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WinterbourneWind Pty Ltd

Winterbourne Wind Farm

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Winterbourne Wind Farm

Addendum Social Impact Assessment

0526676

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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
AAS	Australian Anthropological Society
ABS	Australian Bureau of Statistics
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan
BESS	Battery Energy Storage System
CALD	Culturally and Linguistically Diverse
CBF	Community Benefit Fund
CEMP	Construction Environmental Management Plan
DPE	NSW Department of Planning and Environment
DPHI	NSW Department of Planning, Housing and Infrastructure
EP&A Act	Environmental Planning and Assessment Act
EPA	Environment Protection Authority
EIS	Environmental Impact Statement
ERM	Environmental Resources Management
FTE	Full-time equivalent
IAIA	International Association for Impact Assessment
km	Kilometres
LGA	Local Government Area
MW	Megawatt
NHMRC	National Health Medical Research Council
NVIA	Noise and Vibration Impact Assessment
NSW	New South Wales
PIA	Planning Institute of Australia
REZ	Renewable Energy Zone
SEARs	Secretary's Environmental Assessment Requirements

Acronyms	Description
SES	Stakeholder Engagement Strategy
SIA	Social Impact Assessment
SSD	State Significant Development
TIA	Traffic Impact Assessment
TMP	Traffic Management Plan
UCL	Urban Centres and Localities
VPA	Voluntary Planning Agreement
VIZ	Visual Influence Zone
WWPL	WinterbourneWind Pty Ltd
WTGs	Wind turbine generator

1. INTRODUCTION

1.1 BACKGROUND

WinterbourneWind Pty Ltd (WWPL) is seeking approval to construct, operate and decommission the Winterbourne Wind Farm, located 6.5 kilometres (km) northeast of Walcha in the New England Tablelands region of New South Wales (NSW) ('the Project'). **Figure 1-1** identifies the regional context of the Project and **Figure 1-2** the Project Locality.

Approval for the Project is sought under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as the Project is declared State Significant Development (SSD) under Part 2.2, clause 2.6 and Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

In support of the SSD application (SSD-10471), an Environmental Impact Statement (EIS) (ERM, 2022) was prepared for the Project in October 2022 and was publicly exhibited between 18 November 2022 and 23 January 2023 by the NSW Department of Planning and Environment (DPE), now the NSW Department of Planning, Housing and Infrastructure (DPHI).

During the public exhibition period, 959 submissions were received from members of the public, community organisations and Government agencies (excluding duplicates).

A Submissions Report (ERM, 2024a) has been prepared to respond to the matters raised in these submissions. An Amendment Report (ERM, 2024b) as also been prepared to detail amendments to the Project which have taken place since the EIS was lodged.

1.2 DOCUMENT PURPOSE

This Addendum Social Impact Assessment (Addendum SIA) has been prepared to support the Submissions Report and address matters raised during the public exhibition of the Project which relate to social impacts. Additionally, the Addendum SIA aims to consider the social impacts arising from the project amendments. DPE requested further information, dated 7 March 2023, in relation to the SIA prepared for the EIS (Appendix R of EIS). These comments are reproduced in **Table 1-1** with the relevant sections of this Addendum SIA that correlate to these comments identified.

TABLE 1-1 DPE COMMENTS RELEVANT TO THE SIA

Ref	Action	Addressed
General Recommendations		
DPE_1	The rigor and impartiality of the SIA should be better demonstrated by: • Describing the limitations of the Report and how they were addressed;	Section 4
	• Detailing the evidence that supports the assessment ratings in Section 6, which may include a description of: ° project activities and details which may influence magnitude ratings, such as construction workforce numbers, construction schedule, accommodation townships ° baseline considerations which may influence the sensitivity ratings, such as the vulnerability of likely impacted groups (age, gender, socio-economic profile) ° baseline trends which may influence magnitude ratings, such as population growth, economic development, housing or services growth and or tourism demand ° relevant findings from other EIS technical reports, which may influence the likelihood and magnitude ratings of the SIA, especially those related with operational noise and vibration, construction traffic and air quality ° projects considered for cumulative impact assessment.	Section 5
DPE_2	To meet requirements established in SIA Guideline Appendix C, the following should be included in the SIA: • SIA author to provide a signed declaration as per Appendix B of SIA Guideline • Assessment of distribution equity of impacts, identifying who will benefit and who will be adversely affected by the project • Description of how the SIA report has influenced project design and the EIS engagement strategy inclusion of all impacts in the proposed monitoring framework	Section 2, Section 5, and Section 7
Consultation		
DPE_3	• Clarify the number of stakeholders consulted and how neighbours within 4.55 km of the project were engaged. Indicate if communication attempts with no response were counted as engagement activities.	Section 3
	• Provide additional detail regarding the Engagement and Consultation Strategy and complaint management mechanisms, and their effectiveness in mitigating impacts related to engagement and community cohesion.	Section 3

Ref	Action	Addressed
Cumulative Impacts		
DPE_4	Assess any potential cumulative impacts on: • Amenity during construction • Community cohesion • Health (including mental health) • Livelihoods (including agricultural land use changes and tourism) • Community engagement in the project • Provide management measures for cumulative impacts and evidence of their effectiveness. The proponent may wish to consider monitoring or coordination activities with other project proponents.	Section 6
Health and Wellbeing		
DPE_5	• Provide additional information regarding the assumptions and evidence that inform health impacts associated with operational noise, including identification of potentially vulnerable groups and individuals who may be susceptible to noise.	Section 5.3.2
	• Provide information about the effectiveness of proposed management measures to perceived health impacts associated with operational noise.	Section 5.3.2, and Section 5.3.5
Local Employment and Workforce Accommodation		
DPE_6	• Calculate the approximate number of people who may be able to benefit from employment locally during construction and operation.	Section 5.1
	• Consider establishing aspirational targets for local employment and procurement as part of management measures.	Section 5.1
	• Provide more details about the Workforce Accommodation Strategy including information on managing impacts to accommodation arrangements in surrounding towns.	Section 5.4.2
	• Identify if any potential pressure would be placed on water services as a result of temporary workforce during the construction stage.	Section 5.4.1
Impacts for the Aboriginal and Torres Strait Islander Communities		
DPE_7	• Describe how Indigenous or Culturally and Linguistically diverse groups may be impacted and/or benefited differently or provide justification as to why impacts to those groups have not been considered.	Section 3 and 5.5.2
	• Outline how cultural heritage management procedures align with the Aboriginal Cultural Heritage Assessment Report (Ozark, 2021) and required management plans and how procedures would address altered rural character impacts for the Aboriginal communities.	Section 5.5.2 and Section 5.5.3
Community Benefit Fund		
DPE_8	• Revise the impact significance for the Community Benefit Fund (as relevant and as amended) in relation to the Project's immediate neighbours.	Section 5.1.1

1.3 OVERVIEW OF THE ADDENDUM SIA

1.3.1 APPROACH

As stated in **Section 1.2**, this Addendum SIA has been prepared to support the Submissions Report and address matters raised during the public exhibition of the Project which relate to social impacts. To this end, this Addendum SIA will:

- Respond to comments raised by DPE relevant to the SIA, which are detailed in **Table 1-1**;
- Assess whether the proposed Project amendments (outlined in the Amendment Report) will result in a material change in the level of significance for each of the social impact issues identified in the SIA submitted as part of the EIS (refer to Appendix R of the EIS);
- Address any new potential social impacts that may arise because of proposed amendments to the Project and, where identified, assess the level of social impact significance; and
- Consider the applicability and appropriateness of the management and mitigation responses previously identified in the SIA (refer to Appendix R of the EIS), and whether these are appropriate to address any additional impacts relevant to the proposed amendments to the Project.

