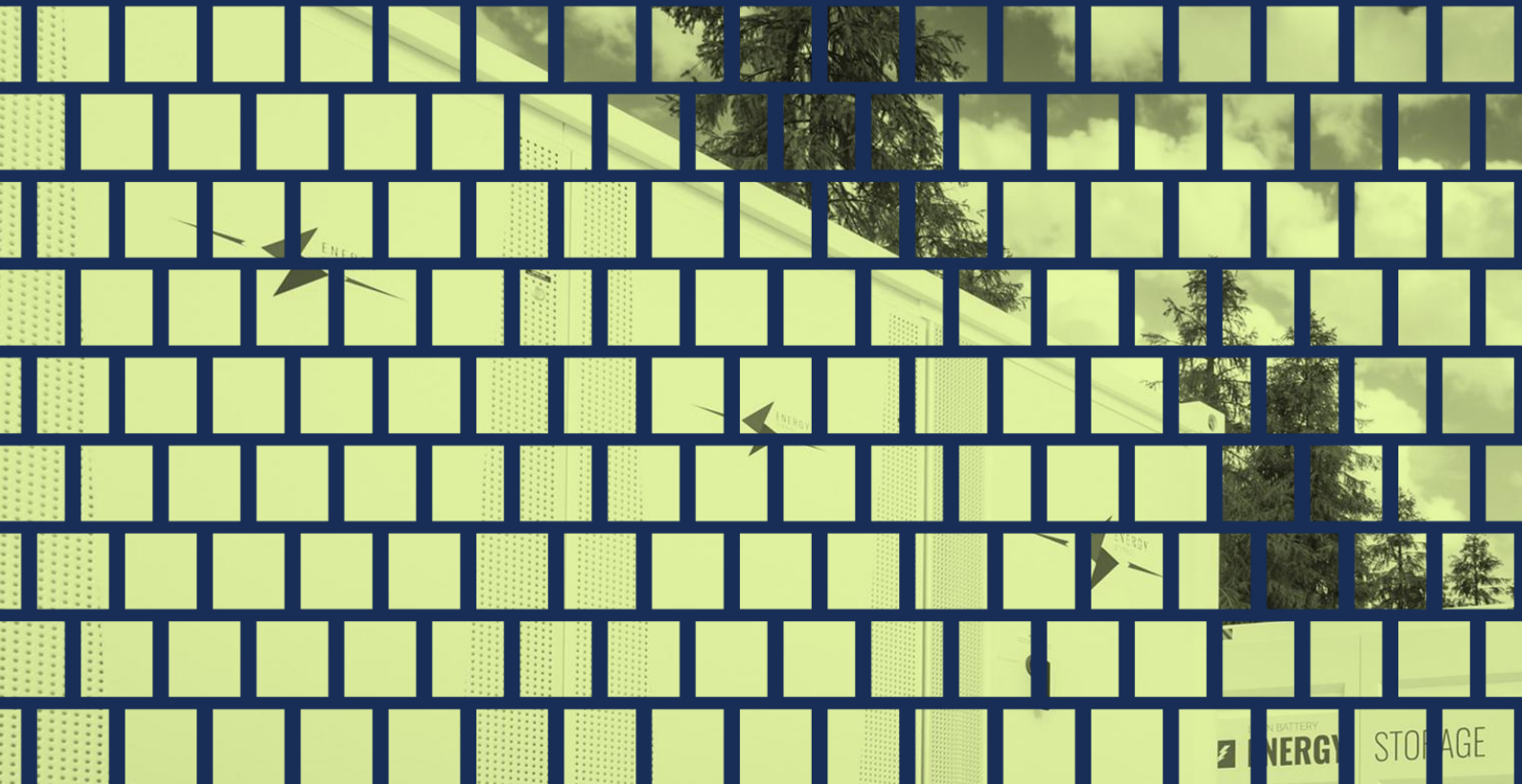


Gugaa Battery Energy Storage System

Social Impact Assessment Scoping Report



Prepared for:

Silo Energy
August 2025

HiIPDA
CONSULTING

Acknowledgment of Country

HillPDA acknowledges the Traditional Custodians of Country throughout Australia and their continuing connection to land, waters, culture, and community.

We acknowledge the Gadigal people of the Eora Nation and Wurundjeri Woi-wurrung and Bunurong / Boon Wurrung peoples of the Kulin Nation, the traditional owners of the land on which this report is prepared, and we show our respect for elders' past and present.

