



Tilbuster Solar Farm

State Significant Development

SSD 9619

March 2022



Published by the NSW Department of Planning and Environment

dpie.nsw.gov.au

Title: Tilbuster Solar Farm

Subtitle: State Significant Development.

Cover image: Source: NSW Department of Planning and Environment Image Library

<https://images.planning.nsw.gov.au/>.

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Executive Summary

Enerparc Australia Pty Ltd (Enerparc) proposes to develop a 150 megawatt (MW) solar farm with 15 MW / 30 MW-hour battery storage facility approximately 17 kilometres (km) north of Armidale in the Armidale Regional local government area (LGA).

The project site is located close to the New England Highway in a rural area, with the nearest non-associated receiver located about 495 m from the proposed development footprint. There are 16 non-associated residences within 2 km of the site. The proposed site would connect with the existing Transgrid 330 kilovolt transmission line that traverses the site and connects the Dumaresq substation to the Armidale substation, located southwest of the site (see **Figure 1**).

The project is classified as State significant development under the *Environmental Planning and Assessment Act 1979* (EP&A Act) because it is development for the purpose of electricity generating works with a capital investment value of more than \$30 million. Consequently, the Minister for Planning is the consent authority for the development. However, the Director, Energy Assessments, may determine the development application under delegation from the Minister as Council did not object, there were less than 15 objections from the general public and a political donations disclosure statement has not been made.

Engagement

The Department exhibited the Environmental Impact Statement (EIS) for the project and received nine submissions (six objections, two in support and one comment). Advice was provided by 18 government agencies including Armidale Regional Council (Council). The Department also consulted with relevant government agencies throughout the assessment.

None of the agencies object to the project, subject to the implementation of appropriate mitigation and management measures.

The Department inspected the site and met with surrounding landowners on 27 April 2021.

In response to agency advice and submissions on the project, Enerparc undertook additional assessments and made amendments to the project. Enerparc assessed surrounding receivers not identified in the EIS, refined the development footprint (within the existing project site) and amended traffic, transport and road upgrades.

The project amendments have led to better outcomes by avoiding high quality native vegetation and enhancing connectivity between native vegetation areas.

Assessment

The Department has undertaken a comprehensive assessment of the merits of the project and considered all potential issues in accordance with the requirements of the EP&A Act. The key assessment issues identified for the project are land use compatibility, biodiversity and visual impacts.

The project site current land uses are primarily grazing and cropping. The proposed development footprint includes soils that are classified as Class 3, 4, 5 and 6 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017). The development footprint (168.1 hectares) includes 0.2 ha (0.1%) of mapped Biophysical Strategic Agricultural Land (BSAL) that is also Class 3 land.

The project would not significantly reduce the overall agricultural productivity of the region and the Department is satisfied that the site could be returned to agricultural uses in the future.

The project has been designed and refined to avoid and minimise biodiversity impacts, however it would result in clearing of 2.39 ha of native woodland, 6.9 ha of scattered trees and 97.4 ha of grassland, which would be offset in accordance with the *Biodiversity Conservation Act 2016*. The layout of the solar farm has also been designed to avoid most impacts on Aboriginal heritage.

Importantly, Heritage NSW did not raise any concerns about the impacts of the project on heritage values subject to the implementation of appropriate design, construction, management and operational measures. Further, Enerparc has significantly refined the project layout in response to the Department's Biodiversity, Conservation and Science Directorate (BCS) concerns regarding serious and irreversible impacts on the Critically Endangered Ecological Community (CEEC) woodland present on site, reducing clearing of the CEEC woodland from 23.2 ha to 1.99 ha.

Enerparc has committed to implementing additional mitigation measures above and beyond meeting the credit liability obligations, such as actively managing residual areas for the life of the project to achieve specific ecological condition targets, habitat improvement works for species such as the greater glider, and installation of fauna friendly fencing to maintain biodiversity connectivity. The Department and BCS support this approach and consider the project would no longer result in a serious and irreversible impact to the CEEC following the reduction in clearing of the higher quality woodland from that proposed in the EIS and with these measures in place, as discussed in **section 5.3**.

The Department recognises that the introduction of the project would represent a change to the local rural landscape, but considers that the visual impacts would not be significant with the proposed mitigation measures including retaining existing vegetation along fence lines and road reserves and also retaining areas of vegetation within the development.

There are 16 non-associated residences located within 2 km of the site with the closest residence about 495 m north of the development footprint (R26). The solar arrays are relatively low-lying structures and topography, existing vegetation and distance contribute to mitigate potential visual impacts on the landscape from nearby residences and public vantage points. Further, neither Council nor TfNSW for NSW (TfNSW) raised any concerns about visual impacts from the project.

Construction impacts would be relatively short-term, minor in nature and can be managed in accordance with Government policy. The proposed road upgrades have been designed to satisfy the relevant road safety standards, and the requirements of Council and TfNSW. The Department has recommended conditions requiring a comprehensive Traffic Management Plan.

Given the distance of the project from other projects in the region, with the closest solar farm (Metz Solar Farm) located about 26 km from the site, there would be minimal localised cumulative impacts, including in regard to potential visual, noise and traffic impacts.

The Department has recommended a condition requiring an accommodation and employment strategy be prepared and implemented by Enerparc, in consultation with Council, to ensure there would be sufficient accommodation for construction workers, and to prioritise the employment of local workers and consider construction of other projects in the region.

To address the residual impacts of the project, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and Council, to ensure these impacts are effectively minimised, managed or offset.

Summary

Overall, the Department considers the site to be suitable for the project as it has good solar resources and available capacity on the existing electricity network and is consistent with the Department's *Large-Scale Solar Energy Guideline*.

The project is consistent with the Commonwealth's *Renewable Energy Target* and NSW's *Climate Change Policy Framework* and the *Net Zero Plan Stage 1: 2020 – 2030*, as it would contribute 150 MW of renewable energy to the National Electricity Market, including a battery storage facility with a capacity of 15 MW / 30 MWh. Importantly, the battery would enable the project to store solar energy for dispatch to the grid outside of daylight hours and / or during periods of peak demand, which has the potential to contribute to increased grid stability and energy security.

The project would also provide flow-on benefits to the local community, including up to 125 construction jobs and a capital investment of about \$174 million. A VPA has also been proposed comprising a lump sum payment of \$1,529,000 to Council on commencement of construction.

The Department supports Enerparc's amendments to the project and has recommended a suite of conditions to address concerns raised by the community and government agencies, and to ensure the impacts of the development on natural and built environments, and social and economic impacts on the locality are appropriately mitigated and/or managed.

The project would result in benefits to the State of NSW and the local community and is therefore in the public interest.

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1 Project

Enerparc Australia Pty Ltd (Enerparc), proposes to develop a new State significant development solar farm approximately 17 kilometres (km) north of Armidale in the Armidale Regional local government area (LGA) (see **Figure 1**).

The project involves the construction of a new solar farm with a generating capacity of 150 megawatts (MW) and 15 MW / 30 MW-hour (MWh) of battery energy storage. It also involves the upgrading and decommissioning of equipment over time. While the capacity of the project may increase over time as technology improves, the footprint of the development would not be permitted to increase without further planning approval.

The solar farm would connect to the existing Transgrid 330 kilovolt (kV) transmission line which traverses the site and connects Dumaresq substation to Armidale substation (see **Figures 1 and 3**).

The solar farm would be constructed over approximately 12 months, with a peak construction period of four months.

The key components of the project are summarised in **Table 1**, shown in **Figure 3**, and described in detail in the Environmental Impact Statement (EIS) (see **Appendix B**), Submissions Report (see **Appendix D**) and additional information provided during the Department's assessment of the project (see **Appendix F**).