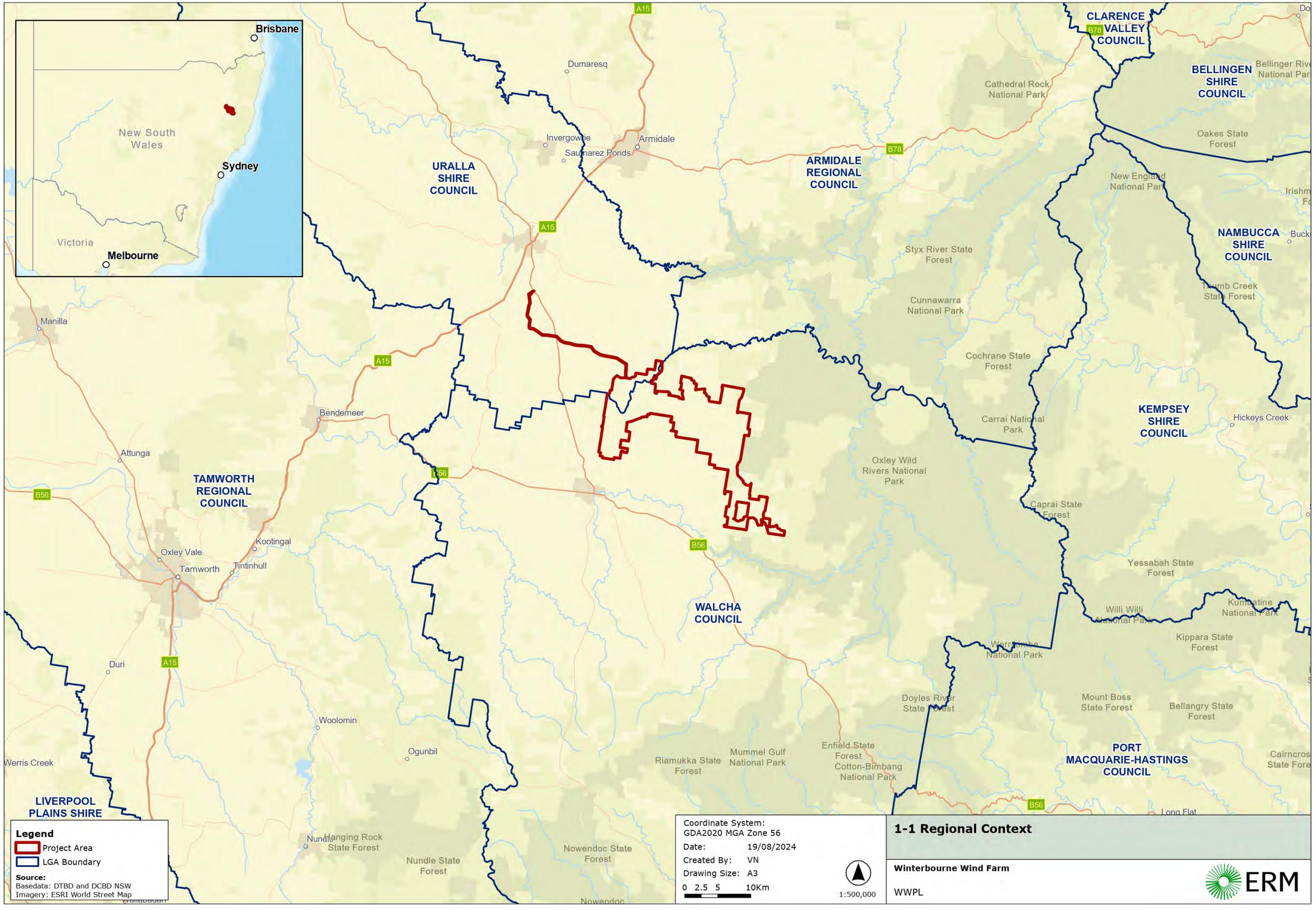
Since the EIS was lodged, engagement with affected property owners, government agencies, and business and industry stakeholders has been undertaken including:

- Display stand at the Walcha Show on 10-11 March 2023 and 8-9 March 2024 with poster boards providing information about key project amendments;
- Street display stand in Uralla on 3 May 2024 with poster boards providing information about the proposed project;
- Multiple project updates providing information about the project and key amendments proposed to the project;
- Phone calls and meetings with host landowners and project neighbours; and
- Briefings for Walcha and Uralla Shire Councils.

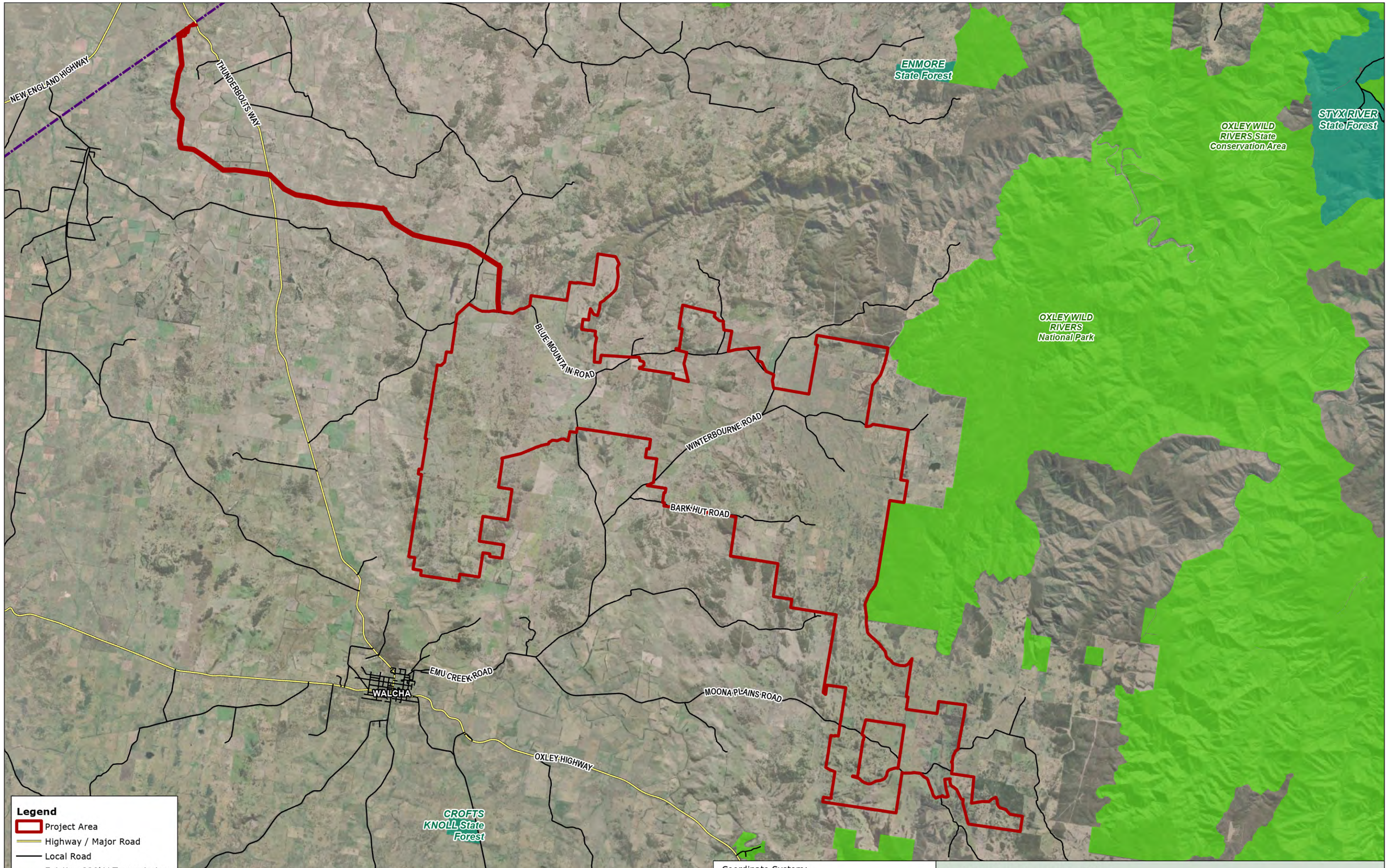
There have been no changes to data gathered on the existing environment; however, there have been additional cumulative assessment considerations related to traffic impacts (refer to **Section 6**).

1.3.2 DOCUMENT STRUCTURE

- **Section 2** provides an overview of the proposed Project amendments;
- **Section 3** outlines the amendments to the Stakeholder Engagement Activities for the SIA (Section 4 of the SIA);
- **Section 4** specifies the amendments to the Social Baseline (Section 5 of the SIA);
- **Section 5** specifies the amendments to the Social Impact Assessment (Section 6 of the SIA), the Social Impact Management, Mitigation and Residual Impact Ratings (Section 7 of the SIA);
- **Section 6** specifies the cumulative impact considerations that have arisen since the development of the SIA; and
- **Section 7** provides a statement as to the authenticity of the data and analysis presented in the SIA and this SIA Addendum.



0526676_WWF_AGEN_R0.aprx/1-1 Regional Context



1-2 Project Locality Plan

Winterbourne Wind Farm

WWPL

ERM

0526676_WWF_AGEN_R0.aprx/1-2 Project Locality Plan

2. PROJECT DESCRIPTION

This section provides and overview of the key components of the proposed Project amendments included as part of the Amendment Report (ERM, 2024b)*, and should be viewed as an addendum to Section 1.2 of the SIA.*

Since the Project was conceived, the design has evolved through detailed consideration of technical, environmental, social, and commercial constraints. Key aspects of this design refinement were facilitated through feedback garnered via engagement with landowners, neighbours to the Project, the broader community, local government, State and Federal Government Agencies, and business and stakeholder groups.

