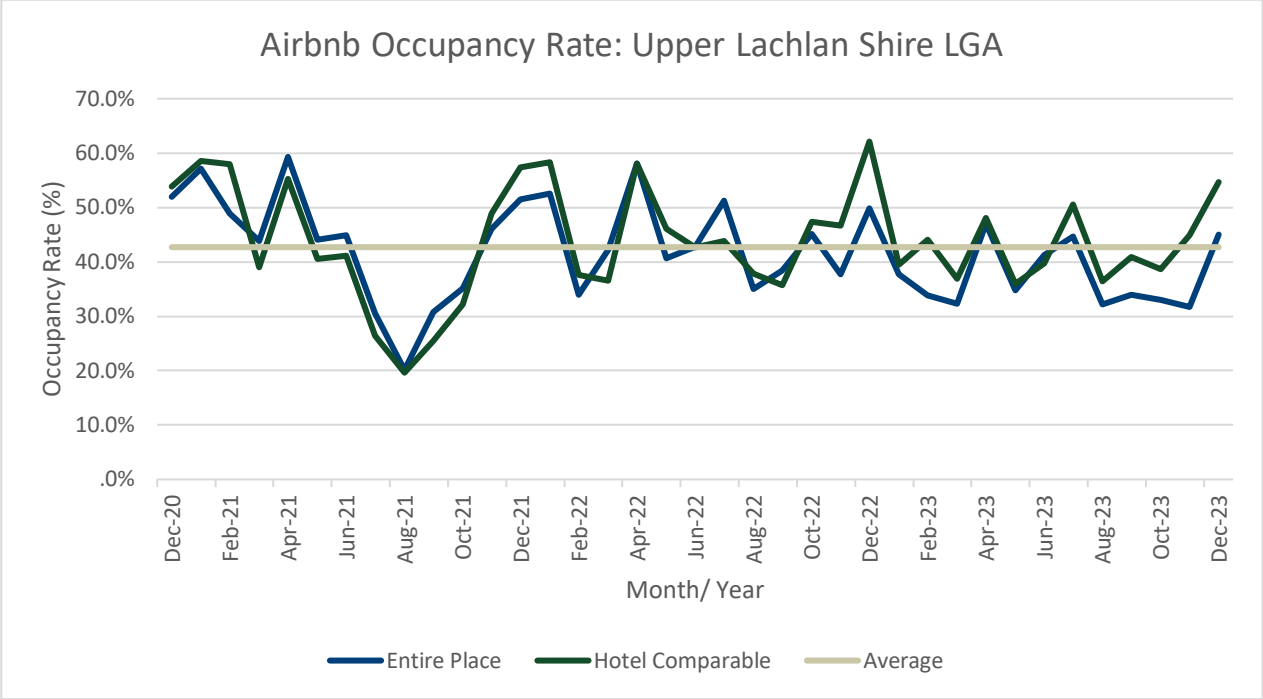


Figure D.6 Airbnb Occupancy Rates, Upper Lachlan Shire LGA

Source: (AirDNA, 2023)