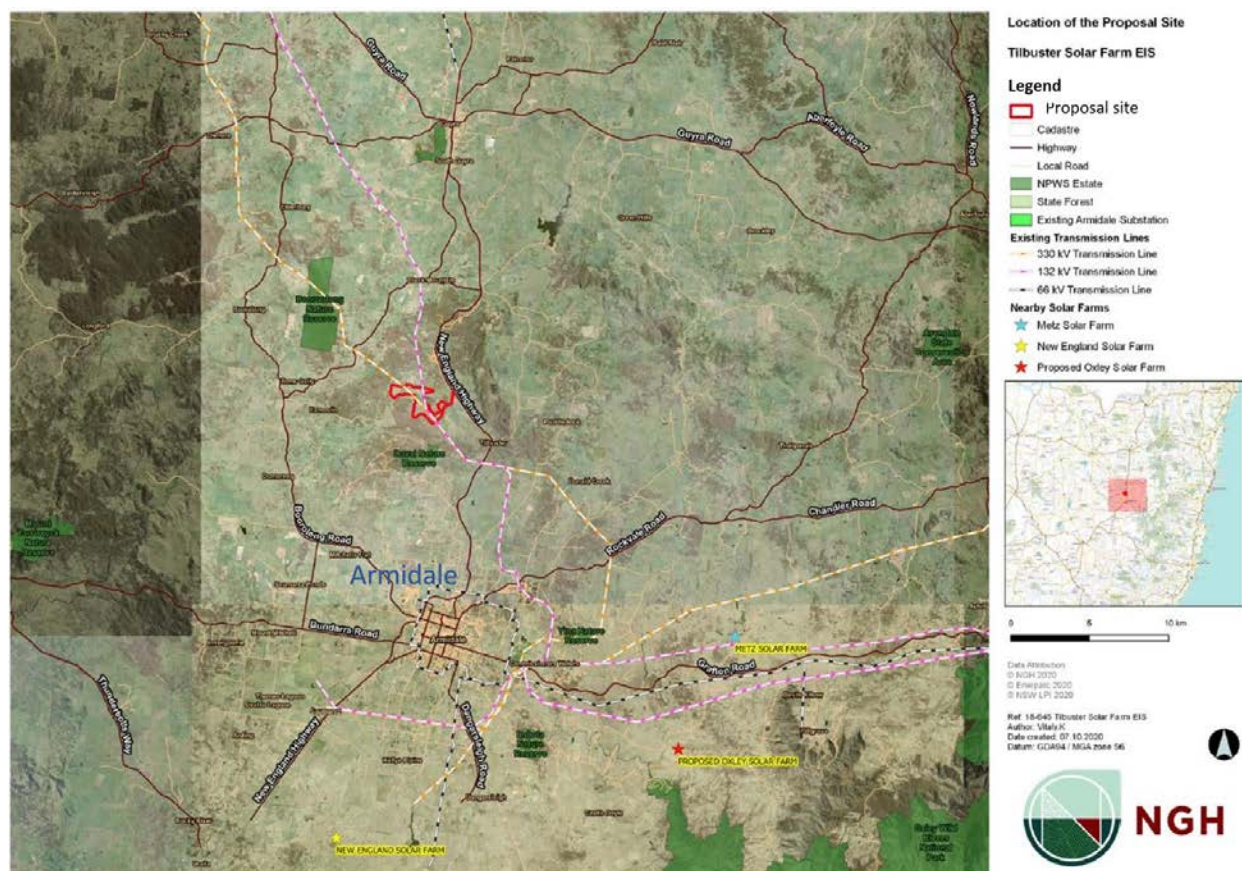


Figure 1 | Regional Context Map



Figure 2 | Project site (from top left clockwise): existing vegetation in southern area; area for proposed substation and existing transmission lines in background; area for proposed northern array; and cleared land in the central site area.

Table 1 | Main Components of the Project

Aspect	Description
Project summary	<p>The project includes:</p> <ul style="list-style-type: none"> • a generating capacity of approximately 150 MW; • approximately 400,000 solar panels mounted on fixed or single-axis tracking system (up to 3 m high); • an on-site substation and connection into Transgrid's 330 kV transmission line; • a centralised Battery Energy Storage System with up to 15 MW / 30 MWh) capacity located near the substation; • internal access tracks, staff amenities, control buildings, maintenance buildings, offices, laydown areas, car park, watercourse crossings and security fencing.
Project area	<ul style="list-style-type: none"> • Site: 310 ha • Development footprint: 168.1 ha
Access route	The proposed haulage route is from Port Botany (Sydney), M1 Motorway, Hunter Expressway, New England Highway and then the unnamed site access road.
Site entry and road upgrades	<ul style="list-style-type: none"> • All vehicles would access the site via an existing entry point off New England Highway. • Upgrade the intersection of New England Highway with the unnamed site access road with a Basic Right Turn (BAR) and a Basic Left Turn (BAL) treatment. • Upgrade of the unnamed site access road from the intersection with the New England Highway to the primary access point (approximately 800 m).
Construction	<ul style="list-style-type: none"> • The construction period would be approximately 12 months with a peak period of 3 to 4 months. • Construction hours would be limited to Monday to Friday 7 am to 6 pm, and Saturday 8 am to 1 pm.
Operation	The expected operational life of the infrastructure is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life.
Decommissioning and rehabilitation	The project also includes decommissioning at the end of the project life, which would involve removing all infrastructure.
Hours of operation	Daily operations and maintenance would be undertaken Monday to Friday 7 am to 6 pm, and on Saturday 8 am to 1 pm.
Subdivision	Subdivision of the lot on which the proposed substation would be located, subdivision of land for the ongoing operation of residual agricultural areas and subdivision of a lot to include a road reserve at the New England Highway intersection upgrade.
Employment	Up to 125 construction jobs and up to 5 operational jobs.
Capital investment value	\$174.2 million
VPA	\$1,529,000