At present, the Project involves the construction, operation, maintenance and decommissioning of:

- 118 Wind Turbine Generators (WTGs) with a hub height of 149 m and maximum tip height of up to 230 m;
- A Battery Energy Storage System (BESS) of up to 100 MW/200 MWh capacity;
- Electrical reticulation, on-site substations and switchyard;
- Onsite quarry to source construction materials and associated plant/equipment for processing;
- Other ancillary infrastructure including (but not limited to) internal access tracks, road upgrades, meteorological masts, and operations and maintenance (O&M) facility.

The Amendment Report describes the evolution of the Project layout since the submission of the EIS, and the changes made in response to key environmental and other impact considerations. The key changes include the following:

- WTG configuration updates:
  - 21 relocations (moved >100 m);
  - 52 micrositings (moved <100 m);
  - 1 turbine added;
  - 2 turbines removed;
- Project area updates:
  - 3 parcels (Lot/DP) added (within the Project Area);
  - 13 parcels (Lot/DP) removed;
- Realignment of site access locations and internal access tracks;
- Realignment of electrical reticulation;
- Relocation of substations, O&M facility, construction compound, BESS and laydown areas;
- Development of onsite quarry to extract raw materials required for Project construction; and
- Development of groundwater bores, storage tanks and piping to provide water for earthworks and dust suppression during construction.

3. STAKEHOLDER ENGAGEMENT ACTIVITIES FOR THE SIA

This section provides clarification and further update to Section 4 of the SIA, which summarised the community and stakeholder engagement activities relevant to the SIA and their associated outcomes (as relevant to the impact assessment).

As per section 5.2 of the EIS, a Stakeholder Engagement Strategy (SES) was prepared for the Project in June 2020. The proponent attempted to engage with all Project neighbours within 4.55 km of the Project Area. These neighbours will continue to be directly engaged throughout Project development, unless they have requested not to be.

Since October 2019, over 825 engagements have been undertaken with non-associated landowners who are <8 km from the Project, and along the transmission line corridor. Phone calls (including detailed voice messages), emails and face-to-face interactions were counted as engagement efforts. As necessary, appropriately detailed voice messages were left with landowners that had message banks, or for those for which multiple attempts were made to call without success. Engagement efforts were counted regardless of whether a phone call or email was returned.

According to ABS (2021) data, only 2.5% (30 households) used a non-English language at home in Walcha LGA, and 3.6% (82 households) in Uralla LGA. It is important to note that these Census numbers do not mean that household who use non-English language at home are not English speakers. Based on this data, the likelihood of Culturally and Linguistically Diverse (CALD) groups being excluded from engagement activities due to language barriers is deemed to be low.

Since March 2020, sixteen newsletters have been advertised in the local newspaper (The Apsley Advocate) or directly distributed via post and an email distribution list with over 250 subscribers. The Apsley Advocate and direct mailing distribution reaches approximately 1,925 recipients in the 2354 and 2358 postcodes. Moreover, the proponent publishes news and general project updates on the project website.

One of the objectives of the SES is to proactively identify, understand and manage issues and concerns raised by stakeholders through effective two-way engagement. Moreover, the SES aims to include people from all parts of the community, from grassroots to leadership levels, and from informal, community-based organisations to formal institutions. In this context, inclusionary engagement was achieved by using different modes of communication, such as community events, social media, newsletters, and one-on-one interviews.

Enquiries, feedback, and complaints in relation to the Project can be made through the 1800 number (1800 252 040), by email or through the website. All engagements are recorded and managed in a central database which captures contact details and information about the enquiry or complaint. The Project team is responsible for responding to all enquiries/complaints in a timely matter as well as undertaking follow-up actions that arise from said enquiries/complaints to address them.

4. METHODOLOGY

This section provides an overview of the key limitations of the data collection and analysis undertaken for the SIA and should be viewed as an addendum to Section 2 of the SIA.

The assessment has been prepared in accordance with DPE's guidelines for Social Impact Assessment, which includes identifying the methodological or data limitations of the SIA. In response to DPE's RFI letter, the key limitations of the data collection and analysis undertaken for the SIA are provided in **Table 4-1**.

TABLE 4-1 ADDRESSING METHODOLOGICAL LIMITATIONS

Limitations	Description	Adopted Methods to Address
Subjectivity	Qualitative data can be influenced by community perceptions, biases, and values. Whilst these aspects have sought to be validated through the data analysis conducted there always remains the possibility of these influences remaining.	The SIA and addendum SIA employed the method of data triangulation to reduce the potential for subjectivity and enhance the reliability of conclusions and strengthen the overall validity of the results obtained in the assessment process. Triangulation entails cross-referencing findings from multiple data sources (qualitative and quantitative), research methodologies (i.e. various methods employed by each technical assessment) and community perspectives (supportive, neutral and oppositional). Accordingly, the SIA and addendum SIA draws on a combination of both qualitative and quantitative data sets, including Project specifications, baseline data, multiple sources of stakeholder engagement and technical studies conducted for the EIS.
Data Collection	Time and resource constraints and concern about consultation fatigue in communities make best practice social science data collection difficult to achieve.	In addition to stakeholder engagement data, the SIA and addendum SIA have used the multiple sources of stakeholder engagement across the various technical studies undertaken for the EIS and subsequent development of the Amendment Report. Accordingly, the extent of data presented within the SIA and addendum SIA is appropriate for the nature and scale of the Project.

Limitations	Description	Adopted Methods to Address
Cumulative impacts	Cumulative impact assessments are carried out in accordance with *Cumulative Impact Assessment Guidelines for State Significant Projects*. These assessments are typically based on the limited amount of publicly available information of surrounding projects applying for Development Approval. The limited extent of information, and associated knowledge gaps, results in a fragmented approach to forecasting cumulative social impacts. For example, there is limited data surrounding the various factors affecting the future supply and demand for housing, which could have an impact on the availability of accommodation for the non-local workforce.	Stakeholder engagement asked direct questions about the perception of cumulative impacts to key stakeholders. Additionally, the addendum SIA provides an overview of proximate SSDs with potential for cumulative impacts. The SIA and addendum SIA have also considered the social implications of the cumulative impact assessments conducted by all relevant technical appendices of the EIS.
Predictivity	SIAs are conducted before a project is implemented and subsequently prior to the community experiencing both Project benefits and impacts.	Some of the social impacts identified in this report are those which have the potential to occur in the future. In identifying and assessing potential impacts, the SIA has drawn on academic literature (with a focus on studies that have evaluated impacts of similar types of projects), and insights from experienced practitioners. In addition, consideration is given to existing and emerging community trends to help identify potential impacts that may occur, and their likely significance.

5. SOCIAL IMPACT ASSESSMENT

The following sub-sections provide the rationale as to the attributed significance of the key social impacts identified in Section 6 and Table 6.2 of the SIA. Furthermore, the social impact management, mitigation, and residual impact ratings, outlined in Section 7 of the SIA, have also been further considered and expanded where considered appropriate.

In accordance with the methodology outlined in Section 2 of the SIA, potential social impacts were initially considered using the primary and secondary data collected and compiled for the social baseline, including community voices, and then assessed with the rigorous impact significance methodology as outlined in the Technical Supplement (DPE, 2023).

This initial social impact consideration was conducted via a three-part analytical process. First, an analysis of the quantitative indicators outlined in the social baseline (refer to Section 5 of the SIA) was conducted, and as required, relevant academic or practitioner literature were consulted to inform assumptions about key social impacts. Second, the outcomes of stakeholder engagement were reviewed (refer to Section 4.3 of SIA) to validate these assumptions against qualitative data. Third, the findings of associated technical studies from the EIS were reviewed concurrently with the quantitative-qualitative findings of the SIA.

The Project's Social Locality remains consistent with what was identified in Section 6.12.4 of the EIS, being the Project Area, the area surrounding the Project Area wherein noise, visual and other amenity impacts may occur, the haulage routes where similar amenity impacts may be experienced, and the communities in larger centres that may provide workers or goods and services to the Project.

5.1 EMPLOYMENT AND PROCUREMENT

5.1.1 CONSTRUCTION PHASE

Section 7.1 of the EIS indicates that during the construction phase, up to 400 full-time equivalent jobs are anticipated to be created. An increased demand for labour during the construction phase of the Project not only creates direct employment opportunities for locals but also has positive spill-over effects in generating and supporting indirect employment in the local community and the local economy. This benefit is further enhanced by the procurement of localised goods and services required during this period, as well as local spend by the construction workforce. Further, it is suggested that the Project should look to consider opportunities in its Procurement Policy for the Applicant and/or Contractor to work with local organisations to involve Aboriginal Communities and young Aboriginal people in construction related work. It is important to note, however, that the extent to which direct localised employment will be realised within the Social Locality will be constrained by the availability of labour, employee mobility and the compatibility of skillsets as relative to those required by the Project.