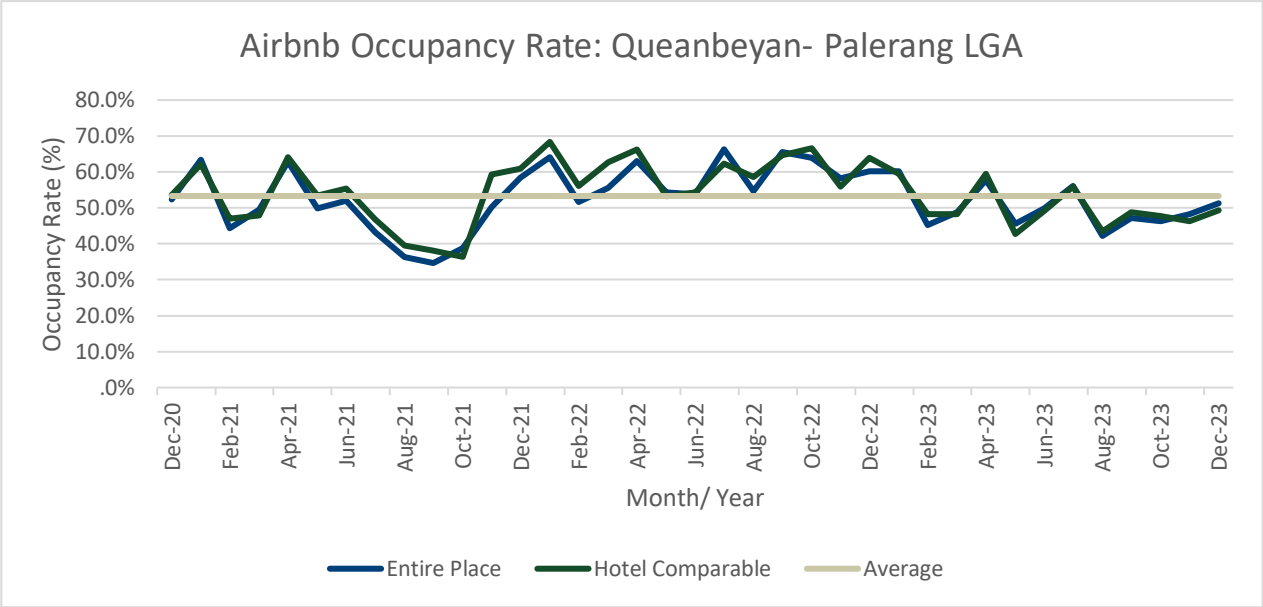


Figure D.7 Airbnb Occupancy Rates, Queanbeyan-Palerang LGA

Source: (AirDNA, 2023)

Rental Accommodation

The information presented in this section regarding rental availability is based on desktop reviews undertaken in April 2024.

As highlighted in **Table 6.26** there were 524 rentals available in April 2024 across the LGAs. Key townships which may house the construction workforce within the LGAs include, Goulburn, Bowral, Moss Vale, Yass,

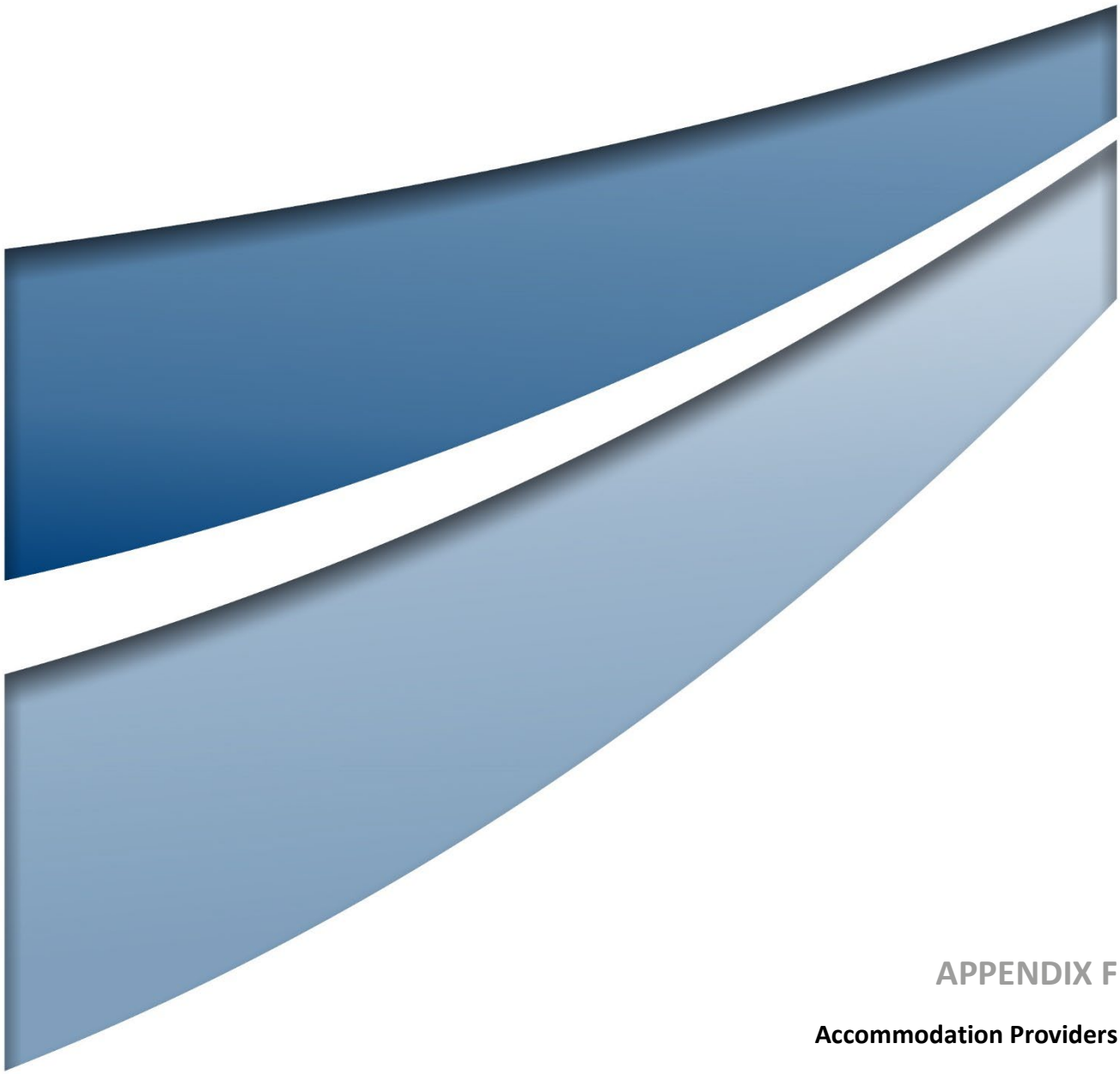
Mittagong, Crookwell, Bungendore and Braidwood. **Table E.2** identifies the limited available rental stock for incoming workforces within the social locality and consequently, based on existing low vacancy rates and rental pressures, it is recommended that the use of rental accommodation to house the Project workforce be limited, so as not to place additional strain on those existing residents seeking accommodation within the area.