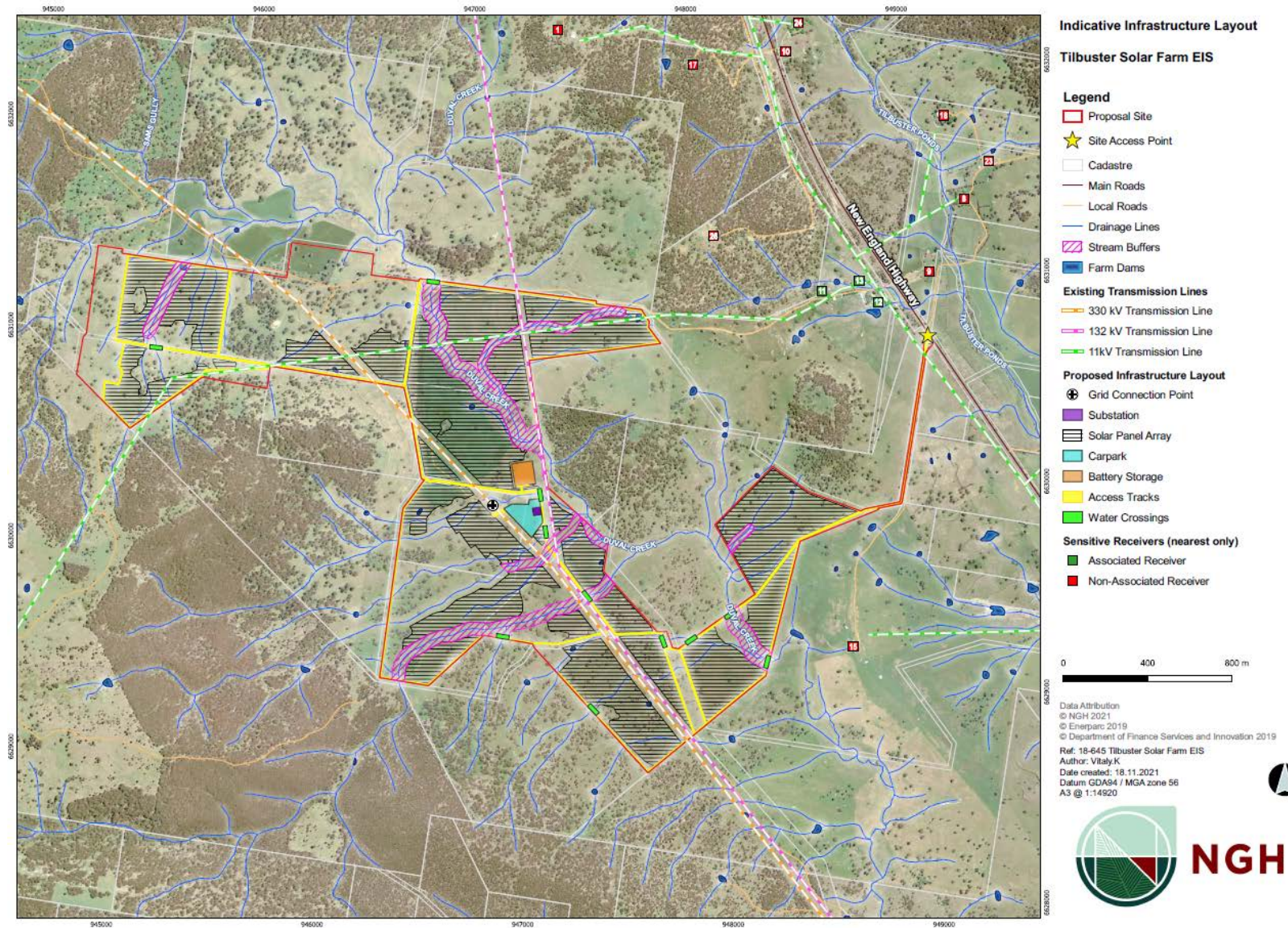


Figure 3 | Project Layout

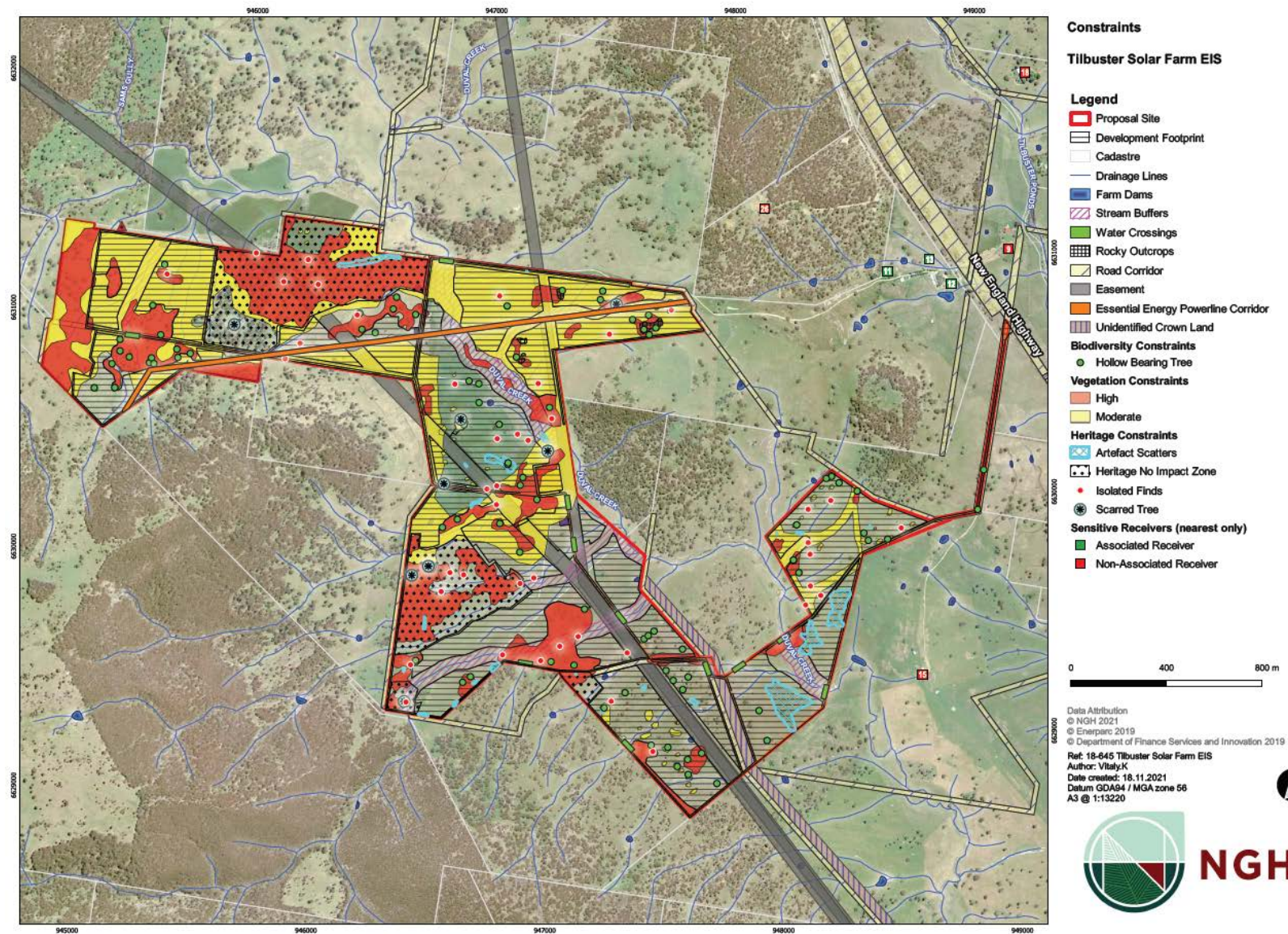


Figure 4 | Site constraints

2 Strategic context

2.1 Site and Surrounds

The project is located on a 310 hectare (ha) site in the New England North West region of NSW. The site is zoned RU1 (Primary Production) under the *Armidale Dumaresq Local Environmental Plan 2012* (LEP) and is used for agricultural purposes, including cropping and sheep grazing. The surrounding land is also zoned RU1 and used for agricultural purposes (cropping and livestock grazing).

Native vegetation within the site is predominantly disturbed grassland (156.5 ha), scattered trees (8.2 ha) and areas of native woodland (76.5 ha). The remaining land is comprised of mostly grazed land (sheep) and a small area of cropped land.

Approximately 68.8 ha of non-native vegetation within the site includes exotic vegetation and cropped lands. The proposed development footprint is 168.1 ha and was designed to avoid site constraints, including areas of intact native vegetation, Threatened Ecological Communities (TEC), rocky areas and Aboriginal heritage items (see **Figure 4**).

The site is predominantly Class 4 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017) with areas of Class 3, 5, and 6. About 59% of the total project site (and 64% of the development footprint) is Class 4, meaning that land has moderate to severe limitations for some land uses. This land is generally used for grazing, and can be cultivated occasionally to sow pastures and crops. The site includes 0.64 ha of mapped Biophysical Strategic Agricultural Land (BSAL), of which 0.2 ha (0.1%) of the site area would be impacted by the development footprint.

The site is on gently undulating land surrounded by steep mountain ranges of the Great Dividing Range to the site's west, north, and east (see **Figure 2** and **Figure 3**). The landscape is predominantly characterised by agricultural uses, including farmland, rural residences, road corridors and existing transmission line infrastructure. Site elevation varies between 1050 m to 1150 m, and the surrounding ridgeline elevations range between 1160 m to 1260 m.

Duval Nature Reserve covers approximately 243 ha and is located about 1.4 km south of the site. The project is not expected to impact the Reserve.

Duval Creek, which is a fifth order ephemeral stream traverses the site. There are nine farm dams and another 18 ephemeral watercourses (first, second and third order) on the site, mostly tributaries of Duval Creek (see **Figure 2**).

There are 16 non-associated dwellings located within 2 km of the site (R1, R2, R3, R5, R6, R8, R9, R10, R14, R16, R17, R18, R22, R23, R24 and R26). The closest dwelling is about 495 m north of the development footprint (R26).

