

Social and Economic Impact Assessment

Rothbury Battery Energy Storage System

27-Feb-2026

**ENERGY
STORAGE**

Social and Economic Impact Assessment

Rothbury Battery Energy Storage System

Client: Ausgrid

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1.0 Introduction

1.1 Project context and overview

Ausgrid is seeking development consent to construct, operate, and maintain a Battery Energy Storage System (BESS) with a capacity of up to 135 megawatts (MW) over a four-hour duration (i.e. up to 540 megawatt hours (MWh) energy capacity) (the Project).

The Project would be located in Lots 1 and 2 of deposited plan (DP) 1318566 at 1309 Wine Country Drive, Rothbury NSW 2320 (the site) (refer to **Figure 1-1** for the regional setting). The Project is located adjacent to the existing Ausgrid Rothbury Zone Substation. The Project's Construction Footprint and Operational Footprint, constituting the Project Area is shown in **Figure 1-2**.

Key features of the Project would include:

- Construction, operation and maintenance of a BESS located adjacent to the existing Rothbury Zone Substation. The BESS would be comprised of containerised Lithium Iron Phosphate (LiFePO_4) battery units and associated infrastructure, including inverters and medium voltage (MV) transformers
- Connection of the BESS via a 33 kV underground cable to the existing Rothbury Zone Substation
- Ancillary infrastructure, including:
 - Ring main units (RMU)
 - Auxiliary transformer
 - A combined switch room and control room building
 - An operation and maintenance (O&M) building
 - A warehouse to store equipment and other materials related to maintaining the BESS
 - A backup diesel generator
 - Onsite car parking spaces
- Other ancillary infrastructure, including internal access roads and laydown areas, stormwater management infrastructure, boundary security fencing, a noise barrier, lighting and CCTV.



Figure 1-1: Regional setting

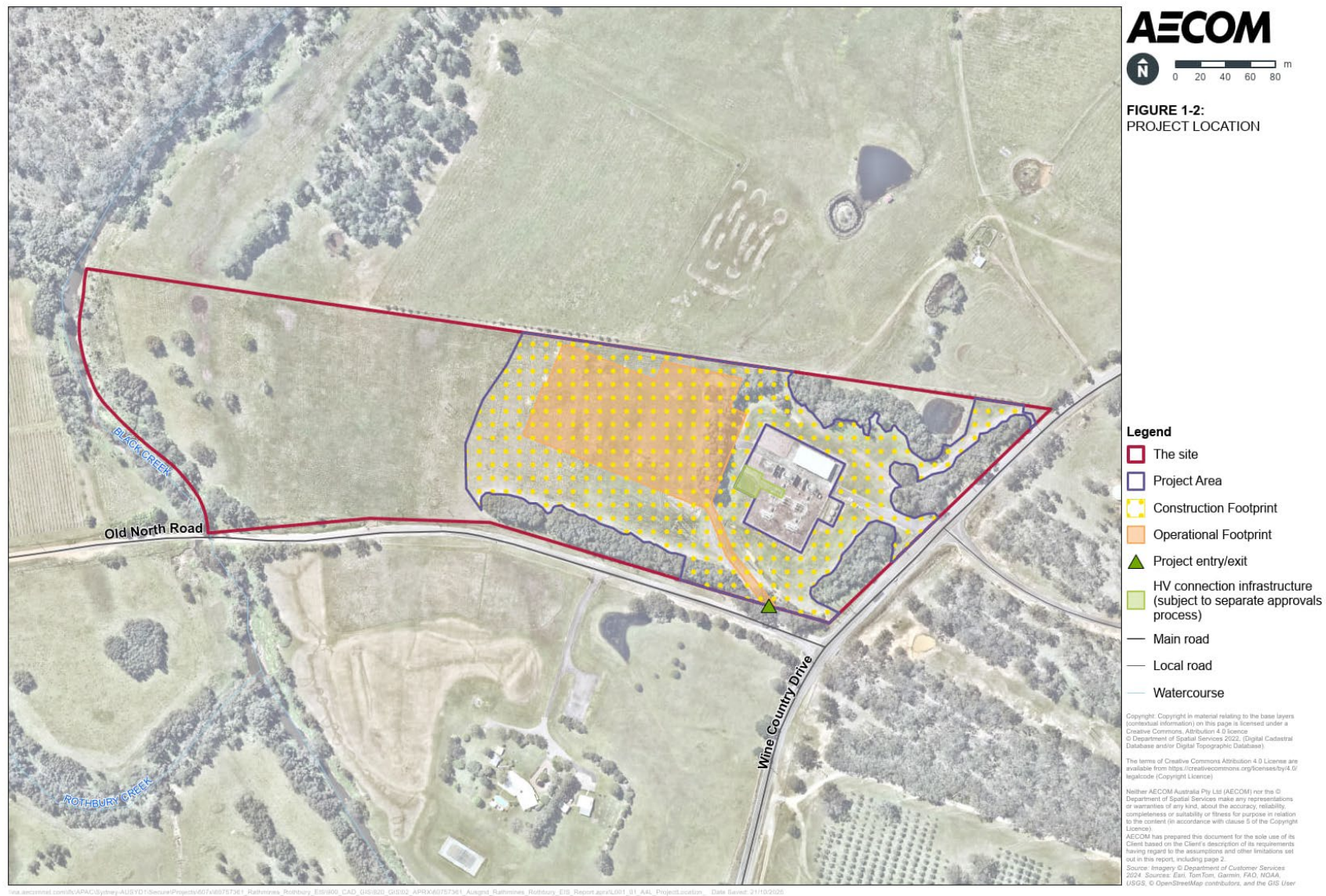


Figure 1-2: Project location

1.2 The Project

Key components of the Project are summarised in **Table 1-1**. These components are described in more detail in Chapter 3 (Project description) of the Environmental Impact Statement (EIS).

Table 1-1: Key components of the Project

Feature	Description
The Project	Refer to Project overview in Section 1.1 .
The site	The site is located in Lots 1 and 2 of DP 1318566 at 1309 Wine Country Drive, Rothbury, NSW 2320. The Project would be located in the central portion of the site.
Disturbance area	The total area of disturbance within the site (i.e. the Project Area) would be approximately 4.56 ha.
Access	Access to the Project Area is proposed via an existing driveway off Old North Road. Old North Road is a council managed, single lane, unmarked road with line marking at the intersection of Wine Country Drive.
Noise barrier	An 8 m high noise barrier is proposed to be positioned around the eastern, southern and western perimeter of the battery units.
Grid connection	The Project would be connected to the National Electricity Market (NEM) through the existing Rothbury Zone Substation via a 33 kV underground cable.
Construction activities	Construction would involve: • Enabling works • Civil, structural, mechanical and electrical works • Testing and commissioning • Demobilisation of construction. Construction laydown areas would be provided within the Project's Construction Footprint.
Construction plant and equipment	The indicative plant and equipment that would be used include: Enabling works: • Front end loaders • Dump trucks • Road trucks • Water trucks • Excavators • Graders • Compactors • Bulldozer • Tub grinder/mulcher • Chainsaws • Light vehicles. Civil, structural, mechanical and electrical works: • Front end loaders • Road trucks • Graders • Concrete trucks and pumps • Dump trucks • Excavators • Bobcats • Compactors and rollers • Elevated work platforms • Cranes • Concrete saws and grinders • Water trucks

Feature	Description
	• Light vehicles • Backhoe • Generators. Testing and commissioning: • Elevated work platforms • Cranes • Generators • Light vehicles. Demobilisation: • Water trucks • Compactors • Backhoe • Light vehicles.
Construction duration	It is anticipated that construction of the Project would commence in late 2027 and be completed by mid-2029 (approximately 22 months). However, these dates are subject to change pending planning approvals, equipment lead times and availability.
Construction workforce	Up to 100 Full-Time Equivalent (FTE) construction workers (at peak) would be required. These workers would be preferentially sourced locally where appropriate skillsets are available.
Construction hours	Construction would occur during standard working hours as outlined in the <i>Interim Construction Noise Guideline</i> (NSW Department of Environment and Climate Change, 2009) (ICNG), being: • Monday to Friday 7.00 am to 6.00 pm • Saturday 8.00 am to 1.00 pm • No works on Sundays and Public Holidays. Some activities may be required to be completed outside of standard hours. These would be completed in accordance with an Out of Hours Work procedure and may include (but not be limited to): • Electrical commissioning and testing • Emergency situations where work is required to prevent harm to persons or property.
Construction traffic volumes	Up to 120 light vehicles and 70 heavy vehicles would access the site per day during the peak construction period.
Operational life expectancy	The Project is intended to operate for 50 years, with some component replacements expected during this period. At the end of this period, the battery units would either be replaced or decommissioned. When the Project is decommissioned, the site would be rehabilitated. Any extension to the life of the battery units beyond the proposed 50-year period would be subject to the relevant approval regime at the time.
Operational workforce	The Project would operate 24 hours a day, seven days a week primarily as an unmanned facility. The Project would provide up to five part-time roles, equating to up to two FTEs, during operation. Staff activities onsite would primarily consist of scheduled inspections and maintenance of battery units, along with occasional planned or unplanned maintenance of other equipment.

1.3 Purpose of this report

The purpose of this Social and Economic Impact Assessment (SEIA) is to identify and assess the potential social and economic impacts that may arise from the Project during construction and operation. This report considers the direct, indirect and cumulative social and economic impacts that may affect residents, businesses and other stakeholders, as well as users of roads, public open space and surrounding social infrastructure. In addition to assessing social change, this SEIA examines the

Project's economic impacts, including employment generation, local and regional business activity, supply-chain participation, import leakage, and broader system-level benefits arising from improved grid reliability and renewable energy integration. The report evaluates both potential adverse impacts and positive economic contributions and identifies measures to minimise negative outcomes and enhance local and regional benefits.

In doing so, this report addresses the Secretary's Environmental Assessment Requirements (SEARs), as outlined in **Section 1.3.1**.

Details of the relevant qualifications and experience of the authors are included in **Appendix B** (Certification page).

1.3.1 Assessment requirements

The SEARs (SSD-85939708) issued by the NSW Department of Planning, Housing and Infrastructure (DPHI) relating to social impacts and where these requirements are addressed in this SEIA are outlined in **Table 1-2**.

As identified in the SEARs, the relevant guidelines are the *Social Impact Assessment Guideline for State Significant Projects* (Department of Planning, Industry and Environment, 2023) (the SIA Guideline). This SEIA has been prepared in accordance with the SIA Guideline.

Table 1-2: Relevant SEARs addressed in this report

SEARs	Where addressed
Social	
The EIS must address the following specific matters:	
An assessment of the social impacts or benefits of the project for the region and the State as a whole in accordance with the <i>Social Impact Assessment Guideline</i> (DPE, 2023), including consideration of any increase in demand for community infrastructure services, and consideration of construction workforce accommodation.	An assessment of the social impacts or benefits of the construction of the Project for the region and State is provided in Section 5.0 . Operational social impacts and benefits are considered in Section 5.3 .
Economic and Benefit-Sharing	
The EIS must address the following specific matters:	
An assessment of the economic impacts or benefits of the project for the region and the State as a whole and provide details of any proposed voluntary benefit sharing, having regard for the <i>Benefit-Sharing Guideline 2024</i> and <i>Private Agreement Guideline 2024</i> .	An assessment of the economic impacts or benefits of the construction and operation of the Project are provided in Section 6.0 . Reference to proposed benefit sharing is provided in Table 5-2 .

2.0 Assessment methodology

2.1 Relevant guidelines and policies

2.1.1 Legislative context

The assessment of socio-economic impacts is a key element of environmental impact assessment under both Commonwealth and NSW environmental planning legislation. The 'Environment' is defined at both levels to include the socio-economic environment.

The statutory definition of the environment at both Commonwealth and State level is provided in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) respectively. Section 528 of the EPBC Act defines the environment as including:

- a. *ecosystems and their constituent parts, including people and communities; and*
- b. *natural and physical resources; and*
- c. *the qualities and characteristics of locations, places and areas; and*
- d. *heritage values of places; and*
- e. *the social, economic and cultural aspects of a thing mentioned in paragraph (a), (b), (c) or (d).*

Similarly, Part 1 of Section 1.4 of the NSW EP&A Act defines the environment as "*all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings.*" In addition, section 171 of the *Environmental Planning and Assessment Regulation 2021* (NSW) requires the consideration of environmental issues that comprise both direct and indirect social impacts.

Direct and indirect social and economic impacts of the Project, including those relating to amenity, the aesthetic qualities of the local environment, and local heritage values, are assessed in **Section 5.0** (Assessment of construction impacts) and **Section 5.3** (Assessment of operational impacts).

2.1.2 Relevant guidelines

The SIA Guideline seeks to provide a consistent framework and approach to the assessment of social impacts of State significant projects in NSW. This report has been prepared referencing principles in the SIA Guideline, as well as the following categories:

- **Way of life**, including how people live, how they get around, how they work, how they play, and how they interact each day
- **Community**, including composition, cohesion, character, how the community functions, resilience, and people's sense of place
- **Accessibility**, including how people access and use infrastructure, services and facilities, whether provided by a public, private, or not-for-profit organisation
- **Culture**, both Aboriginal and non-Aboriginal, including shared beliefs, customs, practices, obligations, values and stories, and connections to Country, land, waterways, places and buildings
- **Health and wellbeing**, including physical and mental health especially for people vulnerable to social exclusion or substantial change, psychological stress resulting from financial or other pressures, access to open space and effects on public health
- **Surroundings**, including 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
- **Livelihoods**, including people's capacity to sustain themselves through employment or business
- **Decision-making systems**, including the extent to which people can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms.

The SIA Guideline also sets out principles to guide an evidence-based approach to the SEIA. An overview of these principles and how they have been considered in this SEIA is provided in **Table 2-1**.

Table 2-1: Principles to guide the SIA (identified in the SIA Guideline)

Principle and description	Consideration in this SEIA
Action-oriented – defines specific actions to deliver practical, achievable and effective outcomes for people	Section 6.0 of this SEIA identifies the mitigation and management measures proposed to address potential socio-economic impacts of the Project. These measures have been developed to be action-oriented, consistent with best practice and achievable.
Adaptive – establishes systems to respond to new or different circumstances to support continuous improvement	The mitigation and management measures proposed in Section 6.0 have been developed to respond to differing circumstances as the Project progresses, and to support continuous improvement in community outcomes.
Culturally responsive – develops culturally informed approaches and methodologies to ensure Aboriginal and culturally diverse communities are engaged appropriately, and their perspectives, insights and feedback are valued	The SEIA has assessed potential socio-economic impacts in relation to the connection and value placed on the land by local Aboriginal people in Table 5-1 and Table 5-2 .
Distributive equity – Considers how different groups will experience socio-economic impacts differently (particularly vulnerable and marginalised groups, future generations compared with current generations, and differences by gender, age and cultural group)	Secondary research and the assessment of impacts in this SEIA has been undertaken to understand and properly consider people from a broad range of backgrounds. Potentially vulnerable and marginalised groups have been identified and considered as part of this assessment (refer to Section 4.1.2).
Impartial – Uses fair, unbiased research methods and follows relevant ethical standards	The methodology and execution of secondary research and impact assessment has been undertaken to meet the requirements of the SIA Guideline. This report has been prepared by appropriately qualified environmental impact assessment and SIA practitioners (see Appendix B).
Inclusive – Seeks to hear, understand, respect and document the perspectives of all likely affected people. Uses respectful, meaningful and effective engagement activities tailored to the needs of those being engaged (e.g. being culturally sensitive and accessible)	The exhibition of the EIS would allow for people to express their support or objection, by providing comments on the Project and how it impacts on their lives. Submissions from the community would be responded to within the Submissions Report and considered by DPHI in its assessment of the Project.
Integrated – Uses and references relevant information and analysis from other assessments to avoid duplication. Supports effective integration of social, economic and environmental considerations in decision-making	The SEIA has referenced inputs from technical assessments prepared for other parts of the EIS, as well as relevant data and information from the Australian Bureau of Statistics (ABS) to identify and assess socio-economic impacts of the Project (refer to Section 4.0 (Socio-economic baseline)).