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Acronyms and abbreviations

ABS	Australian Bureau of Statistics
BESS	Battery Energy Storage System
DPHI	NSW Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
ha	hectares
LGA	Local Government Area
MW	Megawatt
MWh	Megawatt hour
NSW	New South Wales
RNSW	Rest of New South Wales
SAL	Suburbs and Localities
SIA	Social Impact Assessment

1.0 INTRODUCTION

HillPDA has been engaged by Silo Energy to prepare a Social Impact Assessment (SIA) scoping report that considers potential social impacts associated with a proposed Battery Energy Storage System (BESS). The proposed Gugaa BESS relates at a site in Gregadoo, adjacent to the future Gugaa Substation.

The purpose of this scoping assessment is to inform a future SIA, to be undertaken later in the project program. This scoping report has been prepared in accordance with the following:

- *Social Impact Assessment Guideline for State Significant Projects* (NSW DPHI, 2025)
- *Technical Supplement – Social Impact Assessment Guideline for State Significant Projects* (NSW DPHI, 2025).

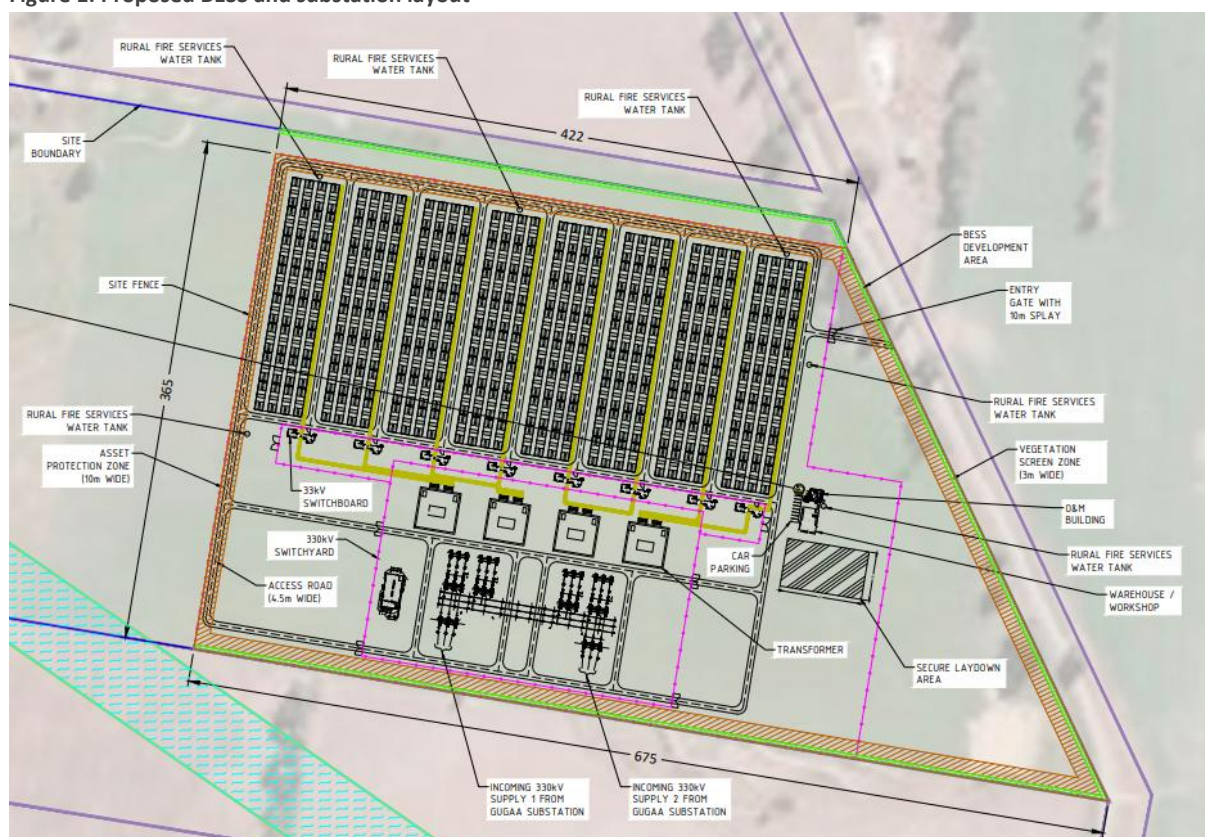
1.1 Project description

At the time of writing this scoping report, the proposal is in the early stages of development, and limited details have been determined. The particulars of the proposal will be available as it progresses, and will be incorporated into the SIA and detailed assessment. In general terms, the proposal consists of:

- A 4 GWh Battery Energy Storage System
- Connection to Transgrid's future Gugaa 330/500kV Substation.