Table E.2 Rental Availability by LGA

LGA	Rental Vacancy Rate (%)	Rentals Available	Rentals Available to Gundary Solar Farm Workforce (2.5% of available rental stock)[42]
Goulburn Mulwaree	1.03%	164	4
Wingecarribee	1.05%	264	7
Yass Valley	0.46%	36	1
Upper Lachlan Shire	0.26%	14	0
Queanbeyan- Palerang Regional	1.35%	46	1
NSW	1.11%	-	-
Total Rental Stock		**524**	**13**

Source: (real estate investar, 2024)

[42] Assuming for the purpose of this assessment that the Project should aim to take up no more than 2.5% of available properties.



APPENDIX F

Accommodation Providers

Table F.1 Accommodation Providers within a 1-hour Drive from the Project

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
ibis Styles Canberra Eaglehawk	Hotels	1222 Federal Hwy Service Road, Sutton, NSW	Sutton	Queanbeyan	151	711
Capital Country Holiday Park	Caravan, Camping and Holiday Parks	47 Bidges Road, Sutton, NSW	Sutton	Queanbeyan	125	400
Joe O'Connor Park	Caravan, Camping and Holiday Parks	12 Laidlaw Street	Yass	Yass	100	300
Park Proxi Gibraltar Bowral	Hotels	7 Boronia Street	Bowral	Southern Highlands	77	165
Mercure Goulburn	Apartments, Motels	2 Lockyer Street	Goulburn	Goulburn	74	209
Best Western Plus Goulburn	Apartments	77 Lagoon Street	Goulburn	Goulburn	71	280
Astor Hotel and Astor Suites	Hotels, Motels	93 Auburn Street	Goulburn	Goulburn	52	120
Governors Hill Carapark	Caravan, Camping and Holiday Parks	77-83 Sydney Road	Goulburn	Goulburn	50	120
Abode Murrumbateman	Apartments, Hotels	57 Rose Street	Murrumbateman	Yass	50	120
Hamilton Hume Motor Inn	Motels	9 Laidlaw Street	Yass	Yass	50	120
Goulburn Central Motel	Motels	120 Auburn Street	Goulburn	Goulburn	44	88
Heritage Motor Inn Goulburn	Motels	69 Sydney Rd	Goulburn	Goulburn	43	133
Berida Hotel	Motels	6 David Street	Bowral	Southern Highlands	42	90
Bundanoon Hotel	Hotels	6-18 Erith Street	Bundanoon	Southern Highlands	42	121
Posthouse Motor Lodge Goulburn	Motels	1 Lagoon Street	Goulburn	Goulburn	38	90
Dormie House	Hotels	38 Arthur Street	Moss Vale	Southern Highlands	32	66
Thunderbird Motel	Motels	264 Comur Street	Yass	Yass	32	70
Goulburn South Caravan Park	Caravan, Camping and Holiday Parks	149 Hume Street	Goulburn	Goulburn	30	91
Swaggers Motor inn	Motels	35 Laidlaw Street	Yass	Yass	30	100