Principle and description	Consideration in this SEIA
Life-cycle focus – Seeks to understand likely impacts (including cumulative impacts) at all Project stages, including pre-construction, construction, operation and decommissioning	Relevant social and economic impacts have been assessed for construction and operational phases of the Project. The Relevant socio-economic impacts have been assessed for construction and operational phases of the Project. The assessment has also included consideration of cumulative impacts (refer to Table 5-1 and Table 5-2) and has identified mitigation and management measures for the relevant Project phase.
Material – identifies which likely socio-economic impacts matter the most for people and/or pose the greatest risk/opportunity to those expected to be affected	This impact assessment has used the methodology specified by the SIA Guideline to consider their likelihood and magnitude. By definition, only impacts that are likely to occur (and hence are material and/or pose the greatest risk/opportunity) have been included in the assessment.
Precautionary – if there are risks of serious or irreversible environmental damage (including harm to people), avoids using any limits on full scientific certainty as a reason for postponing measures to prevent environmental (including social) degradation	Section 6.0 of this SEIA identifies the mitigation and management measures proposed to address potential socio-economic impacts of the Project. These measures have been developed to be precautionary based on the technical assessment presented and are consistent with current best practice measures for similar projects.
Proportionate – ensures the scope and scale of the SEIA corresponds to the scope and scale of the likely social impacts	This SEIA has been prepared in accordance with the SIA Guideline. The assessment is based upon the relatively isolated location of the Project, as well as its potential to result in socio-economic impacts, positive and negative, both within and beyond the social locality (refer to Section 2.4 for discussion on social locality).
Rigorous – uses appropriate, accepted social science methods and robust evidence from authoritative and trustworthy sources	This SEIA has been prepared using data from ABS data. Data has been gathered from this source using accepted social science methods. Additional inputs have been derived from other technical assessments within the EIS. All of these sources are considered to be trustworthy and authoritative.
Transparent – explains, justifies and makes available information, methods and assumptions so that people can see how their input has been considered	The impact assessment methodology, baseline data and other information sources considered in this SEIA have been clearly detailed in Section 2.0 (Assessment methodology) and Section 4.0 (Socio-economic baseline) with impacts discussed in detail in Section 5.0 (Assessment of construction impacts) and Section 5.3 (Assessment of operational impacts).

2.1.3 Strategic context

The Project is broadly consistent with a number of Australian and NSW strategic plans for improving the reliability of the NEM. Key strategies, policies, and plans have also informed and influenced the objectives and design development of the Project.

Chapter 2.0 (Strategic context) and Chapter 4.0 (Statutory context) of the EIS outline the strategic and statutory context of the Project, except for consideration of the Community Strategic Plan (CSP) for the Cessnock City Council LGA. This plan is considered below.

Cessnock City Council's CSP 'Together Cessnock 2040' (Cessnock City Council, 2025) considers the changing needs for the LGA in five overarching outcomes that holistically set out the strategic plan for the community moving into the future. The outcomes are Live, Thrive, Protect, Move and Lead.

The Project would generally be consistent with the objectives within the themes of the CSP by:

- Creating an alternative, high quality, sustainable energy source
- Helping Cessnock City Council move towards a more decarbonised economy
- Supporting local infrastructure which is increasing output in the area
- Creating employment and business opportunities.

2.2 Limitations and assumptions

Key assumptions applied to this SEIA include the following:

- Socio-economic data available for the social locality (refer to **Section 2.4**) accurately reflects the community's demographic profile
- The assessment relies on the findings of other technical studies in the EIS
- No SEIA-specific consultation was undertaken (refer to **Section 3.1** for further details) given the low level of amenity impacts during construction and operation of the Project and its isolated nature. Nonetheless the SEIA has been informed by broad stakeholder engagement undertaken to support the Project's EIS generally.

2.3 Approach to the SEIA

This SEIA has been prepared to understand the social environment and context within and around the Project's social locality (refer to **Section 2.4**), and consider its impacts in a broad, inclusive and culturally sensitive manner. In doing so, the requirements of the SIA Guideline have been closely integrated throughout. The main phases of the assessment and their constituent components are outlined below:

- Phase 1: scoping and initial assessment, which involved:
 - Defining the social locality of the Project and gaining an understanding of the characteristics of the communities within (refer to **Section 2.4**)
 - Undertaking an initial scoping assessment to identify the key socio-economic impacts to be considered in the SEIA, and the appropriate level of assessment (refer to **Section 2.5**).
- Phase 2: socio-economic impact assessment, which involved:
 - Completion of a baseline study to understand the socio-economic context of the area without the Project, based on the ABS 2021 Census and other relevant data (refer to **Section 2.5**)
 - Predicting and analysing potential socio-economic impacts and benefits of the Project, within each relevant socio-economic impact category of the SIA Guideline (refer to **Section 2.1.2** for an overview of these categories). This has been informed by other technical assessments including air quality, traffic and transport, noise and vibration, heritage, and visual amenity impacts
 - Evaluating the potential significance of socio-economic impacts through a risk-based assessment which defines the likelihood and magnitude of each impact (refer to **Section 2.8**)
 - Identification and assessment of potential cumulative socio-economic impacts
 - Development of mitigation measures for identified negative socio-economic impacts, and opportunities to enhance social and economic benefits
 - Evaluation of the potential residual socio-economic impacts, following the application of proposed mitigation measures.

Further detail on key aspects of the methodology is provided in the following sections.

This SEIA has been prepared considering the multiple demographic, cultural and social groups which exist within the social locality (refer to **Section 2.4**). The impact assessment has been informed by secondary data from the ABS 2021 Census and community consultation for the Project (detailed in

Section 3.0). The potential for different groups to experience different impacts has been considered throughout.

2.4 Social locality

The study area for the SEIA, hereafter referred to as the 'social locality' in accordance with the SIA Guideline, has been designed to reflect the likely direct and indirect areas of influence associated with the construction and operation of the Project. The social locality comprises the area within a 5 km radius of the Project and has been divided into two sub-categories:

- **Primary impact area:** the area immediate to the Project Area. This area would be most likely to experience the strongest and/or greatest number of impacts (see **Figure 2-1**)
- **Secondary impact areas:** these are places surrounding the primary impact area that are popular with people outside their home and that would be expected to experience social and economic impacts at reduced levels compared to the primary impact area (see **Figure 2-2**).

Data for the social locality has been collected for 'Branxton - Greta - Pokolbin' at the level of ABS Statistical Area Level 2 (SA2). This has been achieved to capture relevant demographic details on the areas that may be impacted by the Project.

Data for social infrastructure have been collated from within a 2 km radius of the Project Area.

2.5 Scoping and initial assessment

An initial scoping assessment was undertaken at the commencement of this SEIA to identify the key socio-economic impacts to be considered in the SEIA, and the key methods and data sources to investigate these impacts. This also involved determining the level of assessment required for the SEIA against the SIA Guideline.

Identification of the potential socio-economic impacts involved:

- A review of the Project's Scoping Report (AECOM, 2025). This outlined an initial understanding of the Project's potential socio-economic impacts and proposed a commensurate scope for the EIS
- Identification of the likely Project construction and operational activities with the potential to result in socio-economic impacts
- Consideration of potential socio-economic impacts for the categories identified in the SIA Guideline
- Consideration of socio-economic impacts assessed in respect of other comparable Projects (such as other battery energy storage systems).

Key impacts and research methods identified through the scoping process are outlined in **Table 2-2** and has been based on the initial scoping impact assessment worksheet conducted in the Scoping Report (AECOM, 2025).

Opportunities for refinements to avoid and minimise potential environmental impacts, including socio-economic impacts, have also been identified during Project development.