A plan showing the proposed BESS and substation layout is included below in Figure 1.

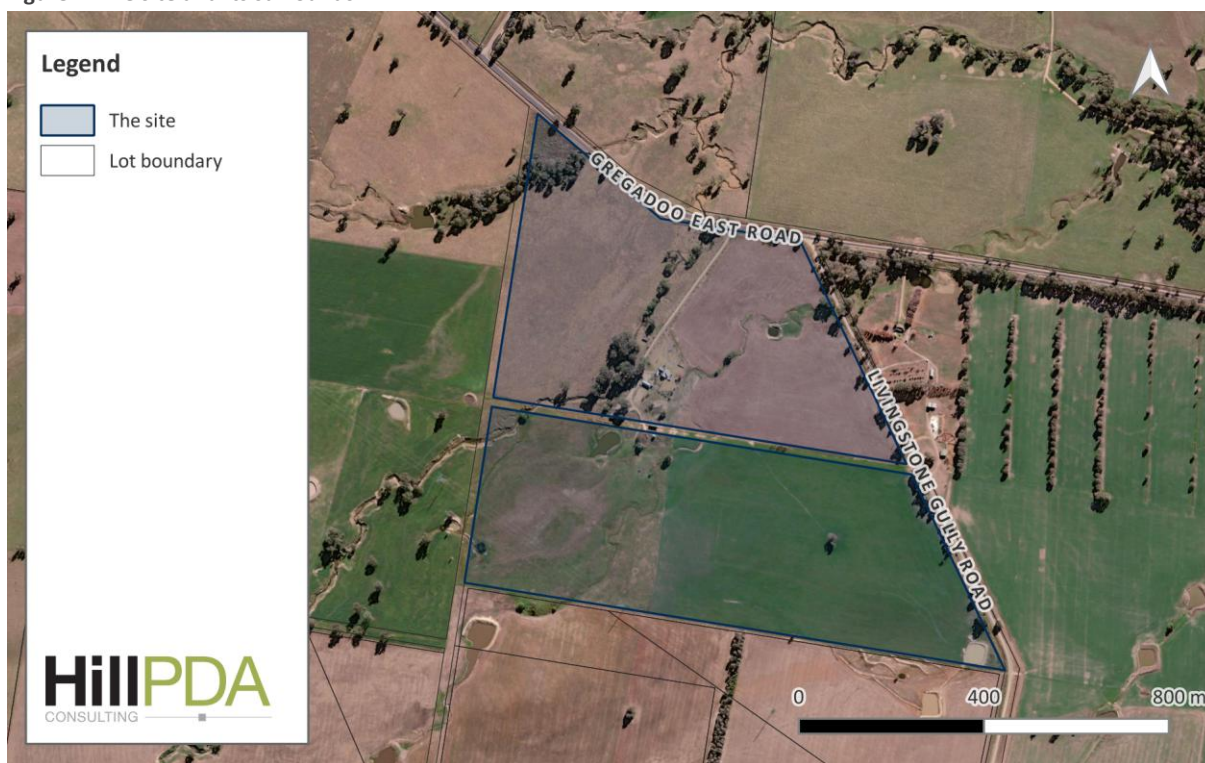
Figure 1: Proposed BESS and substation layout



1.2 Site and context

The proposal relates to a site legally described as Lot 114 in DP 757261 (part of 477 Gregadoo East Road). The site is rural in nature, and is located in Gregadoo, approximately 20 kilometres southeast of Wagga Wagga. The site is shown in Figure 2.

Figure 2: The site and its surrounds



Source: HillPDA; Bing Maps (2025)

The site totals approximately 47 hectares in area and is currently vacant. The proposal would require approximately 20-30 hectares of the total site area. It is currently zoned RU1 Primary Production under the Wagga Wagga Local Environmental Plan 2010.

The site is bounded by rural and rural-residential land uses to the north and west, Livingstone Gully Road to the east, and the Gugaa Substation to the south.