Key Australian Bureau of Statistics (ABS) indicators of labour availability, employee mobility and compatibility include labour force population, unemployment rate and top industry and occupation data (outlined in Section 4 of SIA). The total population involved in the labour force within the Social Locality is 30,082 (ABS, 2021), with Labourers and Technicians and Trades Workers comprising two of the top five most common occupations throughout the Social Locality (refer to Table 5.2 of the SIA). These skillsets are compatible with the Project's required workforce competencies, which include engineering, trades (electrical, mechanical, construction), operators and administrative staff.

Between the 2016 and 2021 census, Tamworth and Armidale Urban Centres and Localities[1] (UCLs) both saw an increase in the number of Labourers and Technicians and Trades Workers. If this trend continues there will be an increased potential labour force from within the Social Locality, which will assist to meet the skill and labour demand for the Project. As of 2021, Tamworth and Armidale UCLs had 2,636 and 1,037 Labourers, and 2,059 and 1,030 Technicians and Trades Workers, respectively. Importantly, these two ABS occupation categories have the largest proportion of independent contractors nationally (11% and 17% respectively), which is an indication of employee mobility that reduces the risk that the Project will contribute to skills shortages and impact local businesses (ABS, 2023). Unemployment levels in Tamworth and Armidale UCLs are in line with the NSW average for 2021 (6.2% and 5.7% respectively) and have trended lower since the 2016 Census (ABS, 2016; ABS, 2021). Review of the ABS data indicates that the Social Locality has a moderate to high capacity to meet the employment demands of the construction phase.

It is intended to use as many local workers as practicable; however, noting that selection of workers will be strictly determined by the skillset required to safely construct the Project. Subject to availability and skillsets, it is anticipated that around a third of the construction workforce and the operational workforce will be sourced from the surrounding local area (e.g., Walcha and Uralla). The remainder of the workforce will be selected from the Tamworth and Armidale regions, where possible, and then from outside the Social Locality (i.e. workers from other areas who move to Walcha). It is estimated that the Project will generate $150 million through direct and indirect jobs with the region, and more than $160 million in indirect wages and profits, per year of construction.

Notwithstanding, the Project also may potentially impact the availability of skills within the region. This can occur when a large portion of skilled workers available in a region are employed on a single large Project or when a multitude of projects in proximity hire from the same pool of labour. Further discussion on this potential impact is provided in **Section 6**.

[1] Urban Centres and Localities (UCLs) are defined by the ABS as areas of concentrated urban development. They are identified using dwelling and population density criteria and data from the 2021 Census of Population and Housing.

5.1.2 OPERATION PHASE

During the operation phase, the Project will generate up to 39 full-time equivalent (FTE) jobs and an estimated $25 million per year in direct and indirect economic benefit for the local region. The financial benefits include those which arise through procurement of goods and services required during operations as well as the benefits of the diversification of income streams for the host landowners who are typically operating as rural businesses. WWPL will operate and maintain the WTGs and other infrastructure to ensure safe and efficient works that optimise energy generation, by putting in place a service team that will be made up of about 16 skilled and support staff permanently based in Walcha or surrounding towns.

In 2021, the labour force of Walcha UCL was 543 (ABS, 2021). Given that Walcha UCL experienced a decline in population (-1.13%) and labour force (-1.05%) between the 2016 and 2021 census, the generation of 39 FTE jobs by the Project has the potential to positively impact the rural community (ABS, 2016; 2021). The Social Locality is also facing an exodus to the regional centres of Tamworth and Armidale, which have concurrently experienced growth in population (0.90% and 0.91% respectively) and labour force (1.27% and 1.59% respectively). Economic exodus occurs when regional centres attract business, investment, and economic opportunities, resulting in a decline of economic activity in the surrounding towns or regions. Based on this, it is anticipated that the job generation and local procurement will have a high positive impact and the diversification of income streams will have a very high positive impact for the Social Locality.

5.1.3 MANAGEMENT AND MITIGATION STRATEGIES

To allow the communities within the Social Locality to capitalise on the economic opportunities presented by the Project, WWPL will develop and implement a Procurement Policy to maximise local employment and regional business options. The Procurement Policy will include hiring preferences so priority is given to applicants from within the Walcha and Uralla area who have suitable skills to undertake the jobs required for the Project.

Additional actions to be implemented by WWPL include:

- Collaboration with local trade/training organisations (such as TAFE) to promote job and apprenticeship opportunities with the Project ahead of construction to give local people enough notice to get training in Project related skill sets, if desired;
- Regularly engaging with key stakeholders (e.g., business chambers) and regional businesses to inform them of goods and services required for the Project. As part of this discussion, outline requirements for businesses to secure contracts;
- Creation of a register of regional businesses, so that when opportunities arise the relevant businesses can be contacted to submit a quote;
- Develop relationships to assist qualified local and regional businesses to tender for provision of goods and services to support the Project in an open and transparent manner; and
- Monitoring of local markets for goods and services to understand shortages and competitive pressures that may arise due to the Project. In the event these are identified consider procurement measures to limit these pressures.

SIA Addendum Impact Assessment Summary:

No changes to the likelihood, magnitude or pre-mitigation impact significance ratings identified in Table 6.2 of the SIA, relevant to Employment and Procurement, are required.

The proposed mitigation and management measures identified are considered appropriate, and the residual impact ratings specified in Table 7.1 of the SIA remain as previously determined.

5.2 COMMUNITY BENEFITS

A Community Benefit Fund (CBF) is proposed to be established by the Applicant. The CBF will be managed by Walcha Council and Uralla Shire Council under a Voluntary Planning Agreement (VPA). As of 15 July 2024, the VPA has been endorsed by both Walcha Council and Uralla Shire Council.

The CBF will support local community initiatives and programs, non-profits and charities, and services and infrastructure in the Walcha and Uralla communities. In doing so, the CBF will contribute to additional local employment and procurement opportunities through funding that is secured by local organisations. Consideration should also be given to ensuring that vulnerable groups within the community have equal access to the CBF, such as elderly, culturally and linguistically diverse (CALD) groups, and Indigenous persons. Providing equal access to vulnerable groups will be achieved through ensuring they are made aware of the CBF and, if requested, aided on how to apply for funding.

The Applicant will provide $1,000,000 at the commencement of construction, and $750,000 annually (escalated annually at Consumer Price Index (CPI)) from the start of commercial operations through to Project decommissioning (based on a delivered Project up to 600 MW capacity). In addition, for every MW over 600 MW, WWPL will contribute an extra $1,000 per MW annually to the CBF.

5.3 LOCAL DISRUPTION

The transportation of construction materials and workers has the potential to cause local disruptions due to increased traffic congestion and wear and tear on local roads. Additionally, construction related activities that generate dust, noise, vibration, and visual impacts also have the potential to cause local disruptions to various stakeholders, notably host landowners and Project neighbours. Construction related disruptions will be addressed by the Project through adherence to relevant construction guidelines and regulatory standards, negotiating host landowner agreements, and the development of a Construction Environmental Management Plan (CEMP).

The following sub-sections focus on local disruptions to roads and traffic during the construction phase.

5.3.1 TRAFFIC

5.3.1.1 CONSTRUCTION PHASE

Stakeholders and submitters raised the potential for the increase in traffic to impact upon their way of life and health and wellbeing (including community safety). During stakeholder engagement, both Project neighbours and the wider community mentioned upgrades to road infrastructure as a key benefit and the impacts to existing road infrastructure as a potential negative impact. Key concerns raised were how road usage during the construction phase will cause local disruption to the community, notably through the transportation of oversized turbine components and the daily commute of workers to and from the project. These qualitative findings in conjunction with the TIA findings above have informed the social impact rating and the suggested mitigation and management measures, which consider the need for ongoing road upgrades and maintenance. The Applicant will also incorporate several road upgrades required to facilitate construction and operation of the Project.

These concerns can be grouped into three main categories:

- **Traffic Congestion** – congestion arising from an increased volume of traffic between the regional centres and towns of the Social Locality. Ongoing construction activities will necessitate the movement of workers and materials to/from the Project Area. Traffic congestion caused by increased vehicle movements, and the potential establishment of detours or other road blockages, may cause disruptions to daily commutes and Local/Regional Business operations which may impact on stakeholder way of life, or increase stress and anxiety, impacting on their health and wellbeing.
- **Community Safety** – an increased volume of daily traffic may result in compromised emergency response times, a higher potential for unsafe driving (i.e., speeding, distracted driving etc.) to occur, resulting in an accident, and a heightened exposure to air pollution from vehicle dust and exhaust emissions – all of which can impact upon community health and wellbeing.
- **Road Surface Conditions** – the use of larger vehicles and the high volume of traffic has the potential to cause a deterioration of road pavement conditions, which in turn, increases the risk of a traffic accident occurring.