There is a mining exploration licence over the western portion of the site. The licence holder did not raise any concerns about the project.

Two existing Transgrid transmission lines transect the site, a 132 kV eastern line and a 330 kV central line (see **Figures 1** to **3**). The solar farm would connect to the 330 kV transmission line via a new substation. An 11 kV Essential Energy transmission line transects the site. Enerparc has provided a 20 m wide corridor to protect the existing 11 kV transmission line (see **Figure 3**).

Transgrid has confirmed that the proposed connection into the electricity network via the 330 kV transmission line is feasible and has capacity.

2.2 Other Energy Projects

The New England North West region of NSW has attracted interest from solar, wind and energy storage developers given the presence of major transmission lines and existing electricity substations. There are two approved solar farms, two proposed solar farms, two proposed wind farms and one proposed battery storage facility within 50 km of the project site, with the nearest solar farms located south of the site (see **Table 2** and **Figure 5**).

Table 2 | Nearby renewable energy projects

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Armidale BESS	150	Proposed	25
Metz Solar Farm	100	Approved	26
Oxley Solar Farm	300	Proposed	27
New England Solar Farm	720	Approved	36
Salisbury Solar Farm	600	Proposed	41
Doughboy Wind Farm	312	Proposed	46
Rangoon Wind Farm	130	Proposed	47
Thunderbolt Solar Farm	120	Proposed	49
Thunderbolt Wind Farm	380	Proposed	50

Given the distance of the Tilbuster Solar Farm from all approved and proposed projects in the region, there would not be material cumulative visual or noise impacts (see **Figure 5**).

Other potential cumulative impacts at a regional level relate to a loss in agricultural land and workforce accommodation. The broader potential cumulative impact on agricultural land in the region is discussed further in **section 5.2**, and workforce accommodation is addressed in **section 5.5**.

Metz Solar Farm and New England Solar Farm are currently under construction, therefore it is unlikely these projects construction would overlap with Tilbuster Solar Farm construction. However, construction of the project may overlap with the construction of the proposed Salisbury Solar Farm, Oxley Solar Farm and Armidale BESS (if approved). Workforce accommodation for these solar projects would likely be sourced from the local and wider region, including neighbouring towns (Uralla, Tamworth, Armidale and Glen Innes) and LGAs, as discussed further in **section 5.5**.

In addition, while the surrounding regional road network may experience an increase in traffic numbers, there would be no significant cumulative impact on the local roads along the proposed transport route from these projects, as discussed further in **section 5.5**.

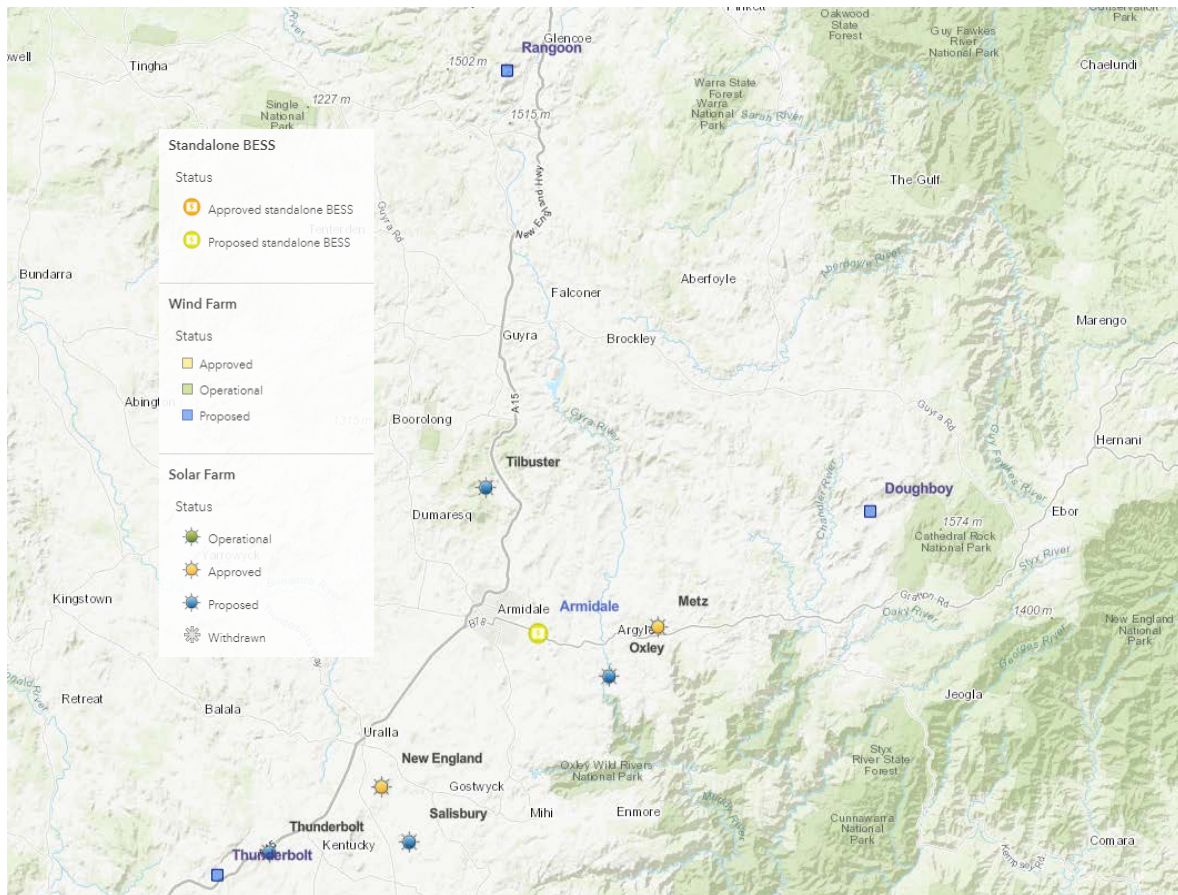


Figure 5 | Nearby renewable energy generation and storage projects

2.3 Energy Context

The *United Nations Framework Convention on Climate Change* has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, preferably to 1.5°C, compared with pre-industrial levels. Australia's contribution towards this target is a commitment to reduce greenhouse gas emissions by 26% to 28% below 2005 levels by 2030.

Leading into the United Nations Climate Change Conference of the Parties (COP26) in Glasgow, on 26 October 2021 the Commonwealth government released *Australia's Long Term Emissions Reduction Plan*, setting a pathway to net zero emissions by 2050. The Commonwealth government also communicated an updated Nationally Determined Contribution to the United Nations Framework Convention on Climate Change secretariat, affirming Australia's net zero emissions by 2050 ambition, and its commitment to meeting its existing 2030 target.

At the State level, the *NSW Climate Change Policy Framework*, released in November 2016, sets an aspirational objective for NSW to achieve net zero emissions by 2050. The *NSW Net Zero Plan Stage 1: 2020 – 2030* (March 2020) builds on the framework and sets out how the NSW Government will deliver on this objective and fast-track emissions reduction over the next decade.

The NSW Government is aligning its 2030 emissions reduction objectives to the projections reported in the *Net Zero Plan Stage 1: 2020-2030 Implementation update* (September 2021) which aims to reduce emissions by 50% below 2005 levels by 2030.

In 2020, NSW derived approximately 20.4% of its energy from renewable sources. The rest was derived from fossil fuels, including 72.8% from coal and 3.1% from gas. However, there are currently no plans to develop new coal power stations in NSW, and the development of renewable energy sources, like wind and solar farms, is experiencing rapid growth.

NSW is one of the nation's leaders in large-scale solar, with 14 major operational projects and 10 under construction or planned to be under construction.