Existing access to the site is via a private driveway and the aforementioned Livingstone Gully Road. Access to the broader road network is available via Livingstone Gully Road and Tumbarumba Road, with road access to the Hume Highway approximately 28 kilometres to the southeast, and to the Sturt Highway approximately 15 kilometres to the north.

2.0 EXISTING ENVIRONMENT

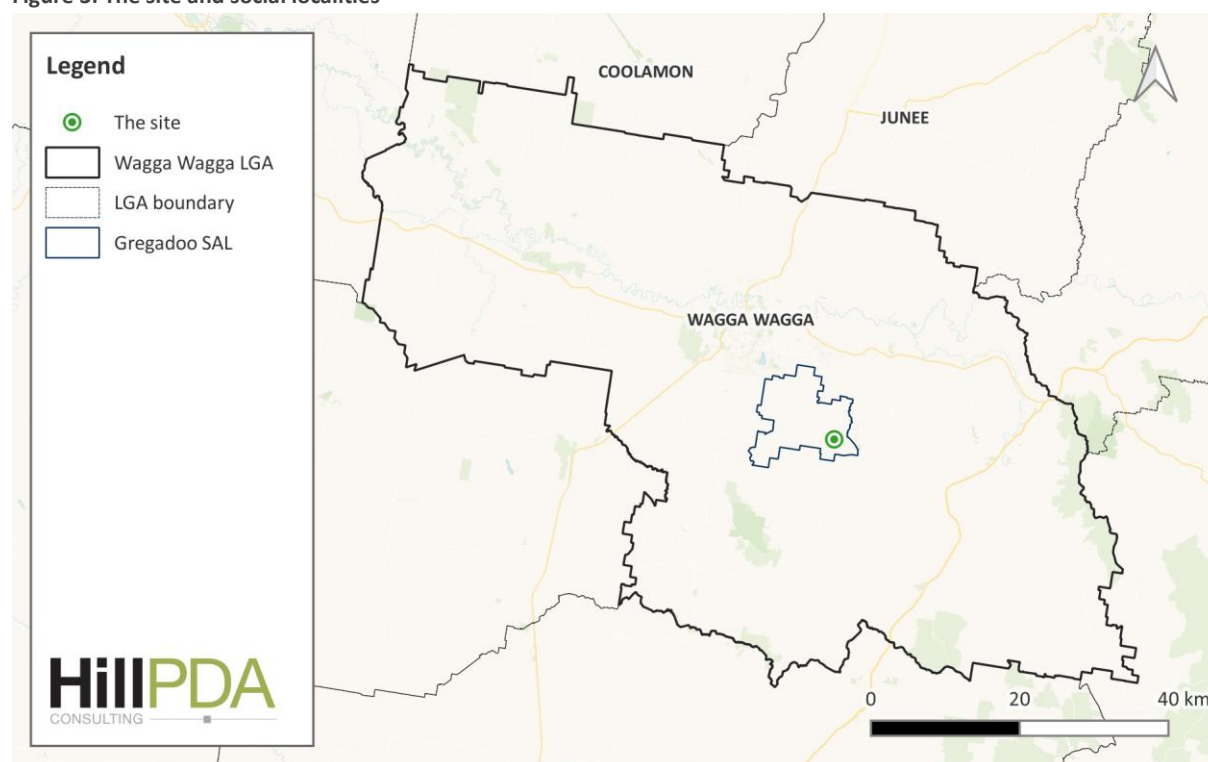
2.1 Social locality

Through reference to Australian Bureau of Statistics (ABS) geographic areas, set of representative areas of social influence (or *social localities*) has been selected. This enables the consideration of key social and demographic factors that may be relevant to scoping social impacts of the proposal.

The primary social locality selected for this scoping report is the suburb of Gregadoo, as the site is well-contained within its borders and it is considered to constitute a representative baseline for the relevant community most likely to experience impacts from the proposal. Where relevant, the wider Wagga Wagga local government area (LGA) is also considered.

Figure 3 shows the social localities.

Figure 3: The site and social localities



Source: HillPDA, ABS (2023)

2.2 Community profile

Key socio-economic indicators for the social locality from the 2021 Census are provided below. Where relevant, these indicators have been benchmarked against the Rest of NSW (RNSW), which is defined by the ABS as all areas of NSW excluding the Greater Sydney Region.