A Traffic Impact Assessment (TIA) was prepared as part of the EIS (Amber Organisation, 2022) and a revised TIA (Amber Organisation, 2024) has been presented as part of the Submissions Report and Amendment Report. The TIA and the revised TIA determined that the local road network will perform acceptably with construction traffic. A key intersection analysed in the TIA was the Thunderbolts Way and Jamieson Street intersection. The assessment revealed that construction traffic is expected to have a minimal impact on the operation of the intersection. The TIA also found that the road network can accommodate the traffic generated by the development during the construction period. The addition of an on-site quarry will significantly reduce the number of heavy vehicle movements on the local road network during construction and therefore reduce potential impacts to congestion safety and road surface conditions.

5.3.2 NOISE AND VIBRATION

The construction and operation phases of the Project will generate noise and vibration. If not managed and mitigated appropriately, this may negatively impact surrounding neighbours.

The following sub-sections assess the health concerns related to noise and vibration during the construction and operation of the Project.

5.3.2.1 CONSTRUCTION PHASE

During stakeholder engagement there was a moderate level of concern about the amenity and perceived health impacts due to operational noise and vibration. Stakeholders sought more information about the noise and vibration impacts arising from the construction phase.

A Noise and Vibration Impact Assessment (NVIA) (2022) and an Addendum Noise Assessment (2024) has been prepared by Sonus. The Addendum Noise Assessment has been prepared to assess noise from the construction and operation of the Project with consideration of the revised project layout detailed in the Amendment Report. The NVIA has also assessed the noise and vibration levels of the on-site quarry, which has been considered in this report from a social perspective.

Both noise assessments demonstrate that the relevant noise and vibration criteria will be achieved under conditions most conducive to noise propagation at all dwellings, limiting the extent of impact on stakeholders.

Technical recommendations of the NVIA, which are to be followed by the Project to reduce the social impact to sensitive receptors, include:

- Completion of a pre-construction noise assessment;
- Informing residents of proposed work which may result in noise greater than 45 dB(A) during standard hours and 35 dB(A) after hours; and
- Applying relevant mitigation practices as specified in Section 6 of NVIA.

The construction phase will also include blasting activities and an on-site quarry, which are a cause of noise and vibration impacts. To address these impacts, blasting mitigation includes contracting a blasting specialist to ensure compliance with the blasting criteria outlined in the NVIA. This mitigation measure is in addition to the above construction noise and vibration mitigations (including those specified in Section 6 of the NVIA), with sensitive receptors informed of proposed blasting work.

Based on the NVIA carried out by Sonus (2022), the following mitigation measures are recommended to be employed to reduce construction traffic noise where the NSW Road Noise Policy criteria are exceeded:

- Communicating with the affected community;
- Managing driver routes onto site to avoid sensitive areas;
- Scheduling construction traffic deliveries;
- Restricting construction hours where required; and
- The mitigation measures suggested by the NVIA have informed the post-mitigation impact assessment ratings (i.e. residual impact ratings).

5.3.2.2 OPERATION PHASE

Several project neighbours made submissions indicating concern about health impacts from noise during operation of the Project. This concern primarily relates to the perceived short and long-term physical and mental health impacts linked to noise emissions.

A response to submissions in relation to noise and vibration impacts has been prepared by Sonus and is provided in the Submissions Report. The response notes that Sonus has conducted studies into the level of infrasound produced by wind turbines. These studies confirm that the level of infrasound from wind turbines is no greater than the noise encountered from other natural and non-natural noise sources. The results of these studies were presented as a peer reviewed paper in "Acoustics Australia", the journal of the Australian Acoustical Society.

A 2013 study by the South Australian Environment Protection Authority (EPA) into infrasound provided findings which were consistent with the above studies conducted by Sonus, including the:

- Measured levels of infrasound from wind farms are well below the threshold of perception;
- Measured infrasound levels around wind farms are no higher than levels measured at other locations where people live, work and sleep; and
- Characteristics of noise produced by wind farms are not unique and are common in everyday life.

Section 6.5.6 of the EIS further addressed the SEARs requirements of the Project relating to health. In this section it was noted that the *National Health Medical Research Council (NHMRC) Statement: Evidence on Wind Farms and Human Health* provides advice to the community and to policy makers regarding the potential impact of wind farms on human health. While it is acknowledged that there are limitations to the existing evidence, NHMRC has concluded that there is currently no consistent evidence that wind farms cause adverse health effects in humans.

In November 2019, the South Australia Supreme Court handed down its decision in relation to the proposed Palmer Wind Farm. The Court concluded that claims that the turbines would cause sickness and health issues for residents were unsubstantiated. Of note, the objectors did not provide sufficient evidence of causality from any expert medical witness. The Court's finding has been consistent with the Australian Energy Infrastructure Commissioner's observations and recommendations based on actual complaint experience (Australian Energy Infrastructure Commissioner, 2022).

Noise modelling conducted by Sonus has demonstrated that predicted noise levels will achieve the criteria developed in accordance with the methodology of both the Wind Farm Environmental Noise Guidelines issued in 2009 and updated in 2021 by the South Australian Environment Protection Authority. Operational noise monitoring will be carried out following commissioning of the Project to verify compliance with the noise criteria.

5.3.3 DUST

5.3.3.1 CONSTRUCTION PHASE

The Air Quality Assessment in Section 6.10 of the EIS identified that dust particles and other air quality emissions could potentially be released from Project activities such as:

- Construction of new / upgraded access tracks and roads;
- Vegetation clearing and creation of open exposed areas;
- Excavation works and stockpile management;
- Mobile concrete batching plants;
- Rock crushing;
- Transport of material and equipment;
- Processing and handling of material;
- Construction activities and associated earthmoving and construction equipment;
- Transfer points;
- Loading and unloading of material; and
- Haulage activities along unsealed roads.

Dust particles resulting from these activities only become a health concern if they are inhaled. Inhalation of dust particles can lead to various respiratory issues, including coughing, wheezing, asthma exacerbation, and other respiratory conditions. Fine particles can penetrate deep into the lungs, causing inflammation and long-term damage. Dust can also irritate the eyes, skin, and throat, leading to discomfort and potential allergic reactions. According to the air quality impact assessment, the Project impacts are temporary and low during the construction phase of the Project. The Project will not generate significant air quality impacts and appropriate dust suppression measures will be implemented to minimise the potential for offsite dust impacts resulting from construction. The implementation of recommended mitigation measures is outlined in Section 6.10.4 of the EIS and summarised in **Section 5.3.5** of this report.

5.3.4 VISUAL AMENITY

5.3.4.1 OPERATION PHASE

A Landscape and Visual Impact Assessment (LVIA) by Moir Landscape Architecture (2022) identified that it is inevitable that the placement of WTGs in the Project Area will alter the existing landscape character to some degree. The proposed wind farm contrasts with the existing landscape character of the region, which is typically rural, pastoral land with large expanses of vegetation. To reduce these visual impacts the following project design considerations have been made:

- Micrositing turbines;
- Painting turbine components light grey with non-reflective paint for visual consistency with landscape; and
- Reduction in proposed turbine height from 250 m to 230 m.

Since the exhibition of the EIS, the Project has changed further, resulting in reduced visual impacts through:

- Removal of two turbines (B023 and B124);
- Relocation of seven turbines (B024, B025, B026, B027, B032, B033 and B034); and
- Inclusion of four dwellings (SR087, SR088, SR224, SR274 and SR282) as associated.

Due to the nature of the project and the elevated location of the wind turbines it is inevitable for the project to have a visual impact during its operation phase. Based on the dwelling assessment conducted as part of the LVIA a total of 10 dwellings were rated as Visual Influence Zone 1 (VIZ1) and 33 dwellings as Visual Influence Zone 2 (VIZ2) (Moir Landscape Architecture, 2022). Additionally, a total of 24 viewpoints in VIZ2 and 32 viewpoints in Visual Influence Zone 3 (VIZ3). The Addendum LVIA determined that there was a slight reduction to the number of visual turbines from land to the west of the Project (Moir Landscape Architecture, 2024).