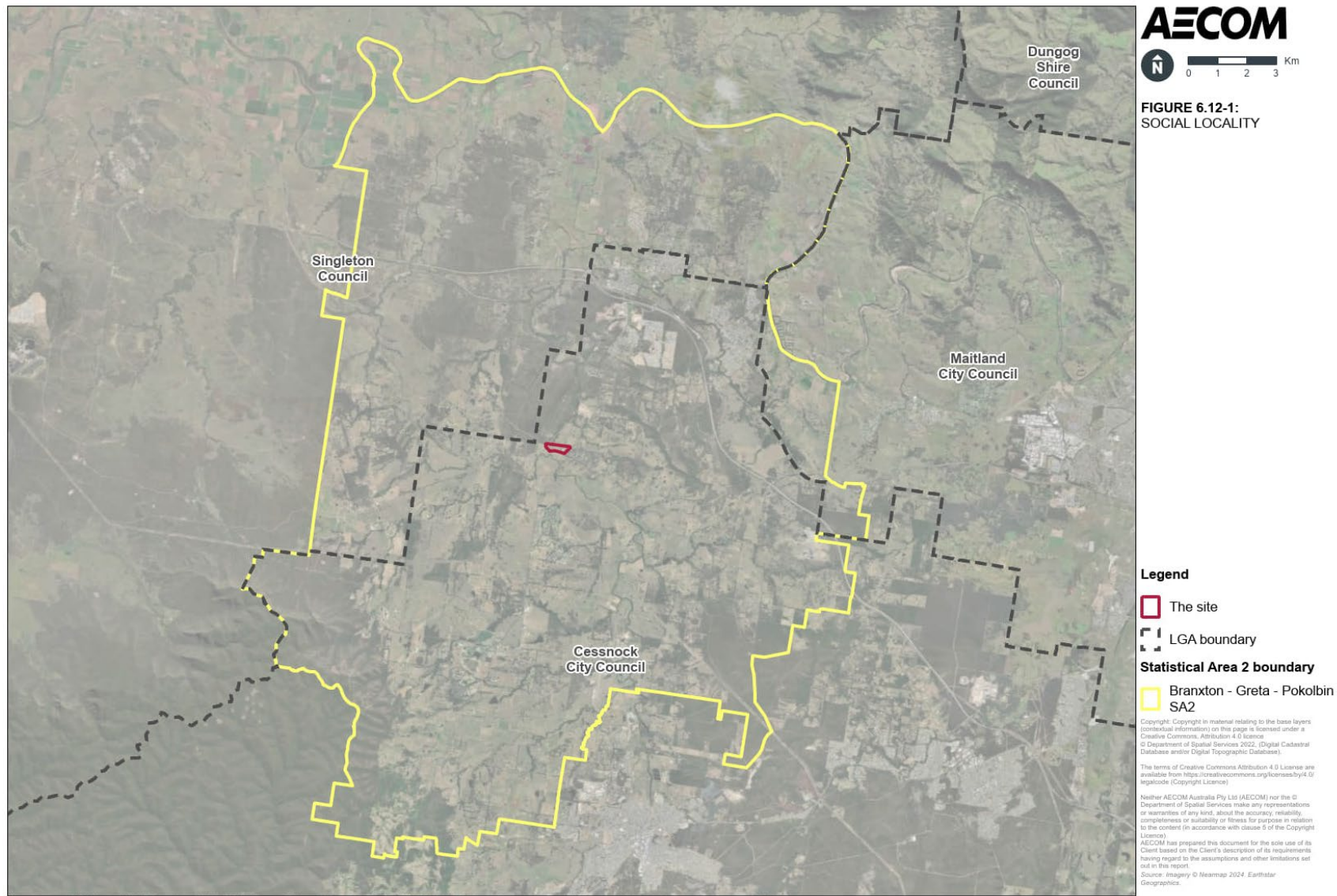


Figure 2-1: The site in relation to the SA2

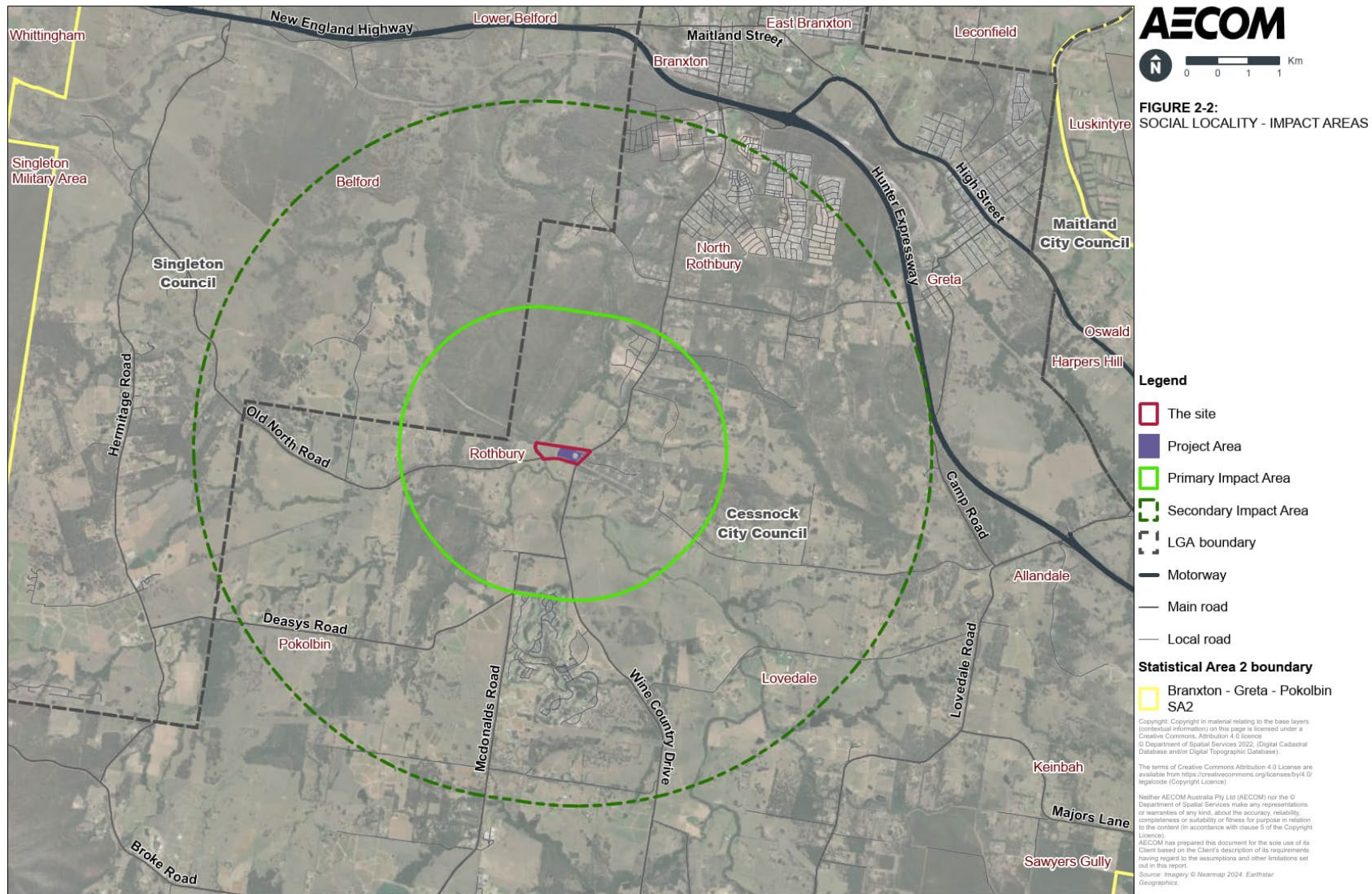


Figure 2-2: Social locality impact areas

Table 2-2: Key impacts identified for further assessment in the SEIA

Key Project activities with potential to produce socio-economic impacts	Key scoped impacts (positive and negative)	Proposed methods and data sources to investigate impacts
Construction		
- Enabling works - Civil, structural, mechanical and electrical works - Testing and commissioning - Presence of construction traffic (heavy and light vehicles) - Presence of construction workforce.	Way of life - Potential disruptions to way of life for individuals and the community, caused by temporary disruptions to road users (negative) - Potential temporary disruption to utilities and digital access in the area (negative) - Potential change in access to accommodation within the social locality due to the demand from construction workforce (negative) Decision-making systems - Potential for reduced community influence over decisions if Project activities limit opportunities for engagement, transparency or access to grievance and feedback mechanisms (negative) Community - Potential temporary changes to community composition from the presence of construction workers, which may impact the existing community's identity (negative) - Potential barriers to community social cohesion from the presence of construction activities Accessibility - Potential increased pressure on local services by needs from the construction workforce (negative) Culture - Potential loss of Aboriginal sites, minor changes to connections to Country, natural values or heritage items resulting in impacts to cultural elements which are valued by the community (negative) Surroundings - Potential changes in local amenity associated with construction activities, potentially impacting aesthetic value (negative) - Potential perceived increase in crime risk and reduced feelings of safety associated with construction activities due to increased workforce presence and traffic (negative) Livelihoods - Potential impacts on local businesses located close to the Project Area due to increased noise and vibration, dust and construction traffic (negative)	- Use of secondary data, including ABS Census data for key social indicators, DPHI population growth data to inform the socio-economic baseline for the Project (refer to Section 4.0) - Use of consultation outcomes (refer to Section 3.0).

Key Project activities with potential to produce socio-economic impacts	Key scoped impacts (positive and negative)	Proposed methods and data sources to investigate impacts
	- Potential benefits to businesses, including benefit from a net gain in passing trade (depending on the business location) during construction owing to the presence of construction workers (positive) - Potential benefits to businesses within the social locality providing accommodation services due to potential increase in demand for accommodation (positive) - Potential benefits for local construction related businesses, such as construction recruitment agencies, construction companies and resource suppliers (positive) - Potential for direct and indirect employment opportunities in the area, for example to supply goods, services and materials to the Project's construction, which can positively influence the local community's capacity to earn an income in the area (positive) Economic impacts - Potential for increased expenditure at local and regional businesses through purchases by construction workers - Direct employment through onsite construction activities - Direct expenditure associated with onsite construction activities - Indirect employment and expenditure through the provision of goods and services required for construction Cumulative impacts - Potential for combined and consecutive socio-economic impacts on the community in relation to the construction of other projects nearby the Project Area.	
Operation		
Operation of the Project	Way of life - Direct and indirect impacts to utilities in the area and the State Surroundings - Potential local amenity impacts on residents and users of community facilities located close to the operational footprint, due to increased noise from the Project (negative) - Potential impacts relating to crime, safety and security Livelihoods - Direct and indirect employment opportunities in the area, for example maintenance on the Project, which can positively influence the local community's income earning capacity (positive) - Direct and indirect impact to businesses in the area, for example a change in local amenity such as noise or views (negative) - Direct and indirect economic impacts due to diversification and resilience of the NEM.	- Use of secondary data, including ABS Census data for key social indicators, DPHI population growth data to inform the socio-economic baseline for the Project (refer to Section 4.0) - Use of consultation outcomes (refer to Section 3.0).

2.6 Issues scoped out of the impact assessment

Table 2-3 displays the issues scoped out of the impact assessment.

Table 2-3: Issues scoped out of the impact assessment

Impact	Reasoning for scoping out
Construction	
No construction related impacts have been scoped out of this assessment.	
Operation	
Community	Due to the very small workforce required for day-to-day operations, the Project is not expected to result in any noticeable change to local demographics or community composition.
Culture	There are no anticipated impacts to Aboriginal heritage or non-Aboriginal heritage associated with operation of the Project.
Decision-making systems	The Project is aligned with key strategic documents such as <i>Australia's Long Term Emissions Reduction Plan</i> (DISER, 2021), <i>NSW Renewable Energy Action Plan</i> (NSW Government, 2021), <i>NSW Climate Change Policy Framework</i> (Office of Environment and Heritage, 2016), and <i>Hunter Regional Plan 2041</i> (Department of Planning and Environment, 2022), all of which were developed through government consultation processes to reflect community values and regional aspirations. The Project supports these plans by enabling renewable energy integration, improving grid reliability and strengthening grid resilience, as outlined in Chapter 2.0 of the EIS. The Project would be located on non-public land adjacent to the existing Rothbury Zone Substation. Its presence would be consistent with the established land use and would not alter governance processes or affect the community's ability to participate in decisions that impact them.
Accessibility	The Project does not propose to change access arrangements within the social locality. Operation of the Project will not require the closure of roads and will not prevent access to existing social infrastructure, services or facilities during operation. During operation, the Project will not affect accessibility and connectivity within the social locality, either for pedestrians, cyclists, public transport or private motor vehicle users. Parking will be provided onsite for workers to minimise operational impacts. Further details are provided in the Traffic Impact Assessment (TIA) in Appendix K of the EIS.
Health and wellbeing	Traffic generated during operation of the Project will be limited to up to four vehicle movements per week, representing an imperceptible change to existing conditions on Wine Country Drive and posing no risk to human health or safety. Other operational impacts, including noise, visual impacts, and air emissions, will remain consistent with existing environmental conditions in the area. These factors are not expected to exceed background levels or relevant health benchmarks and are therefore unlikely to result in any measurable effects on physical health, mental wellbeing, or overall quality of life for nearby communities or workers. Operational risks specific to the Project, including potential electromagnetic field (EMF) generation, fire risk associated with BESS malfunction, and bushfire ignition, have been assessed in the EIS. Their likelihood has been determined to be low, and appropriate mitigation measures have been proposed. The Project is not expected to influence community health or wellbeing.

2.7 Socio-economic baseline study

The socio-economic baseline describes the socio-economic context without the Project. It profiles the existing socio-economic characteristics, conditions and relevant trends such as local demographics, potentially vulnerable and marginalised groups, social infrastructure, economic characteristics, business and transport services and community values within the social locality.

Preparation of the socio-economic baseline study involved the following:

- Establishing the strategic context of the social locality, as set out in relevant plans and strategies (refer to **Section 2.1.3**)
- Collating ABS data for relevant socio-economic indicators from the 2021 Census. These have been analysed at the suburb level and compared to statistics at a state level, where relevant
- Consideration of accommodation in relation to the anticipated construction workforce within the social locality
- Identification of potentially vulnerable groups in the community based on ABS data
- Review of existing construction skillsets in the social locality and surrounding commutable area, and local construction workforce outcomes on other regional infrastructure projects.

2.8 Evaluation of the significance of socio-economic impacts

The potential likelihood and magnitude of each impact has been determined based on the definitions in **Table 2-4** and **Table 2-5**. In determining the magnitude, the dimensions of social impact outlined in **Table 2-6** have also been considered.

Table 2-4: Likelihood level definitions (DPIE, 2021b)

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

Table 2-5: Magnitude level definitions (DPIE, 2021b)

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

Table 2-6: Dimensions of social impact magnitude (DPIE, 2021b)

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

The assessment matrix in **Table 2-7** has been used to determine the significance of each socio-economic impact, as a function of the potential likelihood and magnitude levels.

Table 2-7: Social impact significance matrix (DPIE, 2021b)

		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	Medium	Medium	High	High
	Unlikely	Low	Low	Medium	Medium	High
	Very unlikely	Low	Low	Low	Medium	Medium

3.0 Consultation and stakeholder engagement

Ausgrid has carried out various engagement activities throughout the development of the Project and this EIS, commencing in February 2025. Ausgrid propose to continue consultation throughout the development of the Project.

Details of engagement activities, and ongoing and planned consultation activities, are detailed in Chapter 5 (Community and stakeholder engagement) of the EIS.

3.1 Consultation undertaken during preparation of the EIS

3.1.1 Community and stakeholder consultation

Ausgrid has undertaken general consultation with relevant stakeholders throughout the development of the Project. Stakeholders were engaged using a range of tools and techniques including face-to-face and virtual meetings, phone calls, emails, letters, newsletters and factsheets, pop up community information sessions, and online tools including a survey and dedicated Project website. Details of the consultation activities conducted with the relevant government and non-government stakeholders is summarised in Chapter 5.0 (Community and stakeholder engagement) of the EIS. The results of these consultation activities have been used to inform the development of this SEIA. No SEIA-specific consultation was undertaken.

3.1.2 First Nations stakeholder engagement

Aboriginal and Torres Strait Islander consultation was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010).

Consultation began in March 2025 when the relevant Local Aboriginal Land Council (LALC) and Local Land Services (LLS) were contacted to identify Aboriginal Traditional Custodians relevant to the Project. Identified Aboriginal stakeholders were invited to register their interest in the Project and provide feedback on the proposed methodology and findings of the draft Aboriginal Cultural Heritage Assessment Report for the Project. Further details are contained in the ACHAR in Appendix F of the EIS and summarised in Section 6.3 (Aboriginal Heritage) of the EIS.

This consultation has been used to inform the SEIA where relevant.

3.2 Key issues raised during consultation

Consultation identified several key issues of interest to the local community, nearby businesses, and First Nations stakeholders. The most common concerns related to safety and hazards, particularly fire risk associated with a BESS, and how a fire event could affect air quality, health, and emergency egress for nearby residents. Community members also raised concerns about the potential visual impact of the Project, noting the importance of the scenic Hunter wine region landscape and expressing a preference for effective screening similar to the existing substation.

Noise was another key theme, with residents and local businesses highlighting the importance of maintaining the area's quiet character and seeking clarity on operational noise levels, tonality, and construction timing. Traffic and road safety issues were also raised, particularly in relation to movements along Wine Country Drive, turning safety at Old North Road, and ensuring access to homes and businesses during construction.

First Nations stakeholders emphasised the cultural significance of the Black Creek corridor and noted the need to consider cultural heritage holistically as part of Project planning. Flooding was also raised as a concern, with long-term residents sharing local knowledge of historical flood levels and seeking assurances that flooding risks and BESS safety had been fully considered.

Finally, some stakeholders expressed concerns about potential economic impacts, particularly the risk of reduced visitation to the Hunter wine region or negative effects on local vineyards and accommodation providers if noise, visual change, or perceived safety risks were not managed appropriately.

4.0 Socio-economic baseline

This section presents the socio-economic baseline for the assessment. The socio-economic baseline describes the socio-economic context without the Project, i.e. prior to construction or operation. It documents the existing socio-economic environment, conditions and trends relevant to the social locality and to the potential socio-economic impacts of the Project.

Data has been collated for the SA2 'Branxton – Greta – Pokolbin SA2' which includes the social locality and townships of Branxton as shown in Figure 2-1.

However, it was noted that many of the residents in the vicinity of the Project often travel across the region to large population centres such as Cessnock and Singleton for work or other reasons. Noting this, the data for the social locality has been compared with data for neighbouring Cessnock SA2 and Singleton SA2, to offer a comprehensive assessment of the potential impact to the broader social locality.

Data has also been compared to NSW as a whole to allow a comparison to the broader demographics of the State.

4.1 Socio-economic profile

4.1.1 Key demographic data

Key demographic indicators of relevance to the Project, as derived from ABS 2021 Census data, are provided in **Table 4-1**. A comprehensive summary of the census data is provided in **Appendix A**.

Table 4-1: Demographic information for social locality and NSW (ABS, 2021)

Demographic information	Project SA2	Neighbouring SA2 for comparison		State level
	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Population				
Total resident population	12,770	23,495	17,018	8,097,062
Median age	36	39	34	39
Aboriginal or Torres Strait Islander population	7.3%	11.7%	8.7%	3%
Speaks only English at home	92.6%	86.0%	90.3%	73%
Labour force and economics				
Employed	96.6%	93.5%	96.1%	95%
Unemployed	3.5%	6.6%	4.2%	5%
Top three employment industries	• Mining • Health Care and Social Assistance • Accommodation and Health Services	• Health Care and Social Assistance • Accommodation and Food Services • Retail Trade	• Mining • Health Care and Social Assistance • Public Administration and Safety	• Health Care and Social Assistance • Retail Trade • Professional, Scientific and Technical Services
Dwellings				
Separate house	4,180 (94.4%)	7,067 (85.5%)	5,087 (84.5%)	1,902,734 (65.6%)
Semi-detached, townhouse, terrace house, etc.	208 (4.7%)	993 (12.0%)	611 (10.1%)	340,582 (11.7%)
Flat or apartment	16 (0.4%)	139 (1.7%)	231 (3.8%)	630,030 (21.7%)
Other dwelling type	3 (0.1%)	42 (0.5%)	82 (1.4%)	19,374 (0.7%)
Home ownership (number of dwellings)				
Owned outright	1,259 (28.4%)	2,623 (31.7%)	1,745 (29.0%)	914,537 (31.5%)
Owned with a mortgage	2,128 (48.1%)	2,575 (31.1%)	2,396 (39.8%)	942,804 (32.5%)
Rented	942 (21.3%)	2,797 (33.8%)	1,732 (28.8%)	944,585 (32.6%)

Demographic information	Project SA2	Neighbouring SA2 for comparison		State level
	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Other tenure type	54 (1.2%)	137 (1.7%)	70 (1.2%)	55,931 (1.9%)
Tenure type not stated	37 (0.8%)	134 (1.6%)	73 (1.2%)	42,613 (1.5%)
Household structure				
Family household	3,540 (80.0%)	5,686 (68.8%)	4,345 (72.2%)	2,065,107 (71.2%)
Single (or lone)	798 (18.0%)	2,357 (28.5%)	1,524 (25.3%)	723,716 (24.95%)
Group household	82 (1.9%)	221 (2.7%)	148 (2.5%)	111,646 (3.85%)
Journey to work and vehicle ownership				
Top transport method to work	Car (as driver)	Car (as driver)	Car (as driver)	Car (as driver)
No motor vehicle	81 (1.8%)	533 (6.6%)	274 (4.6%)	262,031 (9.0%)
One motor vehicle	1,072 (24.5%)	3,097 (38.1%)	1,819 (30.5%)	1,096,761 (37.8%)
Two motor vehicles	1,850 (42.2%)	2,838 (34.9%)	2,408 (40.4%)	989,258 (34.1%)
Three or more motor vehicles	1,385 (31.6%)	1,655 (20.3%)	1,460 (24.5%)	1,745,924 (18.8%)

Notes:

Percentages may not add to 100 per cent due to rounding

4.1.2 Vulnerable communities

Population groups within the social locality which are potentially vulnerable or marginalised have been identified using ABS 2021 Census data and are discussed below.