	Population	As at the 2021 Census, the social locality was home to approximately 274 residents, living in 94 dwellings. It recorded a higher average household size than RNSW, at 3.1 persons per dwelling (compared to 2.4 persons per dwelling). The usual resident population of the social locality increased by 35 people between 2016 and 2021. This represents a total increase of approximately 14.6 per cent over the five-year period. In 2021, 89.4% of the population in the social locality were born in Australia, compared to 81.3% across RNSW.
	Median age	In 2021, the median age of the social locality was 41, slightly younger than RNSW which recorded a median age of 43. This was substantially older than the median age recorded across the Wagga Wagga LGA as a whole, which was 35 years.
	Age profile	There were 41 people over the age of 65 living in the social locality in 2021. This equalled around 15% of the total population, lower than that of RNSW (22%).
	Language spoken at home	At the time of the 2021 Census, no households in the social locality reported using a language other than English at home. This contrasts with RNSW and the Wagga Wagga LGA, wherein 6.6% and 9.5% (respectively) of households used a language other than English at home. The five most common non-English languages used at home across Wagga Wagga were all from Asia and the Middle East. These were (from most households to fewest): Kurdish; Malayam (a southern Indian language); Mandarin; Arabic; and Punjabi.
	Need for assistance	Around 2.5% of residents (a total of 7 people) in the social locality required assistance with core activities, compared to 6.8% across RNSW. The equivalent figure for the Wagga Wagga LGA overall was much higher than Gregadoo, at 5.9%.
	Household type	The vast majority of households in the social locality at the 2021 Census were family households, totalling 91.5%. The remaining 8.5% of households were all single or lone person households. For both RNSW and the Wagga Wagga LGA, 69% and 68.5% (respectively) of households were family households, with 27.9% and 27.7% (respectively) of households being single or lone person households.
	Household size	Around 93.1% of dwellings in the social locality were occupied, leaving just 7 unoccupied dwellings. This was higher than the 89% occupancy recorded across RNSW. In terms of tenure, there were only five rental households in the social locality (6.2% of dwellings), much lower than RNSW (27%). Around 50.6% of dwellings in the social locality were owned outright, with an additional 37% owned with a mortgage.
	Income	The median weekly household income in Gregadoo was \$2,305, which was much higher than the \$1,434 recorded across RNSW. The median personal income was \$813 in the social locality, which was also higher than the \$722 for RNSW.
	Work	Of people aged 15 years and over in the social locality, almost three quarters (72.6%) were in the labour force. Of these, 65.4% worked full-time, 25.2% worked part-time, 7.5% were away from work, and 2.5% were unemployed. The recorded unemployment rate was much lower than that of RNSW (4.6%). The top five occupations in the social locality were: Managers (28.9%); Professionals (19.5%); Technicians and Trades Workers (15.1%); Labourers (11.9%); and Community and Personal Service Workers (6.9%). The top five industries of employment in the social locality were: Secondary Education (6.9%); Beef Cattle Farming (Specialised) (5.7%); Primary Education (5%); Automotive Body, Paint and Interior Repair (4.4%); and House Construction (6.9%).

Source: Australian Bureau of Statistics (ABS) (2021), *Community profiles*

2.3 Sensitive receivers

A *sensitive receiver* is a property, building, person, or group considered more likely to be affected by a proposed development or other activity. This is typically defined through a combination of factors including proximity to the site, the type and scale of activities proposed at the site, and the various factors that define the existing use(s) and users that may be considered sensitive receivers.

Sensitive receivers often include residential properties, but may also include child care centres, places of worship, community and recreational facilities, or businesses (such as accommodation or food providers) that rely on the amenity of a locality to attract customers.

It is anticipated that the proposal would require a relatively low intensity of activities during the construction phase, and once operational, activities at the site would be limited. Given this and the relative isolation of the site, for this scoping report, we have considered potential sensitive receivers within around 400 metres of the site boundary.

This is shown in Figure 4 and Table 1.

Figure 4: Potential sensitive receivers



Source: HillPDA; Bing Maps (2025)

Table 1: Potential sensitive receivers detail

ID	Address / Name	Type	Comment
1	1000 Livingstone Gully Road / Gugaa Substation	Utility	Under construction. Key component of Humelink project.
2	477 Gregadoo East Road, Gregadoo / The Willows	Residence	Residential / agricultural property. Within the site. Not within indicative build area.
3	1070 Livingstone Gully Road	Residence	Residential / agricultural property.
4	465 Gregadoo-Ladysmith Road	Residence	Residential / agricultural property.