A shadow flicker and blade glint assessment were also conducted for the Project (Moir Landscape Architecture, 2022). Blade glint is the bright reflection caused by the sun on the turbine blades and towers, creating a glint while shadow flicker is the moving shadow caused by the sun from the rotating blades of a wind turbine. Due to the movement of the blades, the shadow moves and creates flickers of light and shadow. Two non-involved dwellings were identified with potential shadow flicker; however, none have the potential to experience more than 30 hours per year (Moir Landscape Architecture, 2022) meaning the Project will not exceed the limits proposed in the NSW Wind Energy Guideline (DPE 2016). Equally, the risk of blade glint from a new wind farm development is low as turbines will be finished with a low reflectivity surface treatment to ensure blade glint is minimised.

5.3.5 MANAGEMENT AND MITIGATION STRATEGIES

A key mitigation for all local disruption impacts is for the Project to continue to proactively implement the Engagement and Consultation Strategy, complaint management and recording procedure through the stakeholder management database and ensure execution occurs in a timely fashion when impacts from construction activities are likely.

Additionally, the following mitigation measures relevant to specific local disruptions should be implemented as a priority:

Traffic

- Implement the traffic mitigations outlined in the TIA (Amber Organisation, 2022) and the revised TIA (Amber Organisation, 2024), such as disseminating traffic information, installing signage, implementing driver protocols, establishing shuttle bus route and completing road upgrades; and
- Develop and implement a Traffic Management Plan (TMP) informed by the TIA in the EIS (Amber Organisation, 2022) and the revised TIA (Amber Organisation, 2024).

Noise and Vibration

- Develop and implement a CEMP that will include specific mitigations for construction phase impacts including but not limited to noise and vibration (Sonus, 2022) (Sonus, 2024) and relevant monitoring measures.

Dust

- The Environmental Management Strategy will include consideration of the management and mitigation of offsite dust emissions and provide guidance on how those environmental management measures will be implemented.
- Develop and implement a CEMP that will include specific mitigations for construction phase impacts including dust and air quality (refer to Section 6.10 of EIS), and relevant monitoring measures; and
- Apply the dust mitigation practices and management systems outlined in Section 6.10 of the EIS, such as, but not limited to, watering roadways, minimising vegetation clearance and reducing traffic speeds near sensitive receptors.

Visual Amenity

- Implement visual mitigations outlined in the LVIA (Moir Landscape Architecture, 2022) and the Addendum LVIA (Moir Landscape Architecture, 2024), such as onsite screen planting, residence supplementary planting and landscaping principles; and
- Finish turbines with a low reflectivity surface treatment to ensure blade glint is minimised.

SIA Addendum Impact Assessment Summary:

No changes to the likelihood, magnitude or pre-mitigation impact significance ratings identified in Table 6.2 of the SIA, relevant to Local Disruption, are required.

The proposed mitigation and management measures identified are considered appropriate, and the residual impact ratings specified in Table 7.1 of the SIA remain as previously determined.

5.4 ACCOMMODATION AND WORKER INFLUX

Accommodating large construction workforces in regional areas is a multifaceted challenge that simultaneously requires mitigating socio-economic impacts and enhancing socio-economic benefits to various stakeholders. Achieving a socially equitable outcome for all stakeholder groups requires careful planning and communication between local governments, short-term accommodation providers and occupants and owners of the existing housing stock.

Further challenges arise when considering the cumulative accommodation requirements of the utility-scale renewable energy projects that are being developed or proposed throughout the New England REZ (refer to cumulative impact discussion in **Section 6**).

5.4.1 CONSTRUCTION PHASE

During engagement undertaken for the Project, concerns were raised about how Walcha will support the influx of construction workers, particularly the accommodation of the workforce during peak periods.

The Applicant has an aspirational target of sourcing about a third of the construction workforce from within the Social Locality. It is anticipated that the magnitude of the impact is likely to be less acutely experienced by Project stakeholders if the local recruitment aspiration can be achieved. Given the number of other renewables projects (refer to **Section 6**), there also remains the potential that the localised employment targets set by the Project and/or other projects may not be achieved due to lack of available resources. This could be the result of overlapping Construction Phases by different projects and has been identified and discussed in the cumulative impact (**Section 6**) of this addendum.

If additional workers are required from outside of the Social Locality, there is sufficient capacity in both the existing housing stock and short-term accommodation providers to accommodate these workers. Notably, the LGA's of the Social Locality are included in the New England North West tourism region which had an occupancy rate of 55.1% in 2018/19 (STR, 2019). In 2021, the total number of dwellings in the social locality was 31,237 (ABS, 2021). As of March 2022, this occupancy rate had slightly decreased to 54.9% (STR, 2022). In 2021, Armidale and Tamworth UCLs had 965 and 1,300 unoccupied private dwellings respectively (ABS, 2021). The above data sets and trends in the Social Locality suggest there is sufficient capacity to accommodate worker influx if the aspirational local recruitment target is not achieved.

Additionally, since the non-local workforce will be distributed across existing accommodation providers in the Social Locality, it is unlikely that there will be social impacts relating to water pressure. Social concerns about water pressure in regional Australia typically surround the development of large accommodation camps.

5.4.2 MANAGEMENT AND MITIGATION STRATEGIES

In relation to workforce and accommodation requirements of the Project, the potential cumulative impacts associated with the Project will be manageable through the Applicant's commitment to the development and implementation of a Workforce Accommodation Strategy.

The following management and mitigations associated with specific land use and landscape impacts should be implemented by the Project:

- The Workforce Accommodation Strategy will be prepared with the goal of managing impacts to local short and long-term accommodation arrangements in surrounding towns and will be developed prior to the commencement to reflect and respond to actual regional demand conditions at that time, especially in relation to concurrent projects which will be serviced out of Tamworth and Armidale;
- Establish and implement a Workforce Accommodation Strategy that manages impacts to local short and long-term accommodation arrangements in surrounding towns; and
- Engage with local health care, social and emergency service providers to monitor the Project's use (if any) of these facilities.

SIA Addendum Impact Assessment Summary:

No changes to the likelihood, magnitude or pre-mitigation impact significance ratings identified in Table 6.2 of the SIA, relevant to Accommodation and Worker Influx, are required.

The proposed mitigation and management measures identified are considered appropriate, and the residual impact ratings specified in Table 7.1 of the SIA remain as previously determined.

5.5 LAND USE AND LANDSCAPE

5.5.1 LAND VALUES

Available literature analysing the effect of utility-scale wind and solar farms on property values suggests mixed outcomes for properties based on their underlying land use (Parliament of Australia, 2013; Brinkley & Leach, 2019; Abashidze & Taylor, 2022).

As outlined in Section 5.1 of the SIA, the key land uses in the social locality are RU1 Rural Primary Production. Agricultural properties derive their land value primarily from productivity, proximity to markets and infrastructure and market demand. Accordingly, property values are unlikely to be impacted by visual amenity impacts. Despite this however, there remains an ongoing debate regarding whether the visual amenity impacts outweigh the positive effects of increased economic activity and community benefits.

5.5.2 CULTURAL HERITAGE AND HISTORIC HERITAGE ASSESSMENT

Indigenous communities are listed as a key stakeholder group in Table 4.1 of the SIA. The assessment provided in Table 6.2 of the SIA further acknowledges that altered landscapes have the potential to impact tangible and intangible Aboriginal heritage, however post-mitigation the impact significance will be low. Aboriginal Communities are vulnerable to the Project impacts that may affect tangible and intangible heritage, particularly given past practices and government policies that may have created detachment from traditional lands.

Extensive discussions with Aboriginal communities were conducted by OzArk Environment and Heritage as outlined in their Aboriginal Cultural Heritage and Historic Heritage Assessment Report (OzArk, 2021) and the Revised Aboriginal Cultural Heritage and Historic Heritage Assessment Report (OzArk, 2024). Discussions focussed on perceptions and understandings of historical and ongoing land use practices, including the cultural significance of sites and the general vicinity of the Project Area. During these discussions OzArk were also directed to the EMM (2018) heritage study as containing information on the tangible and intangible cultural heritage values of the area. Both studies have been used to inform the SIA and this Addendum SIA.

Intangible cultural heritage values associated with the rural character of the landscape may be impacted by the Project. OzArk (2021) found that "The intangible Aboriginal cultural values across the wider district relate to a number of important places and themes associated with non-archaeological cultural values. These places mainly relate to spiritual and ceremonial connections across the broader landscape that may encompass areas of culturally significant geographical features." However, no specific locations were identified as containing intangible cultural heritage.

5.5.3 MANAGEMENT AND MITIGATION STRATEGIES

The following management and mitigations associated with specific land use and landscape impacts should be implemented by the Project:

Land Values

- The Project can seek to mitigate potential issues of perceived property devaluation through developing and implementing the CBF which will enhance local economic benefits. As discussed in Section 5.1.1 consideration should be given to ensuring that Aboriginal Communities have equal access to the CBF.