In March 2018, the NSW Government's *Transmission Infrastructure Strategy* identified 10 potential Energy Zones across three broad regional areas including the New England, Central West and South West regions of NSW. The identified energy zones aim to encourage "*investment in new electricity infrastructure and unlocking additional generation capacity in order to ensure secure and reliable energy in NSW.*"

Building on this, the NSW Government announced the *NSW Electricity Infrastructure Roadmap* in November 2020, which proposes to deliver Renewable Energy Zones (REZs) including the New England Region REZ. The strategy proposes NSW Government support for this REZ to unlock regional investment and new energy generation infrastructure and for the development of new transmission infrastructure to connect low cost generation to the electricity system.

The New England REZ was declared in December 2021 and is the first step in formalising the REZ under the *Electricity Infrastructure Investment Act 2000*.

The project's alignment with existing Commonwealth and State policies and strategies are considered in **Section 5.1**.

2.4 NSW Solar Guideline

The Department released the *Large-Scale Solar Energy Guideline* in December 2018 to provide the community, industry, and regulators with guidance on the planning framework for assessing large-scale solar projects and identifying the key planning considerations relevant to solar energy development in NSW.

The Guideline recognises that large-scale solar projects could help to reduce reliance on fossil fuels, thereby contributing to reduction in air pollution and greenhouse gas emissions, while also supporting regional NSW through job creation and investment in communities that may not have similar opportunities from other industries.

3 Statutory Context

3.1 State significant development

The project is classified as State significant development under Section 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is because it triggers the criteria in Clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), as it is development for the purpose of electricity generating works with a capital investment value of more than \$30 million.

Consequently, the Minister for Planning is the consent authority for the development. However, under the Minister's delegation of 26 April 2021, the Director, Energy Assessments, may determine the development application as Council did not object, there were less than 15 objections from the general public and a political donations disclosure statement has not been made.

3.2 Amended application

In accordance with Clause 55 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), a development application can be amended at any time before the application is determined. Accordingly, Enerparc has sought to amend its application, the details of which are summarised in **section 4.4** of this report.

Under clause 55 of the EP&A Regulation, an application can be amended with the agreement of the consent authority (i.e. the Minister for this development), however, under the delegation of 26 April 2021, the Director, Energy Assessments can agree to amendments to an application.

The Department has accepted the amended application for the following reasons:

- the project amendments have reduced the impacts of the project as a whole;
- the amended application directly responds to the key issues raised in submissions received by the Department during the exhibition of the original application;
- Enerparc assessed the impacts of the amended project (see **Appendices E and F**); and
- the Department made the additional information available online and sent it to the relevant agencies for comment.

3.3 Permissibility

The project site is located wholly within land zoned RU1 - Primary Production under the *Armidale Dumaresq Local Environmental Plan 2012* (Armidale LEP), the provisions of which are discussed in **section 5.2**. The RU1 zone includes various land uses that are permitted with and without consent.

As electricity generating works are not expressly listed as permitted with or without consent, they are a prohibited land use under a strict reading of the LEP. However, the LEP expressly references the *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP) and acknowledges electricity generating works are regulated by the Infrastructure SEPP rather than the LEP. Under the Infrastructure SEPP, electricity generating works are permissible on any land in a prescribed rural, industrial or special

use zone, including land zoned RU1 – Primary Production. Consequently, the project is permissible with development consent.

3.4 Integrated and other approvals

Under Section 4.41 of the EP&A Act, a number of other approvals are integrated into the State significant development approval process, and therefore are not required to be separately obtained for the proposal.

Under Section 4.42 of the EP&A Act, a number of further approvals are required, but must be substantially consistent with any development consent for the proposal (e.g. approvals for any works under the *Roads Act 1993*).

Further authorisations are required under the *Commonwealth Native Title Act 1993* and the *Crown Land Management Act 2016*, including a Crown lands licence before commencing works on the Crown lands located within the development footprint.

The Department has consulted with the relevant government agencies responsible for the integrated and other approvals, considered their advice in its assessment of the project, and included suitable conditions in the recommended conditions of consent to address these matters (see **Appendix I**).

3.5 Biodiversity Conservation Act

The *Biodiversity Conservation Act 2016* (BC Act) applies to the project, with Section 7.9 of the BC Act requiring an EIS for the project to include a Biodiversity Development Assessment Report (BDAR). Under Section 7.14, the Minister must consider the likely impact of the project on biodiversity values as assessed under the BDAR. Under Section 7.16, this includes forming an opinion whether the residual impacts of the project are serious and irreversible (SAIL).

To assist a decision-maker with this task, the BC Act provides a framework consisting of principles defined in clause 6.7 of the *Biodiversity Conservation Regulation 2017*. The *Guidance to assist a decision-maker to determine a serious and irreversible impact* (DPIE, 2019) contains principles for determining SAIL, including criteria to interpret such principles.

The project area contains the White Box Yellow Box Blakely's Red Gum Woodland critically endangered ecological community (CEEC) which is identified as an entity at risk of an SAIL.

If the project is likely to have an SAIL, under Section 7.16 of the BC Act consideration would need to be given to these matters and whether there are additional and appropriate measures that will minimise such impacts, should development consent be granted.

This is discussed and assessed in **section 5.3** and **Appendix G**.

3.6 Renewable Energy Zone

The *Electricity Infrastructure Investment Act 2020* (EII Act) coordinates investment in transmission, generation, storage and firming infrastructure in NSW and gives effect to the Electricity Infrastructure Roadmap. Under Section 19 of the EII Act, the Minister for Energy may declare a renewable energy

zone comprising a specified geographical area of the State, and specified generation, storage or network infrastructure.

This project is located in the geographical area specified in the New England REZ declaration, which would comprise all planned, new and existing network infrastructure, with an intended network capacity of 8 gigawatts.

3.7 Mandatory matters for consideration

Section 4.15 of the EP&A Act outlines the matters that a consent authority must take into consideration when determining development applications. These matters are summarised as:

- the provisions of environmental planning instruments (including draft instruments), development control plans, planning agreements, and the EP&A Regulations;
- the environmental, social and economic impacts of the development;
- the suitability of the site;
- any submissions; and
- the public interest, including the objects in the EP&A Act and the encouragement of ecologically sustainable development (ESD).

The Department has considered all of these matters in its assessment of the project, as well as Enerparc's consideration of environmental planning instruments in its EIS, as summarised in **section 5** of this report. The Department has also considered relevant provisions of the environmental planning instruments in **Appendix H**.

3.8 Commonwealth matters

On 1 September 2020, a delegate for the Commonwealth Department of Agriculture, Water and the Environment (DAWE) determined the project (EPBC 2020/8716) to be a 'controlled action' in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to likely significant impacts to listed threatened species and communities (Sections 18 and 18A).

The project has been assessed under the assessment bilateral agreement with the Commonwealth Government. Accordingly, the NSW Government has undertaken the assessment on behalf of the Commonwealth and has assessed matters of national environmental significance (MNES).

The Department consulted with the DAWE in accordance with the bilateral assessment process and provided draft copies of this assessment report and the recommended conditions of consent to DAWE for comment.

The Department's assessment of the potential impacts of the project on controlling provisions under the EPBC Act relating to biodiversity is provided in **section 5.3**. Further information on the matters that the Commonwealth Minister must consider under the EPBC Act is provided in **Appendix G**.

4 Engagement

4.1 Department's engagement

The Department publicly exhibited the EIS from 21 October 2020 until 18 November 2020 and advertised the exhibition in the *Australian*, *Sydney Morning Herald*, *Daily Telegraph* and *Armidale Express*, and notified adjoining landowners adjacent to the property boundary.

The Department also consulted with Council and the relevant government agencies throughout the assessment, inspecting the site and meeting with surrounding landowners on 27 April 2021.

The Department notified and sought comment from Transgrid, Essential Energy and Transport for NSW (TfNSW) in accordance with the Infrastructure SEPP, as discussed further in **sections 4.5 and 5.5**.

4.2 Enerparc's engagement

Enerparc undertook engagement with the surrounding community as detailed in the EIS, including a dedicated website, newspaper advertisements, community meetings and information sessions, individual meetings with adjacent landowners, radio interviews and online posts and made information about the proposal available via a project newsletter and its website. Enerparc also undertook consultation with the Department and relevant government agencies during the assessment process.