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
Sutton Forest Retreat	Holiday Houses	350 Hanging Rock Road	Sutton Forest	Southern Highlands	29	60
Oxley Motel	Motels	535 Moss Vale Road	Bowral	Southern Highlands	28	60
Lilac City Motor Inn & Steakhouse	Motels	126 Lagoon St	Goulburn	Goulburn	28	90
Lilac City Motor Inn and Steakhouse Restaurant	Motels	126 Lagoon Street	Goulburn	Goulburn	28	70
Mittagong Motel	Motels	7-11 Old Hume Highway	Mittagong	Southern Highlands	28	70
The Abbey Motel	Motels	57 Verner Street	Goulburn	Goulburn	27	54
The Sebel Bowral Heritage Park	Apartments, Hotels	9 Kangaloon Road	Bowral	Southern Highlands	26	52
The Carrington Inn	Hotels	59 Ellendon Street, Bungendore, NSW	Bungendore	Queanbeyan	26	60
Gunning Motel	Motels	54 Yass Street	Gunning	Goulburn	24	48
Osborn House	Hotels	96 Osborn Avenue	Bundanoon	Southern Highlands	22	44
Goulburn Motor Inn	Motels	80 Clinton Street	Goulburn	Goulburn	22	54
Marulan Motor Inn	Motels	15620 Hume Highway	Marulan	Goulburn	22	64
Hi-Way Motor Inn	Motels	305 Comur Street	Yass	Yass	22	59
Yass Motel	Motels, Hotels	40 Laidlaw Street	Yass	Yass	22	66
Bundanoon Country Inn Motel	Motels	2 Anzac Parade	Bundanoon	Southern Highlands	21	50
Imperial Motel	Motels	Bong Bong Street	Bowral	Southern Highlands	20	59
Crookwell Caravan Park	Caravan, Camping and Holiday Parks	Laggan Road	Crookwell	Goulburn	20	40
Hillview Motel	Motels	2 Cowper Street	Goulburn	Goulburn	20	65
Reflections Holiday Parks Grabine Lakeside	Caravan, Camping and Holiday Parks	Grabine Road	Grabine	Goulburn	20	40
Mittagong Hotel	Hotels	89 - 91 Hume Highway	Mittagong	Southern Highlands	20	45
Australian Hotel	Motels	150 Comur Street	Yass	Yass	20	40

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
Berrima Bakehouse Motel	Motels	19 Old Hume Highway	Berrima	Southern Highlands	19	40
Bakehouse Motel Goulburn	Motels	4 Sowerby Street	Goulburn	Goulburn	16	51
Bungonia campground	Caravan, Camping and Holiday Parks	Bungonia Access Road	Bungonia	Goulburn	15	10
Southern Railway Hotel	Hotels	188 Sloane Street	Goulburn	Goulburn	15	42
Parkhaven Motel	Motels	60 Lagoon Street	Goulburn	Goulburn	15	35
Argyle Hotel	Hotels, Motels	481 Argyle Street	Moss Vale	Southern Highlands	15	31
Colonial Lodge Motor Inn	Motels	2 MacDonald Street	Yass	Yass	15	38
Yass Caravan Park	Caravan, Camping and Holiday Parks	Corner Laidlaw Street and Grampian Street	Yass	Yass	15	60
Railway Barracks	Holiday Houses	197 Braidwood Road	Goulburn	Goulburn	14	44
Murrumbateman Country Inn	Motels	3 Hercules Street	Murrumbateman	Yass	14	42
Highlands Hotel	Hotels, Motels	75 Main Street	Mittagong	Southern Highlands	13	19
Upland Pastures Motel	Motels	2 Oram Street	Crookwell	Goulburn	12	26
Moss Vale Village Caravan Park	Caravan, Camping and Holiday Parks	43 - 53 Willow Drive	Moss Vale	Southern Highlands	11	52
Cedar Lodge - Braidwood	Motels	64 Duncan Street, Braidwood, NSW	Braidwood	Queanbeyan	10	30
Colonial Motel	Motels	199 Wallace Street, Braidwood, NSW	Braidwood	Queanbeyan	10	50
Crookwell Showground	Caravan, Camping and Holiday Parks	East Street	Crookwell	Goulburn	10	20
Sutton Forest Retreat – Sophie's Farmhouse	Holiday Houses	350 Hanging Rock Road	Sutton Forest	Southern Highlands	10	20
Sutton Forest Retreat –	Holiday Houses	350 Hanging Rock Road	Sutton Forest	Southern Highlands	10	20