Cultural and Historic Heritage

- Table 7.1 of the SIA recommends that cultural heritage management procedures are in line with the revised Aboriginal Cultural Heritage and Historic Heritage Assessment Report (OzArk, 2024) and required management plans.
- The Project will primarily be developed on private agricultural land which has been previously disturbed and/or historically cleared. The layout has been designed to maximise the use of existing disturbed areas and to avoid or minimise impact to identified biodiversity and Aboriginal cultural heritage values. These measures aim to reduce the risk of altering culturally significant sites and aspects of the rural landscape of significance to Aboriginal Communities.
- Although intangible heritage sites or areas were not identified by OzArk (2021) there will be visual alterations to the landscape that will be mitigated and managed by the visual amenity management and mitigation strategies outlined in **Section 5.3.5**.
- An Aboriginal Cultural Heritage Management Plan (ACHMP) will be prepared prior to the commencement of construction. The ACHMP will detail measures to protect Aboriginal heritage sites outside the area of disturbance, minimisation and management measures, a strategy for the long-term management of any Aboriginal heritage items collected from the test excavations or salvage works, an unexpected finds procedure and other contingency and reporting procedures.

SIA Addendum Impact Assessment Summary:

No changes to the likelihood, magnitude or pre-mitigation impact significance ratings identified in Table 6.2 of the SIA, relevant to Land Use and Landscape, are required.

The proposed mitigation and management measures identified are considered appropriate, and the residual impact ratings specified in Table 7.1 of the SIA remain as previously determined.

6. CUMULATIVE IMPACTS

Cumulative social impacts arising from additional projects in the wider New England Region are possible as NSW pursues largescale transition to renewable energy sources (NSW Government, 2019; 2020; 2021) and are an area of particular concern that has been raised by stakeholders.

Table 6-1 outlines 13 renewable energy developments within 92 km from the Project Area. A total of nine projects are anticipated to have cumulative impacts on traffic and transport, and 10 are expected to have broader cumulative socio-economic impacts, particularly relating to accommodation and worker influx, and local employment and procurement.

TABLE 6-1 CUMULATIVE IMPACT ASSESSMENT OVERVIEW

Project	Description / Status*	Approx. distance (km) from the Project	Potential Cumulative Impacts	Relevant Future Development
Wind Energy Developments				
Thunderbolt Wind Farm (Tamworth Regional & Uralla Shire LGAs)	• Approved May 2024 • Nominal generating capacity 192 MW • Up to 32 WTGs • Battery energy storage and ancillary infrastructure • Peak construction workforce up to 190 FTE • Operational workforce of up to 9 FTE • Construction expected to commence early 2025 for 18-24 months	26	Traffic & Transport Social & Economic	Likely relevant – The construction periods for the projects could potentially overlap. Both projects are anticipated to have staff located in Armidale, Uralla, and Tamworth and will utilise part of the same transport route to deliver plant from the Port of Newcastle.
Hills of Gold Wind Farm (Tamworth Regional, Liverpool Plains Shire, Upper Hunter Shire LGAs)	• In Planning (Recommendation) • Nominal generating capacity 384 MW • 47 WTGs • Battery energy storage and ancillary infrastructure • Peak construction workforce up to 211 FTE • Operational workforce of up to 28 FTE • Construction expected to commence early 2025 for 18-24 months (subject to project approval)	88	Traffic & Transport Social & Economic	Likely relevant – The construction periods for the projects could potentially overlap. Both projects are anticipated to have staff located in Tamworth and will utilise part of the same transport route to deliver plant from the Port of Newcastle.

Project	Description / Status*	Approx. distance (km) from the Project	Potential Cumulative Impacts	Relevant Future Development
Rangoon Wind Farm (Glen Innes Severn Shire & Armidale Regional LGAs)	• In Planning (Prepare EIS) • Nominal generating capacity 130 MW • Up to 25 WTGs • Battery energy storage and ancillary infrastructure • Construction and operational workforce not reported in Scoping Report • Construction commencement not reported. • 18-24 months construction duration	92	Traffic & Transport	Unlikely relevant, noting that this project is still in the "Prepare EIS" phase.
Solar Energy Developments				
Oxley Solar Farm (Armidale Regional LGA)	• Approved December 2023 • Approx. 215 MW solar farm • Battery energy storage and ancillary infrastructure • Peak construction workforce up to 300 FTE • Operational workforce of up to 5 FTE. • Approx 12-18 months construction duration.	28	Traffic & Transport Social & Economic	Unlikely relevant – It is expected that the construction phase of the project would be completed before the start of Winterbourne project construction. Should there be an overlap there may be traffic impact, though this should be minimal as the peak periods of construction of each project will not likely occur at the same time. During operation the projects are both expected to generate a minimal level of traffic.

Project	Description / Status*	Approx. distance (km) from the Project	Potential Cumulative Impacts	Relevant Future Development
Bendemeer Solar Farm (Tamworth Regional LGA)	• In Planning (Response to Submissions) • Approx. 210 MW solar farm • Battery energy storage and ancillary infrastructure • Peak construction workforce up to 250 FTE. • Operational workforce of up to 10 FTE • Approx 12-18 months estimated to commence Q2 2025.	33	Traffic & Transport Social & Economic	Likely relevant – There is potential for construction of both projects to overlap. Construction traffic generated by the projects may interact within the township of Armidale and Tamworth where staff for both projects are proposed to be located.
Nottingham Park Solar Farm	• In Planning (Prepare EIS) • Development of a 250 MW solar farm - associated infrastructure and battery storage • Potential to generate 500 jobs during construction, and approximately 10 jobs during operations.	82	Traffic & Transport Social & Economic	Unlikely relevant - The timing for the construction of this project is not reliably known and therefore we have assumed there is no overlap in construction phase and thus no cumulative impact.
Tilbuster Solar Farm (Armidale Regional LGA)	• Approved March 2022 • Approx. 150 MW solar farm • Battery energy storage and ancillary infrastructure	45	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Armidale where staff for both projects are proposed to be located.

Project	Description / Status*	Approx. distance (km) from the Project	Potential Cumulative Impacts	Relevant Future Development
Middlebrook Solar Farm (Tamworth Regional LGA)	• In Planning (Response to Submissions) • Development of a 320 MW solar farm with battery storage of up to 300 MW/600 MWh (DC coupled) and associated infrastructure. • Construction estimated to commence Q2 2024 (subject to project approval) for a 21 to 30 month period • Operational workforce up to 15 FTE	73	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Tamworth. Upgrades are proposed to the intersection of Middlebrook Road / New England Highway to allow vehicle to turn safely from the state road.
Other Developments				
Armidale BESS (Armidale Regional LGA)	• In Planning (Response to Submissions) • 150 MW BESS and ancillary infrastructure • Peak construction workforce up to 150 FTE • Operational workforce up to 1 FTE employees (BESS will be operated remotely) • Approx 12 months construction estimated to be completed in 2026	30	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Armidale where staff for both projects are proposed to be located.
Armidale East BESS (Armidale Regional LGA)	• In Planning (Prepare EIS) • 500MW BESS and ancillary infrastructure • Approx 18 months construction estimated to be completed in 2027 • Peak construction workforce not reported in Scoping Report.	35	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Armidale where staff for both projects are proposed to be located.

Project	Description / Status*	Approx. distance (km) from the Project	Potential Cumulative Impacts	Relevant Future Development
Oven Mountain Pumped Hydro Energy Storage Project (Armidale Regional LGA)	• In Planning (Response to Submissions) • 600 MW pumped hydro energy storage and generation • Ancillary infrastructure • Peak construction workforce up to 600 FTE • Operational workforce up to 30 FTE • Construction estimated to be 36 to 48 months in duration.	33	Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. Temporary accommodation will be required for the construction workforce which will be identified during detailed design and EIS preparation and may be outside the project area. Broader transport logistics options are still under consideration and may include the use of local ports, including the Port of Newcastle.
Tamworth BESS (Tamworth Regional LGA)	• In Planning (Prepare EIS) • 200 MW BESS and ancillary infrastructure • Peak construction workforce up to 150 FTE	67	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Tamworth.
Kingswood BESS (Tamworth Regional LGA)	• In Planning (Prepare EIS) • 500 MW BESS and ancillary infrastructure • Peak construction workforce up to 100 FTE • Minimal operational workforce (BESS will be operated remotely) • Construction estimated to be up to 18 months. • Construction planned to commence in Q4 of 2024 • Operational workforce up to 1 FTE. • 12 months construction period. Scheduling not reported in Scoping Report.	72	Traffic & Transport Social & Economic	Potentially relevant – There is potential for construction of both projects to overlap. The traffic generated by the projects may interact within the township of Tamworth.