Aboriginal community

Aboriginal communities experience heightened vulnerability due to the long-term impacts of historical and systemic disadvantage. These stem from socio-economic inequities, restricted access to essential services, and the enduring effects of colonialism. These factors influence major life domains such as health, education, and economic participation. Within the Branxton–Greta–Pokolbin SA2, 7.3% of the population identified as Indigenous in 2021, more than double the NSW average of 3.4%. This makes Aboriginal people one of the most significant potentially vulnerable groups within this social locality.

For the SEIA, it is critical to incorporate culturally appropriate, respectful, and inclusive engagement processes that actively involve Aboriginal community members. Establishing ongoing consultation, supporting socio-economic improvements, and building strong, trust-based relationships will help ensure their needs, priorities, and aspirations are meaningfully addressed throughout the project's lifecycle.

Older and elderly people

Elderly people can represent potentially vulnerable groups within the community. As of 2021, 14.0% of the population within the social locality are aged 65 years and older. This is significantly lower than the rest of NSW (25.6%).

Considerations for this group in preparing the SEIA and proposed mitigation measures include a need for clear communication of proposed activities through diverse engagement materials (for example, less reliance on online materials); consideration of impacts across different times of the day and week (for example, members of this group, if retired, may be more likely to be at home during daytime hours); maintaining easy and safe access to properties and local businesses. Impacts which involve changes to the local area may also be more relevant for members of this group where they have been long-term residents in the area.

Need for assistance

Core activity need for assistance data identifies people who require help with daily self-care, mobility, or communication. These needs may arise from disability, long-term health conditions (lasting six months or more), or age-related limitations. In 2021, 4.4% of residents in the social locality required assistance with a core activity, slightly lower than the 5.8% recorded across NSW. While the proportion is smaller locally, this group is still considered potentially vulnerable due to their increased reliance on accessible environments and clear information.

For the SEIA, engagement and mitigation measures will ensure clear, accessible communication using diverse formats and prioritise safe, straightforward access to homes, services, and local businesses for individuals requiring assistance. Ensuring that Project activities do not create barriers, either physical or informational, will be essential in reducing potential impacts on this group.

4.2 Aboriginal culture and values

The Project Area forms part of a larger cultural landscape of high cultural significance to the local Indigenous people as outlined in Section 6.3 (Aboriginal Heritage) of the EIS. The site falls within the Wonnarua language group and neighbouring groups including Geawegal, Darkinjung, Worimi, Awabakal, Wiradjuri and Kamilaroi people.

Prior to European settlement, Aboriginal groups in the central Hunter Valley lived in close connection with the land, their social structures and daily practices shaped by both cultural traditions and environmental conditions, depending on freshwater systems and terrestrial plants and animals in the region.

Further details are included in the ACHAR prepared for the Project (Appendix F of the EIS).

4.3 Social infrastructure

Social infrastructure comprises social services or facilities that are used for the physical, social, cultural or intellectual development or welfare of the community. Social infrastructure includes educational facilities, childcare centres, hospital and medical facilities, aged care, sporting and recreational facilities, community halls, clubs, and libraries, as well as the services, activities and programs that operate within these facilities. Open spaces, parks and sporting fields that support sport, recreational and leisure activities are also identified as social infrastructure.

Social infrastructure facilities generally operate at a local, district and/or regional level and are defined by the scale of the population catchment they serve. Social infrastructure can be classified as a sensitive receiver and may be directly or indirectly affected by the Project.

No social infrastructure was identified within the primary impact area (i.e. 2 km from the Project): The nearest social infrastructure to the Project Area was:

- The Vintage Golf Club, approximately 3 km south
 - Huntlee Medical Centre, approximately 5 km north
 - Huntlee Shopping Centre, approximately 5 km north
 - Branxton Public School, approximately 7 km north
- Branxton Community Hall, approximately 7 km north.

The audit of social infrastructure facilities listed in this section is based on the data available at the time of preparing this report. The audit has been prepared based on desktop research, including Google Maps and local council social infrastructure lists.

4.4 Economic characteristics

4.4.1 Regional economy

The Project Area is located approximately 5 km south of Huntlee and 6 km south of Branxton. Branxton serves as a small local centre with the required services and facilities to support neighbouring areas including a train station, health service, supermarket, fire station and police station whilst Huntlee has a medical facility, a supermarket, and a childcare centre.

The largest urban centres near the Project Area are Singleton (approximately 20 km north-west) and Cessnock (approximately 13 km south-east), which serve local businesses and as employment centres in the region.

The Project Area is within the Hunter Region of NSW. The region has a long history of being driven by mining, energy and manufacturing sectors (Department of Planning and Environment, 2022). However, as NSW moves towards a net zero economy, the diversification of the economy is a primary focus for the region. Tourism also serves an important role within the region, with the Hunter Valley being Australia's oldest winegrape growing region (Department of Regional NSW, 2023).

Agriculture is also an important sector for the region, contributing over \$600 million to the Hunter regional economy in 2020, with sheep, grain, beef and dairy, poultry, cattle and livestock accounting for 74% of this value (Department of Regional NSW, 2023). This includes important equine breeding and training areas throughout the region.

4.4.2 Employment

Table 4-2 outlines the industry of employment for people living in the Project Area and surrounds, with the largest three industries for each SA2 highlighted. It shows that the Mining sector is the largest employer in the region, with the percentage of employed workers in this industry being considerably higher in the Branxton - Greta – Pokolbin SA2 and Singleton SA2 compared to NSW. Accommodation and Food Services also makes up a notable industry of employment for Branxton – Greta – Pokolbin SA2 and Cessnock SA2. Health Care and Social Assistance remains a key industry of employment, but the percentage of workers employed in this industry is lower than the NSW average, with the exception of Cessnock SA2 which has a slightly higher rate.

Table 4-3 outlines the unemployment rate for the area, which is slightly lower for the Branxton - Greta – Pokolbin SA2 and Singleton SA2 than NSW. However, the Cessnock SA2 has a slightly higher rate of unemployment compared to NSW.

Table 4-2: Employment by industry within the social locality with largest industries in each column highlighted

Employment by industry	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Agriculture, Forestry and Fishing	159 (2.4%)	87 (1.0%)	136 (1.6%)	74,728 (2.0%)
Mining	967 (14.8%)	701 (8.1%)	1,864 (22.4%)	35,406 (1.0%)
Manufacturing	456 (7.0%)	638 (7.4%)	330 (4.0%)	201,654 (5.5%)
Electricity, Gas, Water and Waste Services	101 (1.5%)	104 (1.2%)	207 (2.5%)	35,584 (1.0%)
Construction	541 (8.3%)	647 (7.5%)	556 (6.7%)	315,520 (8.6%)
Wholesale Trade	202 (3.1%)	188 (2.2%)	245 (2.9%)	103,466 (2.8%)
Retail Trade	526 (8.0%)	908 (10.5%)	676 (8.1%)	331,486 (9.0%)
Accommodation and Food Services	561 (8.6%)	947 (10.9%)	612 (7.3%)	227,466 (6.2%)
Transport, Postal and Warehousing	235 (3.6%)	356 (4.1%)	222 (2.7%)	169,608 (4.6%)
Information Media and Telecommunications	28 (0.4%)	36 (0.4%)	21 (0.3%)	68,068 (1.8%)
Financial and Insurance Services	105 (1.6%)	139 (1.6%)	75 (0.9%)	193,679 (5.3%)
Rental, Hiring and Real Estate Services	76 (1.2%)	117 (1.3%)	72 (0.9%)	62,633 (1.7%)
Professional, Scientific and Technical Services	254 (3.9%)	240 (2.8%)	233 (2.8%)	326,595 (8.9%)
Administrative and Support Services	282 (4.3%)	427 (4.9%)	391 (4.7%)	117,988 (3.2%)
Public Administration and Safety	285 (4.3%)	477 (5.5%)	719 (8.6%)	222,909 (6.1%)
Education and Training	418 (6.4%)	522 (6.0%)	470 (5.6%)	322,236 (8.7%)
Health Care and Social Assistance	721 (11.0%)	1,282 (14.8%)	765 (9.2%)	529,176 (14.4%)
Arts and Recreation Services	55 (0.8%)	108 (1.2%)	59 (0.7%)	51,789 (1.4%)
Other Services	305 (4.7%)	386 (4.5%)	370 (4.4%)	125,380 (3.4%)
Inadequately described/Not stated	254 (3.9%)	368 (4.2%)	317 (3.8%)	168,787 (4.6%)
Total (no. of persons)	6,553	8,671	8,338	3,684,158

Table 4-3: Unemployment rate

	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Unemployed Persons	235 (3.5%)	611 (6.6%)	365 (4.2%)	189,852 (5%)

4.4.3 Income and housing stress

The median weekly household income for the Branxton – Greta – Pokolbin SA2 was compared to the Cessnock SA2, Singleton SA2 and NSW in **Table 4-4**. Branxton – Greta – Pokolbin SA2 has a higher weekly household income compared to NSW, Singleton SA2 and Cessnock SA2. Cessnock SA2 is the has a lower median weekly household income compared to NSW.

Table 4-4: Weekly household income

	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Median weekly Household Income	\$2,128	\$1,493	\$1,935	\$1,829

An analysis of housing stress rates, determined by mortgage repayments and rental payments, can help to understand housing affordability within the area surrounding a project. The ABS provides data for owners and renters with mortgage and rental payments which exceed 30% of their household income. This can help determine the amount of housing stress in a given area. **Table 4-5** indicates that the Branxton – Greta – Pokolbin SA2 has a significantly lower percentage of the population experiencing housing stress when compared to NSW, or when compared to Cessnock SA2 and Singleton SA2.

Table 4-5: Housing affordability

Area	Median weekly rent	Persons paying rent payments greater than 30% of household income	Median monthly mortgage repayments	Persons paying mortgage payments greater than 30% of household income
Branxton - Greta – Pokolbin SA2	\$400	26.4%	\$1,950	12.6%
Cessnock SA2	\$340	39.9%	\$1,647	12.7%
Singleton SA2	\$330	32.8%	\$1,760	9.7%
NSW	\$420	35.5%	\$2,167	17.3%

4.4.4 Socio-economic indices

The Socio-Economic Indexes for Areas (SEIFA) (ABS, 2021) comprise four indexes designed to indicate levels of relative socio-economic advantage and disadvantage across communities. SEIFA measures people's access to material and social resources as well as their capacity to participate fully in society.

For this assessment, the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) has been applied, using data from the 2021 ABS Census. The IRSAD summarises the socio-economic conditions of households within an area by incorporating indicators of both advantage and disadvantage. Scores are reported as deciles, where:

- Decile 1 represents the most disadvantaged 10% of areas (low advantage, high disadvantage)
- Decile 10 represents the most advantaged 10% (high advantage, low disadvantage).

For the Branxton–Greta–Pokolbin SA2, the IRSAD shows a decile score of 6 for both Australian and NSW rankings, meaning this locality is less disadvantaged than approximately 60% of SA2s across

Australia and NSW. Overall, the SA2 exhibits moderately higher levels of socio-economic disadvantage when compared with many other areas in NSW, Australia, and within its broader social locality.

4.5 Access and connectivity

4.5.1 Road and freight network

The road network in the vicinity of the Project includes Old North Road, Wine Country Drive, and Blackburn Close.

Wine Country Drive is a classified State Road (B82) generally aligned in a north-south direction east of the Project Area. This road connects to the Hunter Expressway (M15) in the north and Cessnock in the south where it turns into Allandale Road. Near the Project Area, Wine Country Drive is an undivided carriageway, with one lane in each direction. The posted speed limit is 80 kilometres per hour for vehicles travelling both northbound and southbound. No formal parking or footpaths are provided on either side of the road near the Project.

Old North Road and Blackburn Close are council owned local roads. Blackburn Close is a short road which serves residential properties, whilst Old North Road is aligned in an east-west direction south of the Project Area. It connects Wine Country Drive with Hermitage Road.

The TIA in Appendix K of the EIS provides further information on the road network surrounding the Project Area.

4.5.2 Public transport services

There are no public bus stops and routes within the immediate vicinity of the Project. The nearest public bus stops are located in Branxton.

Four school bus routes (S852, S883, S893, S954) operate along Wine Country Drive and provide access to schools within the region. These services stop at a bus stop on the intersection of Old North Road and Wine Country Drive.

The closest rail connection is Branxton Station, located approximately 5.7 km north of the Project Area.

The TIA in Appendix K of the EIS provides further information on the public transport services surrounding the Project Area.

4.5.3 Active transport (walking and cycling)

There are no formal pedestrian and cycling facilities within or surrounding the Project Area.

4.6 Construction workforce and industry

To inform the assessment of social and economic impacts associated with the influx of construction workers into the area (for example, on community composition or accommodation), a review of the existing construction skillsets in the social locality and surrounding commutable area was undertaken. The aim of the review is to understand the likely proportion of the construction workforce that would be employed locally, and the proportion which would be required to relocate from another area.

Table 4-6 identifies the LGAs located within approximately one hour's travel time of the Project, which is considered a reasonable commutable distance.

A substantial proportion of the existing workforce in each of these LGAs are employed in the construction industry, ranging from 5.7 % to 9.0%. This represents a total of 32,143 persons. This indicates there is a strong presence of existing skills and capabilities in the region that could be used to deliver the Project and meet the requirements of up to 100 FTE construction workers (at peak).

Table 4-6: Existing construction workforce (2019) (ABS, 2022)

LGA	Number of persons employed in construction	Total workforce	Percentage of workforce employed in construction
Cessnock	2,982	39,128	7.6%
Dungog	519	5,742	9.0%

LGA	Number of persons employed in construction	Total workforce	Percentage of workforce employed in construction
Lake Macquarie	11,833	141,602	8.4%
Maitland	4,484	61,027	7.3%
Muswellbrook	418	7,359	5.7%
Newcastle	7,112	122,746	5.8%
Port Stephens	3,503	45,770	7.7%
Singleton	1,292	17,361	7.4%
Total	32,143	440,735	7.3%

5.0 Social impact assessment

5.1 Introduction

This Social Impact Assessment has been developed to evaluate the likely social impacts associated with the construction and operation of the Project and has been developed in line with the SIA Guideline.

5.2 Construction

Table 5-1 provides an assessment of the potential social impacts associated with the construction of the Project. Overall, the most notable construction impacts relate to temporary changes in local amenity, particularly noise and visual effects which may affect the quality of the surrounding environment for residents and businesses in the area.

Section 6.0 provides detail on how these impacts will be managed, and the residual significance rating following the implementation of mitigation and management measures.