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
Jimmy's Homestead						
Taralga Showground	Caravan, Camping and Holiday Parks	Walsh Street	Taralga	Goulburn	10	20
Criterion Hotel Crookwell	Hotels	72 Goulburn Street	Crookwell	Goulburn	9	20
Sutton Forest Retreat – The Hideaway	Holiday Houses	350 Hanging Rock Road	Sutton Forest	Southern Highlands	9	20
Crookwell Hotel	Hotels	101 Goulburn Lane	Crookwell	Goulburn	8	16
Crookwell Hotel Motel	Hotels, Motels	Spring Street and Goulburn Street	Crookwell	Goulburn	8	16
The Old Bank Boutique Hotel	Motels, Retreat and Lodges	83 Main Street	Mittagong	Southern Highlands	8	14
Moss Manor	Hotels	1A Throsby St	Moss Vale	Southern Highlands	8	16
The Clubhouse Hotel	Hotels	190 Comur Street	Yass	Yass	8	16
The Yurtfarm	Caravan, Camping and Holiday Parks, Holiday Houses, Farmstays	1688 Range Rd	Mummel	Goulburn	7	72
Taralga Hotel	Hotels	24 Orchard Street	Taralga	Goulburn	7	23
Whisky Creek	Holiday Houses	24-30 Sutton Street	Berrima	Southern Highlands	6	10
Warrington Park	Holiday Houses	3110 Old Hume Highway	Berrima	Southern Highlands	6	12
Plum Tree Cottage	Holiday Houses	126b Mittagong Road	Bowral	Southern Highlands	6	16
Duncraig House	Holiday Houses	2 Greasons Road	Bundanoon	Southern Highlands	6	14
Bushranger Hotel	Hotels	24 Church Street	Collector	Goulburn	6	19
Eden Farm	Holiday Houses	301 Sallys Corner Rd	Exeter	Southern Highlands	6	16
Robin Hill Manor	Holiday Houses	45 Arthur St	Moss Vale	Southern Highlands	6	12
L'Air Du Wombat Truffles	Caravan, Camping and Holiday Parks, Cottages, Farmstays	1211 Oallen Road	Oallen	Goulburn	6	30