4.3 Submissions and Submissions Report

During the exhibition of the EIS, the Department received nine unique public submissions, consisting of six objections, two in support and one comment.

Advice was also received from 18 government agencies, including Armidale Regional Council.

Full copies of the agency advice and public submissions are attached in **Appendix C**.

Enerparc provided a response to all matters raised in submissions on the project (see **Appendix D**) and has also provided additional information during the Department's assessment (see **Appendix A**).

4.4 Amended Application

Following consideration of submissions on the project, Enerparc amended its application as detailed in the Amendment Report (see **Appendix E**).

The amended application includes:

- confirming the capacity of the proposed battery storage system would be 15 MW / 30 MWh;
- upgrading the site access intersection and access road;
- reducing the site footprint by 8.3 ha; and
- including a 20 m wide corridor to avoid the existing Essential Energy transmission line that traverses the site.

Despite the proposed changes, the generating capacity of the project would remain unchanged at 150 MW.

The Department provided the Amendment Report to relevant government agencies for review and comment and made it available on the Department's website. As the project amendments refer to a reconfiguration and reduction in the site footprint within the previously provided project site, the Department did not exhibit the Amendment Report.

4.5 Key Issues – Government Agencies and Utility Providers

Armidale Regional Council (Council) requested that Enerparc include regional developments in its cumulative impacts assessment and raised concerns about biodiversity impacts. Biodiversity is addressed in **section 5.3**. Council also raised concerns about waste and potential contamination of land and water, decommissioning, traffic, road upgrades, access roads, runoff, security fence and developer contributions. These issues are discussed in **section 5.5**.

The **Department's Biodiversity, Conservation and Science Directorate** (BCS) advised that the project as proposed in the EIS would likely have serious and irreversible impacts on the box gum woodland critically endangered ecological community (CEEC). BCS acknowledged that while the subsequent amended layout reduced impacts to the CEEC, it maintained the view the project would likely have an SAIL on the CEEC. Consequently, the Department requested additional commitments from Enerparc to minimise impacts to the CEEC, and this is discussed in detail in **section 5.3**.

The **Department's Water Group** (DPIE Water) initially requested that Enerparc provide additional information about proposed water sources and volumes established in the EIS, and flagged concerns with the proposed project layout impacting the riparian corridors of third order streams. Additional information was provided in the amendment report and these matters are addressed in **section 5.5**.

The **Department's Primary Industries Fisheries** (DPI Fisheries) requested that the proposed waterway crossings works should reference DPI Fisheries Policy & Guideline document: *Policy and Guidelines for Fish Habitat Conservation and Management (Update 2013)* and recommended the use of riparian buffer zones. Enerparc acknowledged and accepted requests from DPIE Fisheries. This is further discussed in **section 5.5**.

Transport for NSW (TfNSW) initially requested clarification about the background traffic data, estimated traffic volumes and road upgrades. Enerparc has addressed these matters in the Submissions Report, Amendment Report and additional information, and TfNSW has advised that they have no residual concerns with the proposed development, subject to Enerparc entering into a Works Authorisation Deed and the recommended conditions of consent. These matters are discussed further in **section 5.5**.

Department of Primary Industries – Agriculture (DPI Agriculture) made recommendations about baseline soil and land assessment, groundcover, weed management and decommissioning. Enerparc responded to these recommendations in its Submissions Report and committed to undertaking a construction environmental management plan that includes baseline soil monitoring and groundcover management. This is discussed further in **section 5.5**.

The **Department's Crown Lands Group** (DPIE Crown Lands) requested further information about potential impacts on Crown land bisecting the proposal, which was provided in the Submissions Report.

DPIE Crown Lands advised that should the project be approved, Enerparc is required to obtain a Crown lands licence prior to commencing works on the Crown lands within the development footprint.

Regional NSW – Mining, Exploration & Geoscience (MEG) noted that an Exploration Licence Application (ELA) was recently submitted and requested Enerparc consult with the ELA holder. Enerparc addressed the issues raised by MEG in the Submissions Report, and MEG confirmed it had no further comments.

Heritage NSW supported the findings and recommendations of the Aboriginal Cultural Heritage Assessment Report (ACHAR). Enerparc amended the development footprint to avoid all the scar trees (six) and cultural trees (three) on the site as requested by Heritage NSW, as outlined in the amended ACHAR and discussed in **section 5.5**.

Fire & Rescue NSW (FRNSW) recommended developing an Emergency Response Plan with project-specific information and fire events, incidents and risk control measures. FRNSW also recommended a consent condition requiring Enerparc to prepare a fire safety study for the BESS. These issues are discussed in **section 5.5**.

The **Rural Fire Service** (RFS) noted that the land is mapped as bush prone under the Armidale LEP and recommended consent conditions relating to fire management, asset protection zone management, water storage tank specifications and fencing to facilitate property protection activities. These issues are discussed in **section 5.5**.

Essential Energy owns an 11 kV distribution line that traverses the site and provided safety requirements for working within its easement. Enerparc amended the project layout to include a 20 m wide corridor along the Essential Energy distribution line.

WaterNSW, Heritage Council of NSW, Transgrid and the **Environment Protection Authority** raised no concerns.

4.6 Key issues – Community

The Department received nine submissions (six objections, two in support and one comment) from the public. Seven submissions raised concerns about the project and are from landowners in the district, including neighbouring landowners.

The objections raised the following concerns:

- development on and impacts to agricultural land;
- visual impacts to surrounding properties, including glare;
- bushfire hazards;
- impacts to soil and water; and
- property devaluation.

The Department's consideration of the compatibility of the solar farm with existing agricultural land uses is considered in **section 5.2**; potential visual and landscape impacts are discussed in **section 5.4**; and bushfire hazards, soil and water impacts and property devaluation are discussed in **section 5.5**.

The two supporting submissions included views that the project would create direct and indirect jobs and that solar farms would reduce land and air pollution.

5 Assessment

The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the key issues, namely land use compatibility, biodiversity and visual impacts.

The key constraints for the project are shown in **Figure 4**. The Department has also considered the full range of potential impacts associated with the project and has included a summary of the conclusions in **section 5.5**. A list of the key documents that informed the Department's assessment is provided in **Appendix A**.

5.1 Energy Transition

The project aligns with a range of national and state policies, which identify the need to diversify the energy generation mix and reduce the carbon emissions intensity of the grid while providing energy security and reliability.

With a generating capacity of 150 MW, the solar farm would generate enough electricity to power about 56,100 homes. This is consistent with the *NSW Climate Change Policy Framework* of achieving net zero emissions by 2050.

Notably, the inclusion of a battery facility would enable the project to store solar energy for dispatch to the grid outside of daylight hours and/or during peak demand, increasing grid stability and energy security. Further, as described in **sections 2.3** and **3.7**, the project would be located within the New England REZ. As such, the project would play an important role in:

- increasing renewable energy generation and capacity of the NEM;
- firming the grid by including 15 MW / 30 MWh energy storage; and
- contributing to the transition to a cleaner energy system as coal fired generators retire.

The project is in an area with direct access to the transmission network with available capacity and abundant solar resources in the New England REZ on land where solar development is permissible with consent under the Infrastructure SEPP.

5.2 Compatibility of Proposed Land Use

Provisions of the Armidale LEP

The site is located wholly within the RU1 Primary Production zone under the LEP. As discussed in **section 3.3**, a solar farm is prohibited land use under a strict reading of the LEP. However, based on a broader reading of the LEP, and consideration of the objectives of the RU1 zone and other strategic documents for the region, the Department considers that there is no clear intention to prevent the development of a solar farm on the project site.

Firstly, the LEP expressly references the Infrastructure SEPP and acknowledges that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP.