Table 5-1: Assessment of social impacts during construction

Social factor	Sub-factor	Potential impact	Likelihood	Magnitude	Social significance rating
Way of Life	Changes to how people move around	The ability to move around the local community and across the wider region is important to the maintenance of people's livelihoods and way of life. This includes access to (but not limited to) work, study, friends, relatives, shopping, health, sporting and social activities. The Project is located away from large town centres and residential areas (with the largest residential community being in North Rothbury approximately 3.8 km from the Project Area). This will minimise substantial disruption to how people move around their local area. The key State Road in the vicinity of the Project is Wine Country Drive, which connects the Hunter Expressway (M15) in the north and Cessnock in the south. Old North Road, a local road, is located immediately south of the Project Area. The TIA (Appendix K of the EIS) identified that the Project would temporarily increase the traffic generation on these roads due to materials and equipment being brought to site. Further traffic generation would occur as a result of construction workers travelling to the Project Area. The short-term increase in the traffic generation during the construction period has been assessed as being acceptable and represent negligible impacts on the existing operation of the roads. Intersection and local road upgrades may be required at the Wine Country Drive/Old North Road intersection and along Old North Road to the Project entry/exit to comply with Austroads Guide requirements, which may cause temporary short-term disruption to motor vehicle users on these roads.	Possible	Minor	Medium (negative)
	Utilities and digital access	Residents and businesses are dependent on public utilities, particularly the supply of electricity, telecommunications, water, and sewage infrastructure, for the conduct of a wide variety of daily activities. Temporary disruptions to utilities, whether planned or unplanned, have the potential to adversely affect the ability of the community to access and use infrastructure.	Unlikely	Minor	Low (negative)
	Access to accommodation	Access to accommodation refers to short-term accommodation availability for tourists and visitors to the area, and long-term rental accommodation availability for residents. Impacts relating to access to accommodation have been considered with respect to accommodation availability for tourists and visitors to the area, and long-term rental accommodation availability for residents. This assessment has noted that the Project is located in an area characterised by wineries and event venues (used for celebrations including weddings) which often rely on neighbouring accommodation for patrons. A review of the existing construction skillsets in the social locality and surrounding commutable area was undertaken for this SEIA and is described in full in Section 4.6. The review indicated that there is a strong presence of existing skills and capabilities located within a 'reasonable commutable distance' that could be used to deliver the proposed modification, most notably within the Newcastle and Lake Macquarie LGAs. As outlined in Chapter 3.0 of the EIS, up to 100 construction workers would be required at peak and construction would take approximately 22 months. The construction workforce would likely be sourced from across the local area and broader region, with a preference for local employees, where practicable. As such, it is not expected that construction workers would relocate to the area and impact on access to accommodation (rentals, short stay or hotels). However, on the worst-case basis that a small number of workers relocate to the region, it is considered that there is sufficient capacity of existing short-term and long-term rentals available within a reasonable commuting distance in neighbouring urban centres including Singleton, Cessnock and Maitland.	Unlikely	Moderate	Medium (negative)
Decision-making system	Impacts to decision-making systems	Ausgrid has consulted with community members during the development of the Project. The exhibition of the EIS, including this SEIA, will provide an opportunity for the community to express their support or objection for the Project by providing comments on the Project and how its associated construction activities may impact on their lives. Submissions from the community will be formally responded to in a Submissions Report and considered by DPHI during the assessment of the Project. More, broadly the Project is aligned with <i>Australia's Long Term Emissions Reduction Plan</i> (Australian Government, 2021), <i>NSW Renewable Energy Action Plan</i> (NSW Government, 2021) <i>NSW Climate Change Policy Framework</i> (Office of Environment and Heritage, 2016) and Cessnock LGA CSP 'Together Cessnock 2040' (Cessnock City Council, 2025). These plans have undergone community consultation to create strategies that align with the values and aspirations of Australia, NSW and the Cessnock LGA. The Project will provide benefits to the local economy, helping the emerging local renewable energy industry. Further information on the need for the Project, strategic context, and options analysis is provided in Chapter 2.0 (Strategic context) of the EIS.	Very Unlikely	Minimal	Low (negative)
Community	Demographics and community composition	Construction of the Project may influence the demographic profile of the social locality, primarily through employment and potential inward migration of the construction workforce. The Project is expected to support an indicative peak construction workforce of up to 100 FTE (direct employment). The construction workforce would comprise trades and construction personnel, and engineering, functional and administrative staff. The size of the workforce would vary throughout the construction period depending on the activities being undertaken. As discussed in Section 4.6, there is a strong presence of existing skills and capabilities within a 'reasonable commutable distance' and as such, it is unlikely that there would be a sizeable increase in the nighttime population as workers would likely already be located in their respective LGA prior to commencing work on the Project. There would be an increase in the daytime population, and it is noted that the area surrounding the Project hosts a small community, with limited number of businesses and residents. This may result in a potential cause of conflict and dissatisfaction from some local residents.	Possible	Minor	Medium (negative)

Social factor	Sub-factor	Potential impact	Likelihood	Magnitude	Social significance rating
	Social cohesion and sense of place	Social cohesion refers to the connections and relationships between individuals and their community. Activities that create a physical or psychological barrier between communities can affect social and/or economic interaction, potentially resulting in social isolation and an erosion of the sense of community. The presence of construction traffic on roads may increase travel times for vehicle users. This has the potential to affect people's opportunity to socialise within the community. For the Project, the TIA (Appendix K of the EIS) identified the maximum delay at intersections during construction of the Project to be no greater than two seconds. This impact is considered to be negligible. Construction of the Project will also result in temporary changes to local amenity due to increases in noise levels, dust and reduced visual amenity due to the presence of construction plant and activities. The Noise and Vibration Impact Assessment (NVIA) undertaken for the Project (Appendix J of the EIS) predicts that construction noise levels would exceed the relevant noise management levels during daytime periods at all identified sensitive noise receivers. Noise impacts would be temporary in nature; however, are likely to affect the perceived 'serenity' and sense of place of the surrounding area during construction of the Project. The Landscape Character and Visual Impact Assessment (LCVIA) undertaken for the Project (Appendix I of the EIS) concludes that construction activities and machinery would be highly visible to nearby visual receptors, particularly residents and visitors to adjacent accommodation and winery uses, with some locations experiencing direct and unmitigated views. While vegetation would provide partial screening from many of the viewpoints assessed, the scale of construction infrastructure and associated vegetation clearing would result in a high magnitude of visual change within the landscape. Overall, the visual impact of construction is assessed as high (adverse); however, these impacts would be temporary and confined to the construction period. These changes may adversely affect the local sense of place, given the high value placed on the area's picturesque qualities and perceived serenity. Vulnerable groups within the community may be more sensitive to changes in access, mobility, and amenity, which could in some circumstances contribute to reduced participation or temporary self-exclusion from community activities. However, this outcome is not anticipated for the Project, as construction activities are not expected to result in significant changes to traffic conditions or access arrangements. Accordingly, the risk of adverse socio-economic impacts on vulnerable community members arising from access or mobility constraints is considered to be low.	Possible	Minor	Medium (negative)
Accessibility	Access to infrastructure, services and facilities	Access to infrastructure, services and facilities (those provided by public, private or not-for-profit organisations) can be affected by the construction of infrastructure projects. There are no formal active transport facilities, such as walking and cycling paths, within or immediately surrounding the Project Area. As a result, construction activities are not expected to disrupt pedestrian or cyclist movements. Construction of the Project would also not restrict access to existing social infrastructure, services or facilities used by the local community. During construction, access to the Project Area would be via an existing driveway on Old North Road resulting in minimal changes to local traffic conditions. Accordingly, construction activities are not expected to affect residents' ability to access key services and facilities.	Unlikely	Minor	Low (negative)
Culture	Aboriginal Culture and Heritage	An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared for the Project (provided in Appendix F and summarised in Section 6.3 of the EIS) to identify the Aboriginal cultural heritage values of the site. The ACHAR involved consultation with Aboriginal stakeholders, detailed desktop research, conducting a pedestrian survey and undertaking further archaeological excavation. The Project Area forms part of a larger cultural landscape of high cultural significance to the local Aboriginal people. Basic and extensive searches of the Aboriginal Heritage Information Management System (AHIMS) did not identify any registered Aboriginal sites located fully or partially within the Project Area. A pedestrian survey of the site identified an area of potential archaeological deposits in the western portion of the site. Further archaeological excavation of this area detected the presence of Aboriginal cultural material within this area. The site is considered to have moderate to high archaeological significance. Whilst the Project would be located in the central portion of the site, which is more heavily disturbed and has lower archaeological sensitivity, full avoidance of Aboriginal cultural material is unlikely to be possible during construction due to the nature and extent of the proposed activities. Ground disturbance resulting from construction activities, such as excavation, trenching, or other subsurface works, has the potential to directly affect archaeological materials or stratigraphy.	Likely	Moderate	High (negative)
	Non-Aboriginal Heritage	The area's historic landscape, including remnants of early transport routes, contributes to the cultural identity and sense of place valued by the local community. This identity can be affected if places of heritage significance are damaged or perceived to be at risk during construction. One statutory heritage item, the Old North Road Remnant (LEP #I177), is located approximately 30 m south-east of the Project Area on the eastern side of Wine Country Drive. The item is not publicly accessible, but it forms part of the broader historic narrative of the region and contributes to community appreciation of its early European heritage. The heritage item lies outside the Project Area and is unlikely to experience direct physical impacts during construction. However, given the Project's proximity to this historic route, there is a low likelihood that unrecorded archaeological material associated with the Old North Road or early European settlement may be present within the Project Area. Such material, if discovered, may include subsurface road fragments,	Possible	Moderate	Medium (negative)

Social factor	Sub-factor	Potential impact	Likelihood	Magnitude	Social significance rating
		drainage features or artefact scatters. The accidental disturbance of unexpected archaeological features could create short-term concern for community members who place value on the protection of local heritage. These risks are low and would be managed through established archaeological procedures, reducing the potential for adverse cultural or social impacts during construction.			
Health and wellbeing	Community health and wellbeing	Health and wellbeing refers to the physical and mental health of the community affected by a Project. The construction of a project has the ability to influence the physical and mental health for nearby communities, namely those who are vulnerable to social exclusion or substantial change. Although construction of the Project may result in minor changes to health and wellbeing (through impacts to noise, traffic, visual impacts and dust), these impacts are not expected to be of a scale or intensity that will cause a significant impact to the health and wellbeing of local residents or workers, particularly in the context of the existing traffic, air and noise emissions associated with Wine Country Drive, which passes directly adjacent to the Project Area. Additionally, there is likely to be minimal impact on health-related facilities in the area. Accidents may occur during construction that require the use of medical professionals in the area; however, these are likely to be infrequent. Additionally, it is expected that construction workers who require general medical check-ups beyond urgent care will likely get these activities completed at their home area.	Unlikely	Minor	Low (negative)
Surroundings	Local amenity	Amenity refers to the quality of a place, its appearance, feel and sound, and the way its community experiences the place. Amenity contributes to a community's identity and its sense of place. Aesthetic qualities are an important part of amenity, but the broader concept of amenity is also determined by the physical design of a place and the human activity that takes place within it. A place that has 'amenity' is regarded as pleasant and attractive, as well as convenient and comfortable. Impacts upon amenity include factors that affect the ability of a resident or visitor to enjoy their home and daily activities. For example, traffic, noise, vibration, changes to views or changes to air quality will be considered amenity impacts. Changes in amenity may also conflict with community values, contributing to a loss of or change in a community's sense of place, and subsequently a community's perceived identity. Construction of the Project will affect amenity as a result of changes to traffic, noise and vibration, air quality (i.e. dust), and landscape and visual amenity. This may occur through temporary changes to the physical design of places or by introducing construction workers, vehicles and equipment to the Project Area. Traffic and transport Traffic and transport impacts have been considered in the TIA (Appendix K of the EIS) and summarised in Section 6.5 of the EIS. The assessment outlines the nature of potential traffic and transport impacts associated with the Project, as well as the mitigation measures proposed to minimise impacts. This section focuses on the social implications of construction-related traffic and transport impacts. A temporary increase in traffic volumes on roads surrounding the Project Area is expected during construction. The presence of construction vehicles, including heavy vehicles, may adversely affect local amenity through increased noise, changes to the character of local roads, and reduced perceptions of safety for residents, businesses, pedestrians, and other road users. Construction traffic may also contribute to short term delays and reduced travel comfort, particularly on key local routes. While these impacts would be temporary and managed through the implementation of mitigation measures, they have the potential to affect the day-to-day experience and amenity of the local community during the construction period. Noise and vibration Noise and vibration impacts during construction have been considered in the NVIA (Appendix J of the EIS) and summarised in Section 6.7 of the EIS. The assessment outlines the nature of likely impacts and the mitigation measures to be implemented to minimise noise impacts during construction. This section considers the social implications of potential noise and vibration impacts. Exposure to noise and vibration has the potential to create nuisance, intrude on daily activities or the enjoyment of activities, interfere with conversation and memory, disrupt sleep and rest patterns and create or exacerbate health concerns. The NVIA identifies eight residential receivers which are predicted to experience temporary noise levels above the relevant noise management levels during assessed construction scenarios. It is likely that increased noise as a result of construction of the Project will impact residents' sense of place in an area which has been identified as having peaceful, quiet rural homesteads, and vineyards and accommodation. Construction traffic noise generated by the Project will be minimal. The daytime average and peak construction traffic scenario were modelled in the TIA (Appendix K of the EIS) and found not to result in relative increases in traffic noise of more than 2 dB(A). No vibration impacts were anticipated for any sensitive receiver during construction of the Project. Air quality Air quality has been assessed in Section 6.13 (Other issues) of the EIS, which identifies the nature of potential impacts and the mitigation measures proposed to minimise these impacts. This section considers the social implications of construction-related air quality impacts. During construction, potential air quality impacts may include the generation of airborne dust from earthworks and other construction activities, as well as exhaust emissions from construction vehicles, plant, and equipment. These emissions have the potential to temporarily reduce local amenity, particularly by causing nuisance dust. People with pre-existing respiratory conditions may be more sensitive to these effects. However, any	Likely	Moderate	High (negative)