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
The Hobby Sheep Farm	Holiday Houses, Caravan, Camping and Holiday Parks, Farmstays	170 Fernleigh Close	Windellama	Goulburn	6	28
Boardman House	Holiday Houses	34 Boardman Rd	Bowral	Southern Highlands	5	10
Maison de Celine	Holiday Houses	523 Moss Vale Rd	Bowral	Southern Highlands	5	9
Camelot	Holiday Houses	58 Centennial Road	Bowral	Southern Highlands	5	14
Villa Luita	Holiday Houses	21 Holly Road	Burradoo	Southern Highlands	5	14
Sinden Park	Holiday Houses	52 Westgrove Road	Exeter	Southern Highlands	5	11
Hillside Farm	Holiday Houses	9 Howards Way	Mittagong	Southern Highlands	5	11
Chapman House	Holiday Houses	2 Lovelle St	Moss Vale	Southern Highlands	5	9
Kilburn	Holiday Houses	23-25 Hill Street	Moss Vale	Southern Highlands	5	10
Que Sera	Holiday Houses	25 Boronia Street	Bowral	Southern Highlands	4	10
Marloo	Holiday Houses	46 Oxley Dr	Bowral	Southern Highlands	4	8
Kilmarth Hideaway	Holiday Houses	6 Alexandra Cres	Bowral	Southern Highlands	4	8
Tea Tree Hollow Southern Highlands	Holiday Houses	82 Dairy Road	Brayton	Goulburn	4	8
Tea Tree Hollow	Holiday Houses	82 Dairy Road	Brayton	Goulburn	4	8
Ballogie Lodge	Holiday Houses	18 Bamburgh Pl	Bundanoon	Southern Highlands	4	8
Dove Cottage Bundanoon	Holiday Houses	2 Birch Ponds Dr	Bundanoon	Southern Highlands	4	8
Alba Gardens	Holiday Houses	28 Garland Rd	Bundanoon	Southern Highlands	4	8
Forest Brae	Holiday Houses	5 Idolwood Rdg	Bundanoon	Southern Highlands	4	8
Garland Park	Holiday Houses	54 Garland Road	Bundanoon	Southern Highlands	4	10
Windermere	Holiday Houses	30 Toongoon Rd	Burradoo	Southern Highlands	4	8
Saint Eloi – le jardin	Holiday Houses	569 Moss Vale Rd	Burradoo	Southern Highlands	4	8
Grand residence in the heart of Crookwell	Holiday Houses	64 Cowper Street	Crookwell	Goulburn	4	8

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
Lake George Winery Homestead	Holiday Houses	173 The Vineyards Road	Lake George	Goulburn	4	11
Little Chelsea	Apartments, Bed and Breakfast	75-77 Broughton St	Moss Vale	Southern Highlands	4	2
The Burrows of Penrose	Holiday Houses	170 Victoria Street	Penrose	Southern Highlands	4	8
Mount Wayo Retreat	Holiday Houses	24 Mount Wayo Drive	Wayo	Goulburn	4	10
That Pink House!	Holiday Houses	25 Price Street	Bowral	Southern Highlands	3	6
Bluebell	Holiday Houses	28/3 Victoria St	Bowral	Southern Highlands	3	6
Bluebird Cottage	Holiday Houses	29 Sheaffe St	Bowral	Southern Highlands	3	7
Canary Cottage	Holiday Houses	42 Centennial Road	Bowral	Southern Highlands	3	6
Advilla	Holiday Houses	60 Woodbine Street	Bowral	Southern Highlands	3	6
The Gullies Retreat	Holiday Houses	16 The Gullies Road	Bundanoon	Southern Highlands	3	8
Elmswood House	Holiday Houses	3 Elmswood Ct	Bundanoon	Southern Highlands	3	6
Sarnia	Holiday Houses	1 Old Bong Bong Way	Burradoo	Southern Highlands	3	6
Mister Munro	Apartments	39-41 Goulburn St	Crookwell	Goulburn	3	6
Poppy Cottage	Holiday Houses	9 Middle Road	Exeter	Southern Highlands	3	6
The Gundaroo Inn Accommodation	Hotels	23 Cork Street	Gundaroo	Yass	3	6
Lovett	Holiday Houses	28 Spring Street	Mittagong	Southern Highlands	3	6
Barton Cottage	Holiday Houses	11 Dangar St	Moss Vale	Southern Highlands	3	6
Antler and Oak Cottage	Holiday Houses	63 Suttor Road	Moss Vale	Southern Highlands	3	6
Fern Creek Cottage	Holiday Houses	Unit 3/Lot 117 Old Hume Hwy	Berrima	Southern Highlands	2	4
Pine Gums, Off Grid Camp.	Caravan, Camping and Holiday Parks, Farmstays	Mullins Creek Road	Breadalbane	Goulburn	2	30
Grebe Cottage	Holiday Houses	22 Old Wingello Rd	Bundanoon	Southern Highlands	2	4
The Bunkhouse	Holiday Houses	514 Sallys Corner Rd	Exeter	Southern Highlands	2	4
Blue Hen	Holiday Houses	31 Anne St	Mittagong	Southern Highlands	2	4