2.4 Accommodation

Given the limited intensity of the surrounding land uses and number of receivers near the site, construction worker accommodation is anticipated to be among the more likely sources of any potential social impacts arising from the proposal. As details relating to the construction period are not yet available, it is not possible to accurately consider the scale of any potential impacts arising from the construction worker population.

As such, we have undertaken a high-level assessment of the existing context in relation to short term accommodation in the area surrounding the site. This will inform the potential scale of any likely social impacts.

To inform our understanding of accommodation availability in the broader Wagga Wagga area, a search was undertaken of booking.com (for traditional hotel accommodation) and airbnb.com (for alternative accommodation options). For both websites, searches were performed across a range of dates (from within two weeks to up to six months in advance) and stay durations (from single nights to two weeks).

Our search of booking.com resulted in roughly 50-70 properties with at least one room available to book. On airbnb.com, for the same search criteria, there were between 150-280 properties available at any given time.

Overall, there appears to be sufficient accommodation availability and variety in Wagga Wagga to accommodate some level of construction workforce. It is noted, however, that there were few options available outside Wagga Wagga. Should the proposed construction period overlap with other nearby major project construction phases, or with major events or similar in Wagga Wagga, limitations may arise.

Regardless of the above, potential social impacts from construction workers will require further consideration once detailed information is available regarding the scale of the workforce. Consideration will need to include such options as utilising a local workforce where possible and/or accommodating workers at the site.

3.0 POTENTIAL SOCIAL IMPACTS

The Department of Planning Housing and Infrastructure (DPHI)'s Social Impact Scoping Tool has been completed to provide a preliminary consideration of potential social impacts that may arise from the Project (refer Appendix A: SIA Scoping Worksheet). Both positive and negative social impacts have been identified, which are summarised within this section and in Table 2. Impacts have been considered separately for the construction and operational phases of the Project, noting that some impacts are likely to be experienced throughout the life of the Project.

3.1 Construction

Positive impacts

Construction of the Project is likely to create social benefits for surrounding communities, stemming from:

- Increased economic activity associated with the temporary workforce as well as project construction, benefitting livelihoods. This would arise from expenditure on local materials and labour as needed for project materials, as well as indirect expenditure created by additional income to local merchants.
- Additional local employment opportunities, which would also drive indirect expenditure at local businesses, as workers purchase local goods and services.
- The possibility of new workers to the region remaining in the area long-term, contributing to local population growth with potential flow on benefits to the wider community.

While impacts to livelihood are diffuse in how they are experienced, the benefits could be magnified and focussed through local procurement and employment policies that would prioritise the local sourcing of goods and workers to maximise the benefits of construction to the area. Opportunities could be explored through the development of mitigation measures to maximise the benefits of the Project for local employment.

Negative impacts

Construction of the Project may generate a range of localised disruptions associated with:

- Dust and noise, impacting local amenity and capacity for occupants surrounding the Project Area to enjoy their surroundings.
- Possible visual disruptions arising from temporary changes to the surrounding rural landscape as works are carried out.
- Vehicle movements and congestion or delays in traffic flows, which may arise as materials and construction workers access the Project Area, generating localised noise impacts and involving changed access arrangements.
- Localised congestion impacts on the road network, potentially affecting residents and businesses undertaking their day-to-day activities (delays).
- Possible cumulative construction impacts from concurrent construction of the future Gugaa 500kV substation, associated transmission projects Humelink the Victoria to New South Wales Interconnector West (VNI West) and two identified SSDs for other renewable projects in the wider locality (Livingstone Solar Farm and Gregadoo Solar Farm), subject to project timing.

Most impacts arising from potentially disruptive construction activities on the immediate surrounds could be mitigated and managed through design refinements or construction management planning.

Additionally, impacts to the wider community may arise from the introduction of a temporary workforce during construction, which could:

- Place additional demands on local housing and accommodation services, as well as local social infrastructure and facilities. This increased demand could present a risk of displacing existing residents from rental accommodation and possibly increasing housing unaffordability through added demand.

- Impact upon cohesion within the existing community and contribute to fear that workers may engage in anti-social or unacceptable behaviours.
- Cumulative impacts to the availability of housing and accommodation should also be considered in the context of the construction of other significant energy projects in the area (outlined further above). The SIA and EIS for the larger scale transmission projects have provided accommodation strategies, which may assist in the development of complementary mitigation as part of this project.