Secondly, the project is consistent with the objectives of the RU1 zone under the LEP, particularly by:

- encouraging diversity in primary industry enterprises and systems appropriate for the area;
- minimising fragmentation and alienation of resource lands; and
- allowing for non-agricultural land uses that will not restrict the use of other land in the locality for agricultural purposes.

While the Armidale LGA has traditionally relied upon agriculture, the introduction of solar energy generation would contribute to a more diverse local economy, thereby supporting the local economy and community. In addition, the proposed solar farm would encourage renewable energy development which is consistent with the *Armidale Regional Council Community Strategic Plan 2017-2027*, *Operational Plan 2020-2021* and *Delivery Program 2018-2021*. Development of the site for a solar farm would also represent an orderly and economic use of the land.

The project is also consistent with the Department's *New England North West Regional Plan 2036*, which identifies renewable energy generation as a priority growth sector for the region.

Whilst the Department considers that the project is compatible with the LEP for the above reasons, the project's impacts on agricultural land are further discussed below.

Crown Lands

The Crown land located in the project site consist of two types:

- Crown roads which are deemed to have extinguished Native Title and is not subject to Aboriginal Land Claims. The use of Crown roads can be addressed through issue of licences and/or road closing applications; and
- Crown Reserve, which can be subject to Aboriginal Land Claim under the NSW *Aboriginal Land Rights Act 1983* and Native Title under the Commonwealth *Native Title Act 1993*.

Enerparc has committed to obtaining a Crown Lands licence and associated requirements under the Native Title Act prior to commencing works on site.

Potential Impacts on Agricultural Land

Two community submissions objecting to the project raised concerns about establishing a solar farm on productive agricultural land.

The project site is within the New England North West region of NSW, with a strong and diverse agricultural sector. About 7.9 million ha (or 80% of the region) is used for agriculture output.

The site (310 ha) includes 0.64 ha (or 0.2% of the total site) of mapped Biophysical Strategic Agricultural Land (BSAL). The land classification within site and the development footprint under the *Land and Soil Capability Mapping in NSW* is summarised in **Table 3**. The project has largely avoided agricultural site constraints identified in the *Large Scale Solar Guidelines* with an area of 0.1% of the development classified as class 3 or BSAL.

Table 3 | Land and Soil classes in the site and project footprint

Class	Site area ha (%)	Footprint area ha (%)
3 and BSAL	0.64 (0.2)	0.21 (0.1)
4	182.88 (59.0)	107.0 (63.7)
5	67.67 (21.8)	37.7 (22.5)
6	58.82 (19.0)	23.1 (13.7)
Total	310.01 (100)	168.1 (100)

Most of the site and footprint is classified as Class 4 (moderate capability land), which supports grazing and is suitable for intermittent cultivation with specialised practices. Currently, the site is used for sheep grazing with limited cropping to the north and south east of the site.

While the solar farm would reduce the agricultural output of the site while the solar farm remains operational, Enerparc may enable some sheep grazing within the project site, outside of the proposed exclusion zones as outlined in the BDAR.

The inherent agricultural capability of the land would not be affected by the project due to the relatively low scale of the development, and Enerparc proposes to return the land back to existing levels of agricultural capability. To this end, the Department has included requirements to maintain the site's current land capability, including ground cover within the development footprint, where practicable during the construction and operation of the project. Enerparc must fully reinstate the agricultural capability of the land following decommissioning of the project, including the requirement to return the development footprint to existing land and soil capability.

Regarding potential cumulative impacts, the project's development footprint combined with the other approved and/or operational SSD solar farms in the New England North West region would be approximately 4,172 ha. The loss of 4,172 ha of agricultural land represents a tiny fraction (0.05%) of the 7.9 million ha of land currently used for agricultural output. It would result in a negligible reduction in the overall productivity of the region.

The Department notes that neither Council nor DPI Agriculture raised concerns that the project would compromise the long-term use of the land for agricultural purposes, subject to the removal of all project infrastructure at decommissioning, including all above and below-ground infrastructure (as requested by DPI Agriculture).

The potential loss of a small area of grazing and cropping land in the region must be balanced against:

- the broader strategic goals of the Commonwealth and NSW governments for the development of renewable energy into the future;
- the environmental benefits of solar energy, particularly with reducing greenhouse gas emissions;
- the economic benefits of solar energy in an area with good solar resources and capacity in the existing electricity network; and
- the benefits of dispatchable energy for grid stability and reliability.

Based on these considerations, the Department considers that the proposed solar farm represents an effective and compatible use of the land within the region and that the site is suitable to accommodate the development.

The Department considers that the development would not fragment or alienate any resource lands in the LGA. The land could readily be returned to agricultural land following decommissioning, and Enerparc has committed to facilitating agriculture activities in and around the solar farm where practical.

The Department considers that the proposal has adequately addressed the site selection process and assessed site constraints in accordance with the NSW Government guidelines.

5.3 Biodiversity

As outlined in **section 4.5**, Council and BCS shared concerns with the scale of impacts to listed threatened communities and disruptions to existing biodiversity corridors associated with the initial development footprint. BCS advised the project would likely have SAIL on biodiversity values.

The site comprises mostly cleared agricultural land with approximately 241.3 ha of native vegetation, including 84.4 ha of woodland / scattered trees and 156.9 ha of modified and grazed derived native grasslands (DNG) and 68.7 ha of non-native vegetation. Native vegetation on site includes plant community types (PCTs) in good condition associated with the *White Box Yellow Box Blakely's Red Gum Woodland* listed as critically endangered under the BC Act. The DNG is generally in a degraded state due to cultivation and grazing.

The Commonwealth determined the project to be a controlled action under the EPBC Act due to the potentially significant impacts on threatened species and communities considered MNES. Notably, most of the native vegetation present meets the *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and DNG* criteria, listed as a CEEC under the EPBC Act.

Avoidance and Mitigation

In response to the concerns raised by Council and BCS during the exhibition of the EIS, Enerparc amended the project design to avoid areas of native vegetation throughout the site (see **Figure 6**), including riparian corridors and woodland corridors at the western and northern extent of site. The amended layout:

- reduced the development footprint from 178.5 ha to 168.1 ha;
- decreased clearing of high quality White Box – Yellow Box CEEC woodland, from 23.2 ha to 9.21 ha, avoiding 61.76 ha of the woodland on the site; and
- retained vegetation corridors for ecological connectivity across the site and surrounding areas.

Despite the reduction in clearing of White Box – Yellow Box CEEC woodland, BCS advised the clearing would still likely be considered to have serious and irreversible impacts. In response to the Department's request to further avoid impacts to the CEEC, Enerparc subsequently committed to limiting clearing of the CEEC woodland to no more than 1.99 ha, leaving 68.91 ha of CEEC woodland on the site.

Furthermore, Enerparc has committed to additional measures to minimise impacts, above and beyond the standard mitigation measures that would be implemented in accordance with a Biodiversity Management Plan. These measures include:

- actively managing the retained vegetation on site until the project is decommissioned;
- installing fauna friendly fencing; and
- installing nest boxes or hollows to compensate for hollow bearing trees removed during construction.