Social factor	Sub-factor	Potential impact	Likelihood	Magnitude	Social significance rating
		construction related dust and exhaust emissions are expected to be localised and short term, with dispersion assisted by prevailing wind conditions and the nearest residential receiver being several hundred metres away. In addition, appropriate mitigation measures would be implemented to manage dust and emissions. As a result, construction related air quality impacts are not expected to significantly affect local air quality or amenity. Visual Visual amenity has been considered in the LCVIA (Appendix I of the EIS) and summarised in Section 6.6 of the EIS. The assessment outlines the nature of likely visual amenity impacts and the mitigation measures to be implemented to minimise impacts. This section considers the social implications of potential visual amenity impacts during construction. Visual impacts during construction will arise primarily from the presence of construction activities and machinery that would be highly visible to nearby visual receptors, particularly residents and visitors to adjacent accommodation and winery uses. While vegetation would provide partial screening, the scale of construction infrastructure and associated vegetation clearing have the potential to impact the local amenity through impacts to visual receptors travelling along Old North Road and neighbouring properties/businesses. The character and sense of place in the area has been defined by its existing views of flat to undulating paddocks and bushland alongside scattered vineyards or accommodation. Construction of the Project would require the removal of vegetation that currently provides visual screening from certain locations. This would alter existing views from some viewpoints and, by extension, result in changes to local visual amenity during the construction period. Overall impact to local amenity Overall, construction of the Project would result in temporary changes to amenity within the social locality during the construction period. These impacts would primarily relate to visual and noise effects, with visual impacts having the greatest potential to affect the community's existing amenity during the construction period.			
	Construction crime, security and safety	The presence of construction plant and activities, construction workforce and increases in construction traffic may result in changes to perceptions of safety in an area. The Project Area is located away from large townships and urban centres and is unlikely to be a target for crime or substantially change the presence of passive surveillance in the area. Some community members may however experience some concern about a potential reduction in safety and security. Potential safety concerns will be manageable through the application of the principles of Crime Prevention Through Environmental Design (CPTED) at construction sites. Regular communication with the community and stakeholders throughout construction would allow residents to understand construction plans and therefore be better prepared for the temporary changes to the area.	Unlikely	Minimal	Low (negative)
Livelihoods	Local business impacts	Local businesses in the vicinity of the Project may experience temporary impacts during construction as a result of changes to passing trade, access arrangements and travel times for employees, customers and deliveries. Potential impacts on the operation and viability of businesses may, in turn, affect people's livelihoods, including their ability to sustain employment or business activities. Construction activities have the potential to affect businesses that rely on passing trade along Wine Country Drive and Old North Road, particularly wineries, cellar doors, accommodation providers and associated tourism uses including Black Creek Farm (Thélème Wines) to the west of the Project and Lucy's Run Wines to the east. While access to all businesses would be maintained throughout the construction period, several wineries and hospitality businesses located in the surrounding rural landscape place a high value on picturesque views from their properties, including Black Creek Farm (Thélème Wines) and Scarborough Cottage to the north, and from the surrounding road network. Tourists visiting wineries in the area typically have a strong interest in the visual quality of their surroundings, with enjoyment of their visit closely linked to landscape character and scenic amenity. Although views of construction activities would generally be short term and experienced in passing, the presence of construction equipment, vegetation removal and other industrial elements within a predominantly rural and tourism-focused landscape could detract from the perceived amenity of the area for some visitors. Any reduction in visual amenity along Wine Country Drive and Old North Road has the potential to indirectly influence visitation patterns to nearby businesses, particularly where the visitor experience is closely tied to scenic quality and rural character. However, these impacts are expected to be temporary, localised and limited in nature with only limited receivers being able to see much of the project. These changes would occur within the context of an established road network where travellers are accustomed to periodic changes in landscape character of the broader area, noting that the immediate site is an existing substation. With the implementation of appropriate construction management measures, impacts on passing trade are anticipated to be minor and short-term. Conversely, some businesses in the surrounding area, such as Branxton, Greta and Cessnock, may experience positive impacts during construction through increased demand for goods and services associated with delivery of the Project, such as vegetation removal, fencing, landscaping and other ancillary services. While there may be localised economic benefits for certain businesses, it is anticipated that these would be outweighed by an overall negative effect on businesses reliant on tourism and visual amenity during the construction period.	Likely	Moderate	High (negative)

Social factor	Sub-factor	Potential impact	Likelihood	Magnitude	Social significance rating
	Broader economic Impacts	Construction activity can benefit the economy by injecting money into the local, regional and state economies. This can result in employment and business opportunities for people. The economic benefits of construction can include: • Increased expenditure at local and regional businesses through purchases by construction workers • Direct employment through on-site construction activities • Direct expenditure associated with on-site construction activities • Indirect employment and expenditure through the provision of goods and services required for construction. The capital expenditure required for the Project (approximately \$231 million) would create increased opportunities for both businesses and workers associated with construction, while also resulting in flow-on impacts to other parts of the local economy, including for local businesses and the local workforce within the social locality. It is estimated that the Project would support up to 100 FTE jobs at the peak of the construction period. Construction businesses, industries and skilled workers in the social locality may also experience benefits. These may include local construction contractors, businesses that service or supply goods to the construction industry such as food and beverage retailers and other retail outlets that cater to the day-to-day needs of the construction workforce. This temporary increase in revenue may subsequently lead to increased employment opportunities locally, which would inject additional money back into the local economy. This has the potential to benefit people's livelihoods through supporting local business and employment in these businesses.	Possible	Moderate	Medium (positive)

5.3 Operation

Table 5-2 includes an assessment of the potential social impacts associated with the operation of the Project. Overall, the most notable impacts during operation relate to the benefit of the Project to livelihoods and the economy due to the move towards a resilient economy through renewable energy.

Section 6.0 provides detail on how social impacts will be managed, and the residual significance rating following the implementation of mitigation and management measures.

Table 5-2: Assessment of social impacts during operation

Social factor	Sub factor	Potential impact	Likelihood	Magnitude	Social Significance Rating
Way of life	Utilities and digital access	The Project would contribute to strengthening essential utilities by supporting the stability and reliability of the NEM. Increased storage capacity would help maintain a consistent electricity supply, reducing outage risks and supporting day-to-day living, work, and community activities that depend on reliable power. A stable electricity network also underpins digital access by supporting telecommunications and internet services, which the community relies on for communication, work, education, and social connection. In this way, the Project provides indirect benefits to the community's way of life through more dependable utilities and digital connectivity. The Project aligns with national and state energy policies aimed at improving network resilience and affordability, supporting long-term access to reliable essential services.	Almost certain	Major	Very High (positive)
Surroundings	Local amenity	Traffic and access Traffic impacts associated with the Project during the operational phase are expected to be negligible. During operation, the Project is expected to generate a low amount of traffic, with a maximum of four vehicle movements anticipated per week, associated with maintenance personnel accessing the site. Consequently, the Project is not anticipated to generate measurable increases in traffic volumes or to give rise to any local parking demand or access constraints. Noise and vibration Noise and vibration impacts during operation have been considered in the NVIA (Appendix J of the EIS) and summarised in Section 6.7 of the EIS. Noise modelling predicted that operational noise levels would result in exceedances of Project noise trigger levels at nearby noise sensitive receivers. To mitigate these operational noise impacts, a permanent noise barrier up to 8 m high would be installed around the battery units. With the installation of the barrier, only minor exceedances of Project noise trigger levels, no greater than 2dB(A), are anticipated at three noise sensitive receivers during the night-time period. Exceedances up to 2 dB(A) represent a minor impact that is considered barely perceptible. These exceedances are considered negligible if all feasible and reasonable noise mitigation measures have been considered. Noise impacts arising from the Project's operational traffic are not expected to result in an increase of more than 2 dB(A). As such, the Project would be compliant with the road traffic noise criteria during operation. The Project will not result in vibration impacts during the operational phase of the Project. Air quality During operation, minor and localised dust and vehicle exhaust emissions will be generated by infrequent inspection, maintenance and occasional repair activities. Given the low level of operational traffic (approximately four vehicle movements per week), associated air quality impacts are expected to be negligible and not perceptible to surrounding communities. At a broader scale, the Project will support the transition of the NSW electricity network toward increased renewable energy and storage capacity, which is anticipated to deliver long-term air quality and health benefits through reduced reliance on fossil fuel-powered electricity generation elsewhere in the state. Visual amenity The LCVIA (Appendix I of the EIS) concludes that the Project is expected to result in low visual amenity impacts for the surrounding community. Existing vegetation surrounding the site would substantially screen and filter views of the Project, limiting its visibility from public areas and nearby properties. While some operational elements are taller and visually distinct, they are consistent in scale with existing rural infrastructure within the surrounding landscape. The Project's visual impacts are not expected to be prominent or intrusive and are unlikely to alter overall perceptions of visual amenity. Overall impact to local amenity Traffic, air quality, noise and visual impacts may be experienced by residents and passersby. However, overall, the operation of the Project is expected to result in minimal changes to local amenity.	Likely	Minor	Medium (negative)
Livelihoods	Business Impacts	During operation, potential impacts on local businesses may arise from changes to the visual amenity associated with the permanent presence of Project infrastructure within the landscape. Businesses that rely on or value scenic or rural landscape qualities may experience minor changes to their visual setting, which could influence customer perceptions. However, the LCVIA (Appendix I of the EIS) indicates that views from surrounding businesses towards the Project would be substantially screened by existing vegetation, significantly limiting the visibility of operational infrastructure. As a result, visual changes are expected to be localised and not prominent within the broader landscape context.	Unlikely	Minor	Low (negative)
	Economic Impacts	Employment opportunities The Project would operate primarily as an unmanned facility; however, once operational, it would support up to five part-time roles, equating to up to two FTE positions. Where appropriate skillsets are available, these roles would be sourced locally. While modest in scale, the creation of these	Likely	Minor	Medium (positive)

Social factor	Sub factor	Potential impact	Likelihood	Magnitude	Social Significance Rating
		ongoing employment opportunities would provide a positive contribution to local employment and support economic participation within the local community. Diversification and resilience of the NEM The NSW Government has identified economic diversification away from reliance on coal-based mining and energy generation as a strategic priority, as outlined in the Hunter Regional Plan 2041 (Department of Regional NSW, 2023). The Project would support this transition by facilitating the increased integration of renewable energy into the NEM. By providing additional storage capacity, the Project would improve grid reliability and flexibility, helping to manage the intermittency of renewable energy generation across the region and the NEM. Ausgrid's ongoing operational expenditure of approximately \$7.1 million per annum would further contribute to regional economic resilience and support the growth of emerging clean energy industries. Overall, the Project would generate positive economic benefits for the LGA and surrounding region by: • supporting and strengthening the NEM through increased energy storage capacity; and • assisting the diversification of the local and regional economy through investment in renewable energy infrastructure. Benefit sharing Ausgrid will provide benefit sharing in line with the Benefit Sharing Guideline (Department of Planning, Housing and Infrastructure, 2024) and in consultation with Cessnock City Council. Further details are provided in Chapter 5.0 of the EIS. It is expected that this will include economic benefits to the community during operation of the Project.			

6.0 Economic Impact Assessment

6.1 Introduction

This Economic Impact Assessment (EIA) has been developed to evaluate the likely economic impacts associated with the construction and operation of the Project. This EIA has identified, described and qualitatively assessed the Project's direct, indirect and broader economic impacts at a regional, state and national level.

The assessment has been undertaken using a qualitative economic framework which has been informed by the following:

- Project-specific information, including indicative capital expenditure profile, workforce requirements (including five part-time operational roles, equating to up to two FTE positions), and procurement assumptions
- Publicly available data on large-scale battery storage performance and market participation within the NEM
- NSW Government policy and storage targets
- Industry research and published energy market analysis
- Economic impact pathway analysis (direct, indirect and induced effects)
- High-level multiplier and leakage considerations based on import content assumptions.

6.2 Overview of economic impacts

Table 6-1 outlines the way that the Project generates economic impacts and provides the potential scale of its impact.

Table 6-1: Economic impact pathways

Impact pathway	Description	Geographic scale of impact
Capital expenditure	Capital investment during the construction phase includes expenditure on: • Civil works • Site preparation • Electrical infrastructure • Grid connection works and • Professional services. While components such as gravel, concrete and transport services are likely to be sourced within NSW, the primary battery units, inverters and energy management systems are expected to be imported from overseas, resulting in both domestic economic stimulus and international capital leakage.	Regional, State and National
Operational expenditure	Expenditure during operation of the Project includes: • Monitoring • Asset management • Routine inspections and • Periodic maintenance.	Regional and State

Impact pathway	Description	Geographic scale of impact
	The facility will require up to five part-time operational roles, equating to up to two FTE positions, representing a small but stable employment contribution. Additional specialist maintenance may generate minor recurring local expenditure over the asset's life.	
Employment generation	Employment impacts are concentrated during the construction phase and include contractors, subcontractors and associated service industries. Indirect employment arises through supply chain demand, while induced impacts occur when wages are spent in the local economy. During operations, employment is limited to up to five part-time operational roles, equating to up to two FTE positions, reflecting low labour required for operation of the Project.	Regional
Supply chain linkages	The Project will engage a range of suppliers including: • Material providers • Plant hire companies • Transport operators • Professional services employees. Local and NSW-based suppliers are likely to benefit from civil and enabling works, while specialised battery equipment suppliers are primarily international.	Regional, State and International
NEM impacts	The Project will participate in the NEM through energy arbitrage and provision of frequency control and other ancillary services. By charging during low-price periods and discharging during peak demand, the Project would contribute to a reduction in price volatility, enhance grid reliability and lower system operating costs. These benefits extend beyond the immediate Project Area.	State and National
Avoided infrastructure costs	By providing peak demand support and contingency services, the Project may defer or reduce the need for new gas peaking generation or certain network augmentations. These avoided capital investments represent broader economic efficiency gains at the system level rather than direct localised impacts.	State and National
Renewable energy integration	The Project enables storage of excess renewable generation that might otherwise be curtailed. This improves the economic performance of renewable assets, enhances revenue certainty for investors and supports the effectiveness of Renewable Energy Zones in NSW.	State and National

6.3 Construction

The construction phase represents the period of greatest direct economic activity associated with the Project. During this stage, capital expenditure is deployed across civil works, electrical infrastructure, grid connection works and professional services, generating short-term employment and supply chain demand within the regional and NSW economies.

Economic impacts during construction are primarily driven by direct expenditure on contractors, subcontractors and materials, with secondary effects occurring through supply chain linkages and household spending. However, the overall magnitude of domestic economic stimulus is influenced by the proportion of imported capital components, particularly battery units and associated electrical systems, which reduce the extent of expenditure retained within Australia.

Table 6-2 summarises the key direct and indirect economic effects associated with the construction phase, distinguishing between positive economic contributions and limiting factors.

Overall, it was determined that the Project would contribute positive benefits to the regional and state economy through direct impacts, including the creation of jobs (both directly related to construction and through relevant professional services) and through increased regional business activity as well as indirect impacts including contributing to the demand for renewable energy skills.

It was noted though, that there would be significant capital expenditure being spent outside of Australia as materials required for the Project would need to be imported.

Table 6-2: Economic impacts during construction

Impact category	Impact description	Overall impact
Direct impacts		
Contractor engagement	The engagement of a Principal Contractor for construction of the Project will result in a significant proportion of expenditure being retained within the domestic economy. This will support the construction industry, sustain supply chains and contribute to broader economic impacts during the construction phase. Contractor engagement will also result in short-term employment opportunities for local workers. This will contribute to regional economic activity by improving household income and regional economic activity. These roles are temporary in nature and not expected to result in sustained long-term beyond the expected 22-month construction period.	Positive
Civil works and local procurement	Civil works will generate demand for locally sourced materials required during construction (such as gravel, sandstone and associated transport services). This is expected to support regional suppliers and logistics operators, subject to local capacity and availability.	Positive
Professional and technical services	During the planning of the Project and relevant environmental assessments, there is a need for engineers, planners and environmental consulting services. This creates opportunities for Australian professional service providers. These roles are temporary in nature and will likely create job opportunities limited to metropolitan centres.	Positive
Regional business activity	Increased workforce presence is expected to generate some regional demand for food and beverages, fuel and equipment hire; however, as workers are not expected to stay in the local area, these effects will be limited. This may result in a small, temporary uplift in business turnover, though any pressures on prices or service capacity are expected to be minimal.	Positive
Capital import leakage	It is assumed that major Project components, such as battery units, inverters and control systems) will be imported from overseas, which will significantly reduce the total capital expenditure retained within Australia.	Negative
Indirect impacts		
Induced economic benefits	Induced indirect economic benefits will result from an increased demand for fuel, logistics and equipment servicing as a result of the Project. This may include fuel for workers commuting to site, or materials being transported to site.	Positive
Skills benefit	The Project will contribute to the demand for renewable energy infrastructure across NSW and Australia and thereby, contribute to the demand for renewable energy jobs and skills.	Positive

6.4 Operation

The operation phase of the Project represents a much lower period of economic investment. During this stage, capital expenditure is the ongoing employment and maintenance of the Project infrastructure.