Strategies to manage potential impacts arising from the introduction of the temporary construction workforce should be carefully considered as part of the detailed assessment of social impacts.

3.2 Operation

Positive impacts

Once operational, the Project is likely to generate some economic activity for surrounding communities, benefitting livelihoods through:

- Local employment in operations and maintenance, as well as indirect expenditure by those workers.
- A diversification of income streams for involved landowners, which has flow on effects via greater expenditure in the local area.
- The introduction of new industries that may support the upskilling of the local workforce.
- Potential support for a community benefit fund or local grants or other types of support for community initiatives, which could enhance community cohesion.
- Indirect expenditure with local businesses as workers purchase local goods and services.
- Increased ongoing local investment from maintenance works and the development of spin-off industries

Opportunities to maximise the above benefits could be considered as part of any mitigation measures.

Negative impacts

Once operational, the Project will permanently alter the landscape near the Project Area and may contribute to negative social impacts by:

- Introducing new structures that may be considered incompatible with the existing character of the surrounding rural environment.
- Modifying the visual amenity of surrounding properties overlooking the Project Area.
- Creating fears and anxieties surrounding the introduction of a new land use and its impact on local agriculture, including through the loss of productive agricultural land.
- Eliciting fears around potential ongoing environmental impacts or impacts to Aboriginal cultural heritage.
- Impacting on the livelihoods of the neighbouring accommodation facility through a reduction in natural views from the property and reduced appeal as a tourist destination and accommodation option.
- Creating fears and anxieties for landowners in the vicinity of the Project Area, who may be concerned that the Project could affect the value of their property and affect their long term wealth.
- Inducing residents to feel less connected to their surroundings or feel a sense of loss as their environment changes.

The Project will need to consider strategies to mitigate real or perceived risks of visual impact as part of the design process. Engagement with surrounding occupants and the wider community will assist in building trust and allaying any concerns around perceived risks, while also potentially yielding further strategies to mitigate potential impacts.

3.3 Summary

The potential social impacts of the Project are summarised in Table 2 below, including the impact categories, relevant development phase, and level of assessment required for each impact listed. It should be noted that

some impacts are likely to exist across the entire life of the project, throughout both the construction and operational phases. Further detail on each impact is provided in the Scoping Worksheet (refer Appendix A: SIA Scoping Worksheet).

Table 2: Preliminary social impact assessment

Description of impact	Impact categories	Key phase	Level of assessment
Additional employment on site during the construction period would benefit livelihoods.	Livelihoods	Construction	Standard assessment
Increased demand for goods and services, producing benefits to local businesses as a result of increased economic activity.	Livelihoods	Construction	Standard assessment
Additional local economic activity through project direct and indirect expenditure on goods could benefit livelihoods.	Livelihoods	Construction	Standard assessment
Noise and vibration from construction activities on site could potentially impact adjacent properties, noting the Project Area's relatively remote location.	- Health and wellbeing - Surroundings - Way of life	Construction	Detailed assessment
Dust from construction activities on site could potentially impact adjacent properties, noting the Project Area's relatively remote location.	- Health and wellbeing - Surroundings - Way of life	Construction	Detailed assessment
Potential construction impacts on local roads (depending on point of access), causing interruptions to daily life e.g. through road closures or diversions for school buses.	- Access - Way of life	Construction	Detailed assessment
Visual impact of temporary structures required during construction phase could potentially impact adjacent properties, noting the Project Area's relatively remote location.	- Livelihoods - Surroundings - Way of life	Construction	Detailed assessment
Reduced availability of housing could result in impacts to local residents' livelihoods, way of life; and access though increased costs and reduced access to housing.	- Access - Livelihoods - Way of life	Construction	Detailed assessment
Increased demand and pressure on social, emergency and recreational services and/or facilities associated with the introduction of a temporary workforce.	- Access - Health and wellbeing - Way of life	Construction	Detailed assessment
Increased demand for labour may reduce labour availability for local services and/or businesses.	- Livelihoods - Way of life	Construction	Detailed assessment
Additional employment on site once operational would benefit livelihoods.	Livelihoods	Operation	Standard assessment
Additional expenditure by permanent employees on site once operational would benefit livelihoods.	Livelihoods	Operation	Standard assessment
Benefits to the livelihoods of involved landowners through a diversification of income streams.	Livelihoods	Operation	Standard assessment
Structures on site will permanently alter the visual landscape for surrounding, potentially impacting their way of life and enjoyment of surroundings.	- Livelihoods - Surroundings - Way of life	Operation	Detailed assessment
Fears about perceived impacts on land/property values, particularly for neighbouring properties.	Livelihoods	Operation	Detailed assessment
Fears and anxieties around introduction of a new land use and its impact on local agriculture,	- Decision-making systems - Livelihoods	Operation	Detailed assessment