In line with Table 7.1 of the SIA, the two primary cumulative socio-economic impacts that have potential to generate cumulative impacts are workforce accommodation and influx (refer to **Section 5.4**) and traffic (refer to **Section 5.3.1**). **Table 6-1** also provides an overview of the surrounding Projects that have potential to generate cumulative socio-economic and traffic impacts, however, no cumulative visual impacts were identified. The following discussion is consistent with both Table 7.1 of the EIS and **Table 6-1** .

6.1 ACCOMMODATION AND WORKER INFLUX

Subject to the construction timeframes for the renewable energy projects outlined in **Table 6-1** , there is the potential for periods of construction to overlap with construction of the Project. Like the Project, these other renewable energy projects are likely to employ large construction workforces. Where non-local workers are employed by these projects, they will need to be accommodated within the surrounding towns and/or in project-specific accommodation camps, dependent upon the accommodation strategies employed by each project. This cumulative worker influx has the potential to place additional temporary pressure on the short and long-term accommodation within Armidale, Uralla, and Walcha. The impact of this pressure will have varying degrees of impact upon these towns, including increased demand for community services (e.g., emergency services, recreational facilities, etc.), intensification of accommodation shortages and cost of living pressures, and disruptions to tourist accommodation options that may have subsequent implications for significant festivals and events. Delays in receiving medical treatment, or reduced access to social services, has the potential to impact vulnerable groups more acutely within the Social Locality, such as the elderly and Aboriginal persons.

A reduction in tourist accommodation availabilities during the construction phases of the SSD Project has the potential in the short-term to impact local businesses that heavily depend on the tourism sector.

Given the number of other renewables projects, there also remains the potential that the aspirational localised employment targets set by the Project and/or other projects may not be able to be achieved due to lack of available resources. If these aspirational localised employment targets are not achieved, a larger number of non-local workers will need to be employed to meet demand. If this occurs, the social impacts associated with worker influx may be further exacerbated. The cumulative impacts associated with workforce accommodation influx will be addressed through the implementation of the Workforce Accommodation Strategy, and the associated mitigation and management measures.

6.2 TRAFFIC

As discussed in **Section 5.3.1** during stakeholder engagement, both Project neighbours and the wider community discussed upgrades to road infrastructure as a key benefit. Cumulative traffic impacts on the existing road infrastructure and local disruptions to the community, notably through the transportation of oversized blade components and workers, were viewed negatively.

It is understood that when considering cumulative impacts for traffic, it is important to consider whether construction periods of multiple projects will overlap, in particular peak construction period for projects. It is also important to understand that the community may experience construction fatigue if the construction period of multiple projects overlap, and/or if the construction of a project begins shortly after another has ended.

As outlined in **Table 6-1** , there are 10 relevant projects that have potential to generate cumulative impacts on traffic and transport, noting only two of these have received project approval.

Prior to construction, a Construction Traffic Management Plan will be prepared and will further assess cumulative traffic impacts which will more accurately reflect future conditions (e.g. traffic volumes and construction timeframes of nearby projects) and will include measures to reduce cumulative impact where relevant, including coordination of OSOM movements to minimise impacts.

6.3 VISUAL AMENITY

The academic literature exploring the impact of wind farms on tourism activities in the Australian context is very limited given limited duration of operational wind farms. Globally, the academic literature suggests that wind farms do not negatively impact on tourism (Aitchison, 2012; de Sousa & Kastenholz, 2018). A study by Aitchison (2012) based in Scotland suggests that "there is no evidence to support the assertion that wind farms are likely to have a negative economic impact on tourism." However, the effect of wind farms on tourism is likely to be contingent upon the specific characteristics and tourism activities present in particular regions. In 2023, the 'New England North West' tourism region which encapsulates the Social Locality had 38% of its visitors come for a holiday, 32% visiting friends or relatives, and 24% coming for business (Tourism Research Australia, 2023). The percentage of visitation across regional NSW for holiday purposes is 47%, which suggests the region is less economically reliant on tourism as a source of income. Prinsloo (2013) suggested that "renewable energy structures may actually help grow the tourism industry at a particular location and may become important tourist attraction to that area, village, town or region". However, as renewable energy structures become normalized as a part of the landscape (similar to agriculture and mining), it is likely that the potential tourism benefits of these developments will decrease over time. Based on the literature review and analysis of tourism data, it is unlikely that tourism industry in the social locality will be negatively impacted by the visual amenity changes. Moreover, there is some potential for the renewable State Significant Development (SSD) Projects to increase tourism in the short-term (refer to **Table 4-1** for a discussion of methodological limitations).

The nearest approved wind farm (at the time of preparing this report) is the Thunderbolt Wind Farm which is located 26km from the Project. The nearest proposed wind farm is the Hills of Gold Wind Farm which is located approximately 88 km to the south of the Project. Based on the current approved projects there are no anticipated cumulative visual impacts as the Project is set back from major travel routes which prevents any opportunities to view the wind farms in succession along travel routes.

6.4 HEALTH AND WELLBEING

The transition from fossil fuels to renewable energy sources will result in a significant change to the rural landscape of NSW and these changes are focused predominantly in REZs across NSW. Cumulative mental health impacts may result from social impacts to community cohesion arising from the large number of renewable energy projects in the vicinity of the Project; however, it is expected that these impacts will likely only be associated the construction phases of these projects and will not persist for the entirety of the operational phases of the projects. The distress and uncertainly caused by the changing landscape during this period may result in community division, particularly between individuals and groups who are supportive of the Project and those who are opposed.

There was some concern raised by the public in submissions to the EIS about the health and wellbeing impacts resulting from Electromagnetic frequency (EMF). The World Health Organisation (2023) recognise that to date, no adverse health effects from EMF, long-term exposure to radiofrequency or power frequency fields have been confirmed. As a precautionary approach, the locations of Project infrastructure (e.g. substations, switching station, transmission line) have been sited at a distance from dwellings and publicly accessible locations to reduce the potential for EMF exposure from project infrastructure.

6.5 MANAGEMENT AND MITIGATION STRATEGIES

The following management and mitigations associated with cumulative impacts should be implemented by the Project:

Cumulative Accommodation and Worker Influx:

- Establish and implement a Workforce Accommodation Strategy that manages impacts to local short and long-term accommodation arrangements in surrounding towns; and
- Engage with local health care, social and emergency service providers to monitor the Project's use (if any) of these facilities.

Cumulative Traffic:

- Implement the traffic mitigations outlined in the TIA (Amber, 2022) and revised TIA (Amber, 2024), such as disseminating traffic information, installing signage, implementing driver protocols, establishing shuttle bus route and completing road upgrades; and
- Develop and implement a Traffic Management Plan (TMP) informed by the TIA in the EIS (Amber, 2022) and the revised TIA (Amber, 2024).

Cumulative Visual Amenity

- Implement visual mitigations outlined in the LVIA (Moir Landscape, 2022) and the Addendum LVIA (Moir Landscape, 2024), such as onsite screen planting, residence supplementary planting and landscaping principles; and
- Finish turbines with a low reflectivity surface treatment to ensure blade glint is minimised.

Cumulative Health and Wellbeing

- The grievance mechanism should be maintained throughout the life of the Project to manage concerns that may arise during operational activities; and
- The implementation of the SES to facilitate appropriate, transparent, and meaningful stakeholder engagement.

SIA Addendum Impact Assessment Summary:

No changes to the likelihood, magnitude or pre-mitigation impact significance ratings identified in Table 6.2 of the SIA, relevant to Cumulative Impacts, are required.

The proposed mitigation and management measures identified are considered appropriate, and the residual impact ratings specified in Table 7.1 of the SIA remain as previously determined.

7. DECLARATION

The SIA was completed by Dr Rene Provis on 10 November 2022, and contains all relevant information, aligning with the Social Impact Assessment Guidelines from the NSW Department of Planning, Infrastructure and Environment. Dr. Provis holds a PhD in development anthropology from the University of New South Wales and is a member of the International Association for Impact Assessment and the Australian Anthropological Society.

This SIA Addendum was authored by Dr Hilton Penfold who holds a PhD in Human Geography from the University of Wollongong.

Both the SIA and SIA Addendum were reviewed by Louis Penny, who holds a Bachelor of Regional and Town Planning from the University of Queensland. Mr Penny has over 13 years of experience in Social Performance, inclusive of preparing Social Impact Assessments, and is a member of the Planning Institute of Australia.

The SIA and SIA Addendum were completed in good faith in accordance with the relevant ethical frameworks, and to the knowledge of those involved, does not contain any false or misleading information.

Dr. Hilton Penfold
Consultant

Louis Penny
Principal Consultant

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