Economic impacts during operation are primarily driven by direct expenditure on staff required to maintain the Project, including relevant routine maintenance.

Table 6-3 summarises the key direct and indirect economic effects associated with the operation phase, distinguishing between positive economic contributions and limiting factors.

Overall, the Project is expected to generate small positive benefits for both the regional and state economies through direct employment during construction and operation. Although modest in scale, indirect economic effects will also occur in the region, noting that the Project's energy output is relatively small.

No negative economic impacts were identified during operation.

Table 6-3: Economic impacts during operation

Impact category	Impact description	Overall impact
Direct impacts		
Operations and monitoring	Up to five part-time operational roles, equivalent to up to two FTE positions would be required to operate the Project. Where feasible, these roles would be sourced locally, providing increased employment opportunities within the region.	Positive
Routine maintenance (periodic)	Periodic maintenance of the Project would be undertaken by contracted specialist staff. This activity would provide a small ongoing economic benefit to the region through local service use and employment.	Positive
Indirect impacts		
NEM and system level impacts	The NEM will benefit as a result of the operation of this Project, which will lead to indirect economic impacts including: • Improved grid stability and lower system costs, supporting business productivity by reducing the need for system intervention and contingency measures • Avoided or deferred costs associated with replacing ageing coal-fired or gas-fired infrastructure, contributing to more efficient long-term energy system investment • Reduced curtailment of renewable energy, improving REZ performance and strengthening investor confidence in the region.	Positive

7.0 Cumulative Impact Assessment

Cumulative impacts are impacts that can occur as a result of multiple projects occurring at the same time. The social and economic impacts on a social and economic scale have been identified below.

7.1 Construction

Cumulative socio-economic impacts during construction may arise where other projects are undertaken concurrently within the social locality. Information on these projects is provided in Section 6.14 (Cumulative impacts) of the EIS.

When considered collectively, construction activities associated with these projects have the potential to give rise to cumulative socio-economic impacts, including:

- **Noise and vibration** – Noise and vibration generated by nearby construction activities have the potential to contribute to cumulative amenity impacts. However, given the separation distances between the Project and other identified developments, cumulative noise and vibration impacts are expected to be limited and not materially greater than those associated with the Project in isolation.
- **Air quality** – There is potential for cumulative air quality impacts where construction activities occur at the same time across multiple projects. These impacts may include dust generation and exhaust emissions. Due to the distances between projects, any emissions are likely to be dispersed over a wide area, reducing the likelihood of concentrated or significant cumulative effects on local communities.
- **Visual amenity** – Cumulative visual impacts may arise where construction hoarding, equipment, and temporary infrastructure associated with nearby projects are visible within the same landscape setting. However, given the spatial separation between the Project and other identified developments, the potential for cumulative visual impacts is expected to be limited.
- **Traffic** – Construction traffic generated by other projects may contribute to increased congestion and travel times on the local road network. This may be most noticeable on Wine Country Drive, which functions as an important connecting route for the community. However, these impacts would be temporary and dependent on the timing and scale of concurrent construction activities.
- **Livelihoods** – In combination, nearby projects may generate positive cumulative socio-economic impacts through increased employment opportunities for local tradespeople and contractors, as well as business opportunities related to the supply of materials, services, and construction equipment.
- **Construction fatigue** – Where multiple projects are constructed concurrently or in close succession, there is potential for construction fatigue to be experienced by residents, workers, and visitors. This may result from the combined or overlapping effects of construction-related disruptions (e.g. traffic impacts from one project and noise impacts from another) or from prolonged periods of change in the local environment.

Overall, the likelihood of cumulative-related social and economic impacts is considered **unlikely** as it is unlikely that the Project would be constructed concurrently with other identified developments. The magnitude of any potential cumulative impacts is expected to be **minor**, given that impacts would be largely localised and the other identified projects are located at a considerable distance from the Project. Accordingly, the overall social significance of cumulative construction impacts is assessed as **low** (negative).

7.2 Operation

Cumulative socio-economic impacts during operation may occur where the Project operates concurrently with other developments within the same social locality. These impacts may arise from overlapping effects on local amenity, such as noise, air quality, visual amenity and traffic conditions, as well as broader economic interactions.

As outlined in Section 6.14 of the EIS, developments within the social locality are not located in close proximity to the Project, and their operational characteristics differ in scale and intensity. As a result, it is unlikely that the operation of the Project in combination with these developments would give rise to cumulative amenity related impacts for local communities. Cumulative impacts on noise, air quality, visual amenity and traffic during operation are therefore expected to be negligible.

Nearby projects may also generate positive cumulative socio-economic impacts, including increased employment opportunities for local tradespeople and contractors, as well as business opportunities associated with the supply of materials, services and equipment during operation. These benefits would contribute to local economic activity, albeit at a modest scale during the operational phase.

Overall, the likelihood of adverse cumulative socio-economic impacts during operation is assessed as **unlikely**, and the magnitude of any potential adverse impacts is considered **minor**, reflecting the localised nature of operational effects and the spatial separation between developments. Accordingly, the overall social significance of adverse cumulative operational impacts is assessed as **low (negative)**.

The likelihood of positive cumulative socio-economic impacts during operation is assessed as **likely**, reflecting ongoing demand for local trades, contractors and service providers. The magnitude of impact is assessed as **minor**, given the modest scale and limited intensity of employment and business opportunities during the operational phase. Accordingly, the overall social significance of beneficial cumulative operational impacts is assessed as **low (positive)**.

8.0 Mitigation and management measures

8.1 Mitigation and management measures

The mitigation and management measures for social and economic impacts outlined in **Table 8-1** have been identified to address the impacts identified as a direct result of the assessment undertaken in this SEIA.

The management of other environmental impacts (such as noise and vibration, traffic and other amenity-related impacts) will contribute to the management of socio-economic impacts, due to their interrelated nature. Other mitigation measures identified in the EIS which are relevant to the management of socio-economic impacts are included in the following sections of the EIS:

- Section 6.2 (Biodiversity)
- Section 6.3 (Aboriginal heritage)
- Section 6.4 (Soils and contamination)
- Section 6.5 (Land use)
- Section 6.6 (Landscape character and visual amenity)
- Section 6.7 (Noise and vibration)
- Section 6.8 (Traffic and transport)
- Section 6.9 (Surface water, groundwater and flooding)
- Section 6.10 (Hazards and risk)
- Section 6.11 (Bushfire)
- Section 6.13 (Other issues) including waste, air quality and non-aboriginal heritage
- Section 6.14 (Cumulative impacts).

Table 8-1: Mitigation and management measures – socio-economic impacts

ID	Mitigation/management measure	Timing
SE-1	Consultation will be undertaken with Cessnock City Council, local residents, businesses and other relevant stakeholders prior to and during construction to coordinate Project works, minimise amenity and cumulative impacts, address stakeholder concerns and enhance potential community benefits. A Construction Communications and Engagement Plan (CCEP) will be prepared prior to commencement of construction and implemented for the duration of construction. The CCEP will provide a framework for ongoing consultation and communication and will: • Identify key stakeholders and appropriate engagement methods to ensure engagement activities are accessible to a broad range of community groups, including the use of digital communications and physical (hard copy) materials where required • Provide advance notification to affected residents and businesses of construction activities that may affect amenity, including traffic disruptions, noise or changes to access, to enable affected parties to plan accordingly • Ensure sufficient prior notice is provided for any works required to occur outside standard construction hours to minimise disruption	Pre-construction Construction Operation

ID	Mitigation/management measure	Timing
	- Include mechanisms for ongoing engagement and feedback, including regular updates to community information channels, which will be regularly monitored to identify and respond to stakeholder enquiries and concerns - Provide a dedicated phone number and email address for stakeholder, business and community enquiries, issues and complaints Consultation activities and communication measures will be regularly reviewed and updated, where necessary, to respond to community feedback and evolving Project requirements..	
SE-2	The Proponent and its contractors will promote local employment through a merit-based, legally compliant local employment preference by advertising roles locally, incorporating local participation initiatives into contractor workforce plans, encouraging use of local suppliers and trainees where feasible. These measures are to be reported.	Construction Operation
SE-3	Project infrastructure will be procured in line with Ausgrid's Modern Slavery Statement (Ausgrid, 2024), which has been developed in accordance with the <i>Modern Slavery Act 2018</i> .	Construction
SE-4	Relevant construction worker behaviour codes, such as the Workplace behaviour: Code of practice (Commission for Occupational Safety and Health, 2022) will be implemented to help promote respectful and appropriate behaviours in the community.	Construction

8.2 Residual impacts

Residual socio-economic impacts are those that remain following the implementation of mitigation measures.

A summary of the potential residual social and economic impacts is included in **Table 8-2** for construction-related impacts and **Table 8-3** for operational impacts. These tables illustrate the effectiveness of the proposed mitigation measures and have been prepared in accordance with the requirements of the SIA Guideline.

Table 8-2: Residual construction impacts

Impact description	Potential impact significance	Mitigation and management measures	Residual impact significance
Way of life			
Short-term disruption to motor vehicle users during proposed road upgrades	Minor + possible = medium (negative)	A CTMP will be prepared and include measures to minimise traffic impacts during construction	Minor + unlikely = low (negative)
Temporary disruptions to utilities and digital access	Minor + unlikely = low (negative)	No specific measures proposed	Minor + unlikely = low (negative)
Potential impacts to accommodation availability in the area	Minor + possible = medium (negative)	The Proponent and its contractors will promote local employment through a merit based, legally compliant local employment preference by advertising roles locally, incorporating local participation initiatives into contractor workforce plans, encouraging use of local suppliers and trainees where feasible.	Minor + unlikely = low (negative)
Decision-making systems			
Impacts to decision-making systems	Minimal + very unlikely = Low (negative)	No specific measures proposed	Minimal + very unlikely = Low (negative)
Community			
Impacts to the demographic and composition of the community	Minor + possible = medium (negative)	- Relevant construction worker behaviour codes, such as the <i>Workplace behaviour: Code of practice</i> (Commission for Occupational Safety and Health, 2022), would be implemented to help promote respectful and appropriate behaviours in the community - Ausgrid has undertaken community consultation to inform local residents about the Project, such that the temporary increase in the daytime population is not anticipated to be unexpected or disruptive.	Minor + unlikely = low (negative)
Social cohesion and sense of place impacts	Minor + possible = medium (negative)	- Consultation will be carried out with Cessnock City Council, local residents and businesses, and other key stakeholders to coordinate works to minimise impacts. - Residents and local businesses will be notified in advance of any work that may affect amenity (e.g. traffic or noise disruptions), enabling them to plan accordingly. If work is conducted outside standard construction hours, residents will receive sufficient notice to minimise disruption.	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation and management measures	Residual impact significance
Accessibility			
Access to infrastructure, services and facilities	Minor + unlikely = Low (negative)	No specific measures proposed	Minor + unlikely = Low (negative)
Culture			
Impact to Aboriginal heritage items as a result of construction in the area	Moderate + likely = high (negative)	- An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed in consultation with the RAPs to guide the implementation of avoidance measures, an unexpected finds protocol, and cultural heritage awareness training for all contractors and personnel. The ACHMP will ensure the appropriate management of any Aboriginal cultural material encountered during construction. - Cultural Heritage Awareness Training will be provided for all contractors prior to the commencement of works. The training will be developed in consultation with the RAPs. - The area of moderate subsurface archaeological potential (RB-PAD-01, AHIMS #37-6-4651) will be clearly fenced and signposted prior to construction to prevent disturbance. The exclusion zone will be shown on site plans, communicated during inductions, and monitored regularly by a suitably qualified heritage professional throughout works. - Should unanticipated Aboriginal archaeological material be encountered during construction of the Project, all work will cease in the vicinity of the find and an archaeologist contacted to assess the find and advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation will be undertaken, if required, prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW.	Minor + likely = medium (negative)
Impact to historic heritage items as a result of construction in the area	Moderate + possible = medium (negative)	A procedure will be included in the CEMP to guide the response to the discovery of any previously unknown items of heritage significance (being items of State heritage significance and/or local heritage significance) during construction. This will include guidelines on regulatory consultation, and physical management, include collection and salvage, as relevant.	Minor + possible = low (negative)

Impact description	Potential impact significance	Mitigation and management measures	Residual impact significance
Surroundings			
Impact to local amenity as a result of construction of the Project	Moderate + likely = high (negative)	- Removal of existing vegetation that provides boundary screening will be minimised as far as practicable to reduce visual amenity impacts - Lighting within the site will be minimised to reduce visual prominence at night and will utilise cut-off or directed lighting to reduce light spill - Well-presented and maintained site fencing covered with shade cloth (or similar material, where necessary) will be installed to reduce visual impacts - A CNVMP will be implemented outlining approved working hours, construction activities, noise minimisation practices, monitoring, complaints handling and community consultation for high-impact works, with construction generally limited to standard daytime hours and higher-noise activities scheduled during less sensitive periods where practicable. - A range of onsite noise mitigation measures will be applied to minimise local amenity impacts, including orienting and maintaining plant to minimise noise, using quieter equipment and work methods, managing traffic and deliveries to reduce noise, and providing advance notification (minimum seven days) to affected sensitive receivers detailing works, hours and mitigation measures. - Construction air quality impacts will be managed through CEMP measures to minimise dust generation and offsite movement, including limiting exposed surfaces, applying dust suppression during dry conditions, managing spoil and vehicle movements, and maintaining plant and equipment in good working order.	Minor + possible = low (negative)
Construction crime, security and safety	Minimal + unlikely = Low (negative)	The principles of Crime Prevention Through Environmental Design (CPTED) at construction sites will be applied	Minimal + unlikely = Low (negative)
Livelihoods			
Business impacts as a result of the changes to the amenity of the area during construction	Moderate + likely = high (negative)	- Removal of existing vegetation that provides boundary screening will be minimised as far as practicable to reduce visual amenity impacts from nearby businesses - A CNVMP will be prepared and include noise mitigation and management measures to ensure business continuity and customer amenity are actively protected during construction	Minor + unlikely = low (negative)

Impact description	Potential impact significance	Mitigation and management measures	Residual impact significance
		• A CTMP will be prepared and include measures to minimise impacts on local businesses, particularly relating to access, visibility, safety and customer disruption • Clear, frequent and inclusive communication with the community and local businesses.	
Broader economic benefits to the region as a result of the Project	Moderate + possible = medium (positive)	• Employment opportunities for local tradespeople and contractors • Business opportunities related to the supply of materials, services, and construction equipment	Moderate + likely = medium (positive)

Table 8-3: Residual operational impacts

Impact description	Potential impact significance	Mitigation measures/monitoring approach	Residual impact significance
Way of life			
Changes to utilities and digital access for the National Electricity Market	Major + almost certain = very high (positive)	No specific measures proposed	Major + almost certain = very high (positive)
Surroundings			
Impact to local amenity as a result of operation of the Project	Minor + likely = medium (negative)	- The approach to managing operational noise to comply with the Project noise trigger levels, including operational noise compliance monitoring, will be set out in an Operational Noise Management Plan - All areas disturbed by construction and not required for operation of the Project will be rehabilitated - A landscape plan will be implemented during construction and maintained during operation to minimise visual amenity impacts.	Minor + possible = medium (negative)
Livelihoods			
Business impacts as a result of the changes to the amenity of the area during construction	Minor + unlikely = low (negative)	The landscaping plan will include the provision of planting onsite to provide visual screening of the Project during operation. Consultation on the landscape plan will be undertaken with relevant stakeholders, including immediate neighbours.	Minimal + unlikely = low (negative)
Positive economic benefit for the region	Minor + likely = medium (positive)	No mitigation measures identified	Minor + likely = medium (positive)

9.0 Conclusion

This SEIA has been prepared to support the EIS and to address the relevant SEARs for the Project.