Description of impact	Impact categories	Key phase	Level of assessment
including through the loss of productive agricultural land.			
As a new land use, the Project may elicit fears around possible ongoing environmental impacts.	- Community - Decision-making systems	Operation	Detailed assessment
Alteration of the landscape has the potential to impact tangible and intangible Aboriginal cultural heritage values.	- Community - Culture	Operation	Detailed assessment
Fears and anxieties of change to local character driven by development.	- Community - Decision-making systems	Operation	Detailed assessment

4.0 ASSESSMENT APPROACH

The SIA would be prepared to inform the Environmental Impact Statement (EIS) and align with industry best practice, including the DPE's *Social Impact Assessment Guideline for State Significant Development Applications* (2025). The SIA would scope, examine and assess potential impacts and develop mitigation measures to enhance potential positive and minimise negative impacts that may arise from the Project. The SIA would involve three broad stages:

- Establish social baseline and scope for issues by drawing from relevant sources including demographic and socio-economic data, relevant strategic planning policies and document and stakeholder engagement outcomes.
- Identify and assess potential social impacts, both positive and negative and well as direct and indirect impacts. This would include a consideration of cumulative impacts including impacts from other nearby energy projects. The significance of impacts would be evaluated using the social risk matrix method in the DPE's Guideline.
- Identify mitigation measures to minimise potential negative social impacts and maximise benefits. This could include development of a preliminary social impact management framework to support ongoing monitoring and management of impacts.

Social impacts may occur across a range of aspects of an individual's and a community's life, as shown below.

Figure 5: Types of social impact

way of life	how people live, how they get around, how they work, how they play, and how they interact on a daily basis
community	composition, character, cohesion, function, and sense of place
access	how people access and use infrastructure, services and facilities, whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or groups
culture	both Aboriginal and non-Aboriginal culture, including shared beliefs, customs, values, and stories, and connections to country, land, waterways, places, and buildings
health and wellbeing	physical and mental health, especially for those who are highly vulnerable to social exclusion or substantial change, plus wellbeing of individuals and communities
surroundings	access to, and use of, services that ecosystems provide, public safety and security, access to and use of the natural and built environment, and its aesthetic value and amenity
livelihoods	people's capacity to sustain themselves, whether they experience personal breach or disadvantage, and the distributive equity of impacts and benefits
decision-making systems	whether people experience procedural fairness; can make informed decisions; have power to influence decisions; and can access complaint, remedy and grievance mechanisms

Source: Adapted from DPPHI (2025), *Social Impact Assessment Guideline*.

Potential impacts identified in this SIA Scoping Report will be analysed based on the nature of the impact and its predicted severity and assigned a level of significance in line with Table 3.

Table 3: Social impact significance matrix

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

Source: Adapted from DPHI (2025), *Social Impact Assessment Guideline*.

Table 4 identifies the key inputs that would be required for the future assessment of social impacts. This includes key factors for consideration, alongside information requirements and relevant guidance documents.

Table 4: Assessment inputs for the assessment of social impacts

Aspect	Inputs
Key factors for consideration	• Social baseline • Built works • Truck and traffic movements • Temporary construction workforce • Operation workforce • Visual impacts • Community views
Guidance documents	• Social Impact Assessment Guideline for State Significant Projects (DPHI, 2025) • Technical Supplement – Social Impact Assessment Guideline for State Significant Projects (DPHI, 2025) • Guidelines for Construction Workers Accommodation (DPHI, 2024)
Information requirements	• Stakeholder engagement outcomes • Acoustic assessment • Traffic assessment • Visual impact assessment • Economic impact assessment • Accommodation strategy for temporary workers.
Cumulative assessment required?	Yes
Community engagement	• Community values • Feelings and views about the Project • Specific fears and concerns • Business operations.

APPENDIX A: SIA SCOPING WORKSHEET



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