Listing Name	Classification / Type	Address	Suburb	Area	No. Rooms	Sleeping Capacity
Azalea Court	Holiday Houses	2/10 Mack St	Moss Vale	Southern Highlands	2	4
Old Bank Stables	Holiday Houses	3 Queen St	Moss Vale	Southern Highlands	2	6
Finch's Nest	Holiday Houses	7/3-5 Clarence St	Moss Vale	Southern Highlands	2	6
Eight on Clarence	Holiday Houses	8/3-5 Clarence St	Moss Vale	Southern Highlands	2	4
Sutton Forest Cottage	Apartments, Cottages	7404 Illawarra Highway	Sutton Forest	Southern Highlands	2	4

Source: (ATDW, 2024)

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APPENDIX H

Preliminary Outline of Social Impact Management Strategies

H.1 Community Engagement Strategy

Consistent and consultative engagement with communities throughout the Project's planning, pre-construction, construction, and operations is critical in ensuring social acceptance, the development of strong local partnerships and overall, more successful, and sustainable Project outcomes.

Fairness in the Project development process requires the establishment and management of processes to ensure that people have meaningful opportunities to influence the design, plans, and outcomes of a development as well as in realising the benefits of the Project.

In the case of the Project, proactive consultation, and the formation of strong working partnerships throughout the Project lifecycle with the following stakeholder groups is critical:

- Host and neighbouring residents.
- Locally active community and environmental groups.
- Local Government.
- The local Aboriginal community.
- Local businesses and service providers.
- The broader community.

It is recommended that should the Project be approved, that Lightsource bp prioritise the implementation of a Community Engagement Strategy, to be led by a dedicated resource and comprising project-specific stakeholder analysis, mechanisms or methods to be utilised, periodic action plans, targets, responsibilities for implementation, as well as the development of a monitoring and evaluation framework for the Strategy throughout the life of the Project.

The approach for community engagement and public participation should be guided by the following industry and government standards and frameworks, namely:

- The International Association for Public Participation (IAP2)'s Spectrum of Public Participation (2018).
- Clean Energy Council's Australian Guide to Agrisolar for Large-Scale Solar (2021).
- NSW Government's Undertaking Engagement Guidelines for State Significant Projects (2021).

Objectives of the Community Engagement Strategy should at a minimum:

- Ensure that those potentially affected by the Project understand the Project's pre-construction and construction activities and how it will affect them.
- Ensure ongoing community participation during the subsequent phases of the Project to ensure people know how their input has been considered, and what strategies will be put in place to address impacts.
- Inform adaptive management strategies, if required.
- Share regular and transparent information on Project progress.

H.2 Community Benefit Sharing Strategy

Community benefit sharing in the context of the renewable energy sector in Australia relates to the establishment of an integrated model within projects to share the rewards of the development proactively and purposefully with local communities (Clean Energy Council, 2019). Outcomes of such a model are seen to contribute positively to the development and sustainability of a region.

Further, as part of the NSW Electricity Infrastructure Roadmap set by the NSW Government (2021), project developers must demonstrate tangible benefits to local communities who host renewable energy projects, beyond the national or regional value of delivering renewable energy and reducing carbon emissions.

The Clean Energy Council of Australia outlines a framework to be considered in developing a Benefit Sharing Scheme for renewable energy projects as follows:

- Establishment of benefit sharing objectives in partnership and consultation with community representatives.
- Research and understanding of community need, interests, and ideas from the community.
- Define the financial scope of the benefit sharing package.
- Plan community engagement process to support the development of the strategy.
- Determine preliminary criteria and 'negotiables'.
- Commence community consultation with an aim of building local networks and relationships.
- Assess, refine, and decide on key components, parameters, criteria, and governance arrangements.
- Establish the strategy and implementation.
- Governance and administration in collaboration with key stakeholders and members of the community.
- Monitoring, evaluation, and continual improvement.

Consequently, Lightsource bp is developing a Community Benefit Sharing Strategy for the Project, that includes an annual financial contribution for the life of the Project. The community benefit mechanisms being considered by Lightsource bp include:

- Annual financial contributions throughout the life of the Project via a Voluntary Planning Agreement (VPA) with the Goulburn Mulwaree Council. Note: the VPA has been submitted to the Goulburn Mulwaree Council and following further discussions is currently progressing through final review and approval processes within Council.
- Funding local community programs.
- Partnerships with local training and education organisations.
- Neighbourhood Benefit Sharing Program (refer to **Section H.3**).