The assessment has examined the potential social and economic impacts associated with both the construction and operation of the Project, with a focus on effects on residents, local businesses, workers and other key stakeholders within the social locality.

The assessment identified a number of key potential social and economic impacts and benefits of the Project, including:

- During construction:
 - Potential impacts on Aboriginal heritage items
 - Temporary impacts on local amenity related to changes in visual, noise, and traffic conditions
 - Issues arising due to changes to the visual and noise environment during construction of the Project
 - Minor and short-term impacts on businesses arising from construction-related amenity changes
 - Positive economic effects within the social locality through increased demand for local goods, services and contractors.
- During operation:
 - Positive contributions to the NEM through the provision of energy storage capacity
 - Ongoing, albeit modest, economic benefits to the social locality through employment and operational expenditure
 - Potential minor changes to visual amenity with the potential to affect some local businesses, particularly those that value scenic qualities.

An analysis of the direct and indirect economic impacts was also undertaken for construction and operation of the project. It was determined that the project will largely produce positive economic benefits, albeit at a low scale.

Appropriate mitigation and management measures have been identified in **Section 6.0** to avoid, minimise or manage potential adverse impacts and to enhance positive outcomes, where practicable.

With the implementation of the mitigation and management measures, potential adverse social and economic impacts during construction and operation are expected to be minor, localised and manageable.

Overall, the Project is expected to deliver net positive social and economic outcomes by supporting the transition to renewable energy, contributing to economic diversification, and enhancing long-term regional resilience, with ongoing monitoring ensuring community amenity and wellbeing are appropriately managed.

10.0 Bibliography

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Appendix A

Detailed ABS 2021
Census Data

Appendix A Detailed ABS 2021 Census Data

Key demographic characteristics of the social locality and NSW

Demographic information	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Total Resident Population (no. persons)	12,770	23,495	17,018	8,097,062
Median age	36	39	34	39
Population aged <15 (no. persons)	2,858 (22.4%)	4,305 (18.3%)	3,564 (20.9%)	1,493,689 (18%)
Population aged 15+ (no. persons)	9,905 (77.6%)	19,201 (81.7%)	13,460 (79.1%)	6,603,373 (81%)
Population aged 65+ (no. persons)	1,790 (14.0%)	4,564 (19.4%)	2,383 (14.0%)	1,393,673 (17%)
Population aged 85+ (no. persons)	93 (0.7%)	655 (2.8%)	306 (1.8%)	179,983 (2%)
Aboriginal and Torres Strait Islander population (no. persons)	927 (7.3%)	2,578 (11.7%)	1,486 (8.7%)	278,043 (3%)
Speaks only English at home (no. persons)	11,824 (92.6%)	20,213 (86.0%)	15,368 (90.3%)	5,950,982 (73%)
Has a need for assistance (no. persons)	550 (4.4%)	2,265 (9.6%)	1,017 (6.0%)	464,712 (6%)

Labour force characteristics of the social locality

Demographic information	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Total Labour Force	6,786	9,282	8,699	6,602,157
Employed full time	4,002 (59.0%)	4,697 (50.6%)	5,316 (61.1%)	2,136,610 (55.2%)
Employed part-time	1,960 (28.6%)	3,069 (33.1%)	2,435 (28.0%)	1,151,660 (29.7%)
Employed away from work	590 (8.7%)	909 (9.8%)	584 (6.7%)	395,888 (10.2%)
Unemployed	235 (3.5%)	611 (6.6%)	365 (4.2%)	189,852 (5%)

*Notes:**Employed full time or part time, but away from work at the time of the 2021 Census***Residential dwelling characteristics (number of dwellings)**

Demographic information	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Separate house	4,180 (94.4%)	7,067 (85.5%)	5,087 (84.5%)	1,902,734 (65.6%)
Semi-detached, townhouse or terrace house	208 (4.7%)	993 (12.0%)	611 (10.1%)	340,582 (11.7%)
Flat or apartment	16 (0.4%)	139 (1.7%)	231 (3.8%)	630,030 (21.7%)
Other dwelling (caravan, cabin, tent, flat attached to a shop)	3 (0.1%)	42 (0.5%)	82 (1.4%)	19,374 (0.7%)
Dwelling structure not stated	12 (0.3%)	19 (0.2%)	9 (0.1%)	15,676 (0.5%)
Total occupied private dwellings (no.)	4,427	8,269	6,020	2,900,468

*Notes:**Percentages may not add to 100% due to rounding*

Home ownership and household structure

	Demographic information	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Home Ownership	Owned outright	1,259 (28.4%)	2,623 (31.7%)	1,745 (29.0%)	914,537 (31.5%)
	Owned with a mortgage	2,128 (48.1%)	2,575 (31.1%)	2,396 (39.8%)	942,804 (32.5%)
	Rented	942 (21.3%)	2,797 (33.8%)	1,732 (28.8%)	944,585 (32.6%)
	Other tenure type	54 (1.2%)	137 (1.7%)	70 (1.2%)	55,931 (1.9%)
	Tenure type not stated	37 (0.8%)	134 (1.6%)	73 (1.2%)	42,613 (1.5%)
Household Structure	Family household	3,540 (80.0%)	5,686 (68.8%)	4,345 (72.2%)	2,065,107 (71.2%)
	Single (or lone)	798 (18.0%)	2,357 (28.5%)	1,524 (25.3%)	723,716 (24.95%)
	Group households	82 (1.9%)	221 (2.7%)	148 (2.5%)	111,646 (3.85%)
	Total households	4,427	8,269	6,020	2,900,468

Notes:

Percentages may not add to 100 per cent due to rounding

Employment by industry

Employment by industry	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Agriculture, Forestry and Fishing	159 (2.4%)	87 (1.0%)	136 (1.6%)	74,728 (2.0%)
Mining	967 (14.8%)	701 (8.1%)	1,864 (22.4%)	35,406 (1.0%)
Manufacturing	456 (7.0%)	638 (7.4%)	330 (4.0%)	201,654 (5.5%)
Electricity, Gas, Water and Waste Services	101 (1.5%)	104 (1.2%)	207 (2.5%)	35,584 (1.0%)
Construction	541 (8.3%)	647 (7.5%)	556 (6.7%)	315,520 (8.6%)
Wholesale Trade	202 (3.1%)	188 (2.2%)	245 (2.9%)	103,466 (2.8%)
Retail Trade	526 (8.0%)	908 (10.5%)	676 (8.1%)	331,486 (9.0%)
Accommodation and Food Services	561 (8.6%)	947 (10.9%)	612 (7.3%)	227,466 (6.2%)
Transport, Postal and Warehousing	235 (3.6%)	356 (4.1%)	222 (2.7%)	169,608 (4.6%)
Information Media and Telecommunications	28 (0.4%)	36 (0.4%)	21 (0.3%)	68,068 (1.8%)
Financial and Insurance Services	105 (1.6%)	139 (1.6%)	75 (0.9%)	193,679 (5.3%)
Rental, Hiring and Real Estate Services	76 (1.2%)	117 (1.3%)	72 (0.9%)	62,633 (1.7%)
Professional, Scientific and Technical Services	254 (3.9%)	240 (2.8%)	233 (2.8%)	326,595 (8.9%)

Employment by industry	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Administrative and Support Services	282 (4.3%)	427 (4.9%)	391 (4.7%)	117,988 (3.2%)
Public Administration and Safety	285 (4.3%)	477 (5.5%)	719 (8.6%)	222,909 (6.1%)
Education and Training	418 (6.4%)	522 (6.0%)	470 (5.6%)	322,236 (8.7%)
Health Care and Social Assistance	721 (11.0%)	1,282 (14.8%)	765 (9.2%)	529,176 (14.4%)
Arts and Recreation Services	55 (0.8%)	108 (1.2%)	59 (0.7%)	51,789 (1.4%)
Other Services	305 (4.7%)	386 (4.5%)	370 (4.4%)	125,380 (3.4%)
Inadequately described/Not stated	254 (3.9%)	368 (4.2%)	317 (3.8%)	168,787 (4.6%)
Total (no. of persons)	6,553	8,671	8,338	3,684,158

Notes:

Percentages may not add to 100 per cent due to rounding

Journey to work (Single Method only)

Transport information	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
Train	0	7 (0.1%)	4 (0.1%)	62,460 (3.2%)
Bus	7 (0.2%)	18 (0.3%)	20 (0.3%)	34,408 (1.7%)
Ferry	7 (0.2%)	7 (0.1%)	0	1,189 (0.1%)
Tram (includes light rail)	0	0	0	1,351 (0.1%)
Taxi	0	8 (0.1%)	10 (0.2%)	4,775 (0.2%)
Car, as driver	3,901 (89.7%)	5,357 (88.4%)	5,140 (84.5%)	1,587,613 (80.4%)
Car, as passenger	198 (4.6%)	342 (5.6%)	329 (5.4%)	117,143 (5.9%)
Truck	74 (1.7%)	85 (1.4%)	67 (1.1%)	26,390 (1.3%)
Motorbike/ scooter	16 (0.4%)	36 (0.6%)	17 (0.3%)	14,917 (0.8%)
Bicycle	5 (0.1%)	25 (0.4%)	11 (0.2%)	14,466 (0.7%)
Other	21 (0.5%)	33 (0.5%)	63 (1.0%)	17,233 (0.9%)
Walked only	119 (2.7%)	147 (2.4%)	427 (7.0%)	92,368 (4.7%)
Total one method (no.)	4,348	6,060	6,086	1,974,324

Notes:

Percentages may not add to 100 per cent due to rounding

Vehicle ownership count of private occupied dwellings

Number of Automobiles	Branxton - Greta – Pokolbin SA2	Cessnock SA2	Singleton SA2	NSW
No motor vehicles	81 (1.8%)	533 (6.6%)	274 (4.6%)	262,031 (9.0%)
One motor vehicle	1,072 (24.5%)	3,097 (38.1%)	1,819 (30.5%)	1,096,761 (37.8%)
Two motor vehicles	1,850 (42.2%)	2,838 (34.9%)	2,408 (40.4%)	989,258 (34.1%)
Three or more motor vehicles	1,385 (31.6%)	1,655 (20.3%)	1,460 (24.5%)	1,745,924 (18.8%)
Number of motor vehicles not stated	20 (0.5%)	131 (1.6%)	64 (1.1%)	187,380 (1.5%)

Note on data quality:

Tables of Census data are subject to perturbation to protect the confidentiality of individuals, in accordance with the *Census and Statistics Act 1905* (ABS, 2017). Perturbation is a technique which has been developed to randomly adjust count values. When the technique is applied, counts and totals are slightly adjusted to prevent any identifiable data being exposed. These adjustments result in small introduced random errors. However, the information value of the table as a whole is not impaired. Due to this process, percentage calculations for statistics may not total to 100 per cent in some instances. Notwithstanding, the quality of the data is considered suitable for this assessment.

Appendix B

Certification Page

Appendix B Certification Page

I, Jamie McMahon, certify that this socio-economic impact assessment contains all information relevant to the socio-economic impact assessment for this project, and that the information is not false or misleading. The SEIA Author's qualifications and experiences are listed below.

- Experience in social science methodologies and demonstrated social impact assessment skills in government and private settings. The author is a social impact specialist and has managed social impact assessments for numerous transport infrastructure, and energy projects in NSW, including State Significant Projects
- Bachelor of Environmental Science (Honours)
- Certified Environmental Practitioner – Impact Assessment Specialist (IA11004)
- Member of Environment Institute of Australia and New Zealand
- NSW Division Committee member, Environment Institute of Australia and New Zealand
- EIANZ Impact Assessment Special Interest Section committee member
- NSW Registered Environmental Assessment Practitioner.

Date: 27 February 2026

Signature:



Appendix C

SIA Guideline
assessment review
questions

Appendix C SIA Guideline assessment review questions

The following table has been extracted from Appendix C of the SIA Guideline (2023). These review questions are used to confirm that the requirements of the SIA Guideline (2023) have been fulfilled when considering the scale of socio-economic impacts of the Project.

Assessment review questions

Review questions		Reference within this SEIA
General		
1	Does the lead author meet the qualification and experience requirements?	Appendix B
2	Has the lead author provided a signed declaration?	Appendix B
3	Will a reasonable person judge the social impact assessment report to be impartial, transparent, and suitably rigorous given the nature of the project?	Appendix B
Project's social locality and social baseline		
4	Does the social impact assessment report identify and describe all the different social groups that may be affected by the project?	Section 3.0 Section 4.0
5	Does the social impact assessment 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 3.0 Section 4.0
6	Does the social impact assessment 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 Section 4.0
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 3.0 Section 4.0
8	Does the social baseline study demonstrate social-science research methods and explain any significant methodological or data limitations?	Section 2.0 Section 3.0 Section 4.0
Identification and description of social impacts		
9	Does the social impact assessment 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 social impact assessment scoping and initial assessment, has the plan for the social impact assessment report been detailed?	Section 5.0 Section 5.3
10	Does the social impact assessment report apply the precautionary principle to identifying social impacts, and consider how they may be experienced differently by different people and groups?	Section 4.0 Section 5.0 Section 5.3
11	Does the social impact assessment report describe how the preliminary analysis influenced project design and Environmental Impact Statement engagement strategy?	Section 1.0
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 3.0
13	How have the views, concerns, and insights of affected and interested people influenced both the project design and each element of the social impact assessment report?	Section 5.0 Section 5.3

Review questions		Reference within this SEIA
Predicting and analysing social impacts		
14	Does the social impact assessment report impartially focus on the most important social impacts to people at all stages of the project, without any omissions or misrepresentations?	Section 5.0 Section 5.3
15	Does the social impact assessment report analyse the distribution of both positive and negative social impacts, and identify who will benefit and who will lose from the project?	Section 5.0 Section 5.3
16	Does the social impact assessment report identify its assumptions, and include sensitivity analysis and alternative scenarios? (including 'worst-case' and 'no project' scenarios where relevant)	Section 5.0 Section 5.3
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 5.0 Section 5.3
18	Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	Section 5.0 Section 5.3
Responses, monitoring and management		
19	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 5.0 Section 5.3
20	Are the evaluations of significance disaggregated to consider the likely different experiences for different people or groups, especially vulnerable groups?	Section 5.0 Section 5.3
21	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 5.0 Section 5.3