H.3 Neighbourhood Benefit Sharing Program

Neighbour agreements, as outlined by the Australian Government's Australian Energy Infrastructure Commissioner (AEIC, 2023), are usually confidential but may involve:

- annual payments to the neighbour for the life of the project (including payments during the development, construction and operating phases of the project)
- a one-time payment at the commencement of the agreement
- reimbursement of reasonable legal fees incurred by the neighbour for negotiation of the agreement
- reimbursement for, or provision of, items such as visual screening, insulation, double-glazing, air-conditioning, energy efficiency programs, solar panels, electricity consumption
- reimbursement for increased public liability insurance premiums levied to the neighbour due to the presence of the wind or solar farm
- an option for the neighbour to request that the developer acquire the neighbour's property
- ability for a neighbour to terminate an agreement without penalty.

Lightsource bp has established a Neighbourhood Benefit Sharing Program to ensure those residents living closest to the project can share in its direct financial benefits. The Program will commence if the project is approved, and construction begins.

Under the Program, residences within 1 km of the Project will be eligible to participate in the Construction Neighbourhood Benefit Sharing Program. Residences within 500 m of the project boundary will be eligible to participate in both the Construction and the Operation Neighbourhood Benefit Sharing Program, as outlined below. The Program has been benchmarked against industry standards and takes into account the nature of the landscape surrounding the project. Further detail is provided in **Appendix F**.

H.4 Accommodation and Employment Strategy

An Accommodation and Employment Strategy (AES) has been developed (refer to **Appendix G**), to outline the approach and strategies of the Project relating to workforce accommodation and employment. The AES has been developed to consider the accommodation and employment impact and opportunities associated with the Project. The strategy outlines management measures to ensure benefits/opportunities are localised. These strategies have been developed in conjunction with engagement with local councils, employment providers, regional development and short-term accommodation providers to gain a better understanding of current employment and accommodation opportunities and constraints.

The Local Employment Strategy component has identified measures to priorities the employment of local businesses and workers, where feasible, to maximise the benefits of the Project for the local community. The strategy outline that a local procurement target of 5% (13) of the peak construction workforce would be the most likely scenario to be utilised by the Project which would limit labour and skills drain from the local businesses. Lightsource bp is committed to monitoring and evaluating the effectiveness of the Employment Strategy. These measures for the 5% local procurement include:

- Operate an EOI Register for contractors and service providers.
- Inform the local community and local business community of Project related opportunities.
- Encouraging the EPC Contractor to employ locally to meet target.
- Establish and use local networks to promote employment opportunities.
- Lightsource bp to recruit Project roles from the local area.

The Accommodation Strategy outlines measures to ensure there is sufficient accommodation available for the construction and operation associated with the Project, utilising the 5% local procurement target as the Base Case. Lightsource bp, where possible, would employ workers from the region to reduce the demand for short-term accommodation. The Accommodation Strategy outlines management measures to minimise the potential effects of the incoming construction workforce influx on the local community. **Appendix G** details the approach for the Project to appropriately house the 237 (peak) temporary incoming construction workers across a 1-hour driving distance from the Project Area. Where local accommodation is required for non-local workers, Lightsource bp and the EPC Contractor will adopt the following measures:

- Encourage the EPC Contractor to prioritise the employment of locals who already reside in the area and who will not require accommodation.
- Investigate and document accommodation options and explore potential accommodation partnerships in the local region – provide this information to the EPC Contractor.
- Operate a Housing and Accommodation Expression of Interest Register to enable local landowners, businesses and individuals to register their interest in providing accommodation services to the Project.
- Maintain and continue to explore potential partnerships with commercial service providers, property owners or property managers who have expressed an interest in entering into a contract with the Project and/or leasing dwellings in the local area.
- Contact local accommodation providers directly to disseminate details such as construction timing, workforce scheduling (once available) and accommodation requirements to allow them to be prepared.
- Review workforce requirements regularly (e.g. monthly) during construction to ensure the objectives of the AES are being met.
- Provide regular Project updates to the community via Project Newsletters, posts on the Project website.
- Consult with stakeholders to advise about the Project and potential opportunity for Goulburn-Mulwaree, Wingecarribee, Yass Valley, Upper Lachlan and Queanbeyan-Palerang accommodation operators.