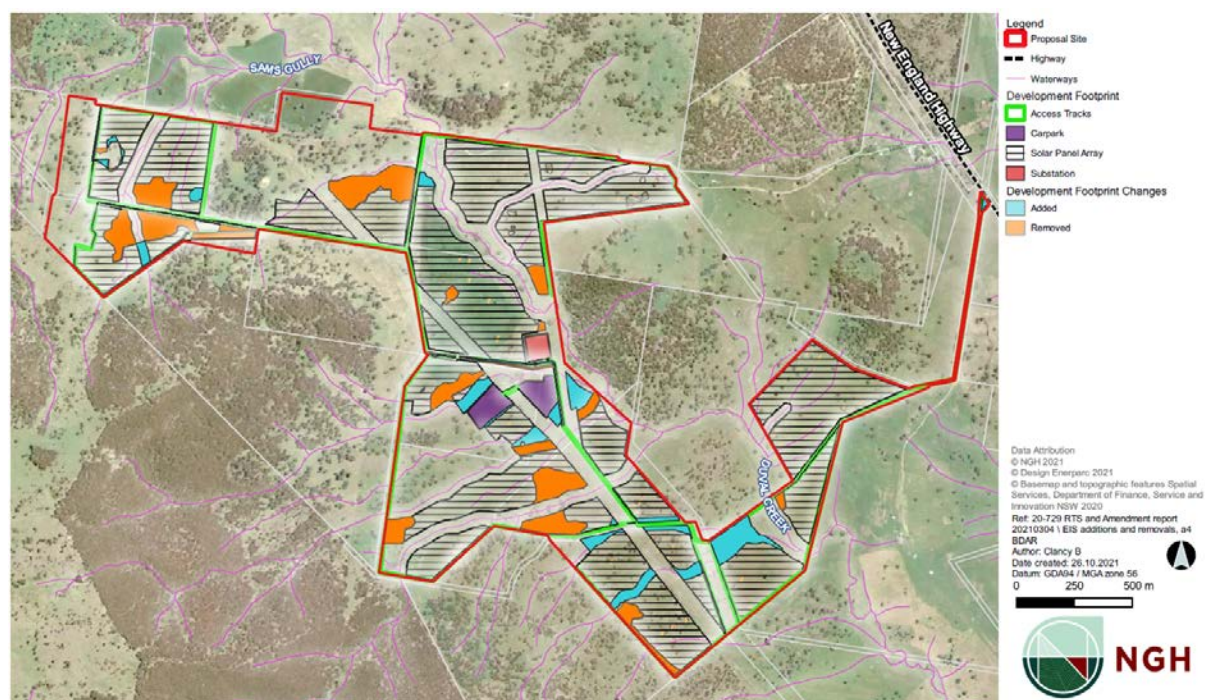


Figure 6 | Amended development footprint compared with the EIS development footprint

Native Vegetation

In the 168.1 ha development footprint, the project would clear 106.7 ha of native vegetation largely comprising grassland (91%). In total, this clearing includes 2.39 ha of woodland, 6.9 ha of scattered trees and 97.4 ha of grassland. This includes 105.59 ha of the White Box – Yellow Box and DNG CEEC proposed to be cleared (92% grassland and 8% woodland / scattered trees). Approximately 1.99 ha of this is considered good quality woodland and while 97.4 ha of the grassland is CEEC, due to its highly degraded condition, the vegetation integrity scores for grassland vegetation would not require credit offsetting (see **Table 4**).

The remaining 61.41 ha of the development footprint is exotic cleared land or existing infrastructure.

Table 4 provides a summary of the impacts of the project on each native vegetation type, as well as the ecosystem credit liability under the *NSW Biodiversity Offset Scheme*.

Table 4 | Native vegetation communities, footprint area and ecosystem credit liability

Native vegetation community		Footprint area (ha) and Conservation Significance			Ecosystem Credit Liability
		Total	BC Act	EPBC Act	BC Act
<i>Broad-leaved Stringybark - Yellow Box shrub/grass open forest of the New England Tableland Bioregion (PCT 567)</i>	Woodland	7.3*	CEEC	CEEC	251
	Scattered trees over cropped land	1.6			18
	Grassland	60.7			0
<i>Blakely's Red Gum - Yellow Box grassy open forest or woodland of the New England Tableland Bioregion (PCT 704)</i>	Woodland	1.9*	CEEC	CEEC	41
	Scattered trees over cropped land	4.6			62
	Derived grassland	36.7			0
<i>Tenterfield Woollybutt - Silvertop Stringybark open forest of the New England Tableland Bioregion (PCT 575)</i>	Forest	0.4	-	-	9
	Scattered trees over cropped land	0.7			9
Total		113.9*			161

Note: Ecosystem credit liability calculated prior to Enerparc commitment to further limit clearing

Threatened Flora and Fauna Impacts

The development has the potential to affect flora and fauna through direct habitat loss from vegetation clearing.

Thirty-one threatened fauna species identified as ecosystem credit species under the BAM are predicted to occur in the area. The potential impacts on ecosystem credit species have been accounted for through the credit calculations shown in **Table 4**, where the vegetation communities identified in **Table 5** are predicted to provide suitable habitat for these species.

A total of three threatened fauna species were recorded during site surveys, being the Southern Myotis, Greater Glider and Koala, while the Pale-headed Snake was assumed to occur on site. The NSW and Commonwealth listing status of these species and the credit liability is summarised in **Table 5**.

Vegetation and habitat for all other candidate species (i.e. species with the potential to require species credit offsets under the BAM) were either sufficiently degraded or not present.

The Department and BCS consider that all threatened species, communities and habitats, including those listed under the EPBC Act, have been correctly identified, assessed and offsets calculated correctly.

General habitat features suitable for five threatened flora species are present on site, however due to historic and current grazing activities on site, the habitat is degraded such that the species are unlikely to occur. As there is still some potential for these threatened flora species to occur, the Department recommends including an incidental threatened species finds protocol in the Biodiversity Management Plan to identify the avoid, minimise and/or offset options to be implemented should additional threatened species be discovered occurring within the site.

Table 5 | Fauna species credit species credit liability and listing categories

Species (common name)	BC Act	EBPC Act	Potential habitat (ha)	Species credit liability
Pale-headed Snake	V	-	6.5	83
Koala	V	V	15.5	299
Southern Myotis	V	-	53.3	123
Greater Glider	-	V	3.3	55
Total species credits				560

Note: V = Vulnerable

The Department has also undertaken a detailed consideration of Commonwealth matters in consultation with DAWE, including consideration of Enerparc's assessments of significance and the relevant approved conservation advice, recovery plans and threat abatement plans for White Box – Yellow Box Gum Woodland and DNG. A summary of this assessment is provided in **Appendix G**.

Biodiversity Offsets Summary

The impact on native vegetation and species would generate 161 ecosystem credits and 560 species credits for fauna species habitat (see **Table 4** and **Table 5**) present on the site.

The final credit requirement would be retired in accordance with the *NSW Biodiversity Offset Scheme*, which may include acquiring or retiring biodiversity credits, making payments in an offset fund or funding a biodiversity conservation action.

The Department notes that Enerparc has identified similar PCTs within and around the site that could be potential used for land based offsets, as outlined in a preliminary offset strategy provided to the Department as part of the amendment report.

Serious and Irreversible Impacts

The White Box – Yellow Box Woodland and DNG CEEC is listed as a potential Serious and Irreversible Impact (SAIL) entity. Enerparc amended the project to reduce impacts to this CEEC high quality woodland from 23.2 ha to 9.2 ha and committed to retire biodiversity credits in accordance with the NSW Biodiversity Offsets Scheme and further mitigation measures, as described in the amendment report.

BCS advised that despite additional avoidance and mitigation measures proposed, the project would still likely be considered to have a SAIL on that entity, because it would cause a further decline of the

geographic distribution and habitat quality of the CEEC, which it considers is already declining at a rapid rate.

Subsequently, Enerparc committed to further reduce the impacts to this CEEC high quality woodland to a maximum 1.99 ha, with no panel infrastructure to be built in these areas. Enerparc also committed to additional mitigation measures minimising further impacts include:

- active management of residual areas for the duration of the project, to achieve specific ecological condition targets;
- improve habitat known for the Koala and Greater Glider as they are species that are characteristic of the CEEC. This could involve but not be limited to installing elevated artificial hollows specifically suitable for greater gliders, appropriately maintained for the life of the project, along with placement of glider poles in suitable patches of habitat to support movement of this species across a further fragmented landscape; and
- installation of fauna friendly fencing to maintain biodiversity corridors through the site.

The Department supports these improvements and BCS has advised that the project would no longer be likely to have serious and irreversible impacts on biodiversity values with these additional avoidance and mitigation measures in place.

Recommended Conditions

The Department has recommended conditions requiring Enerparc to:

- limit clearing of the CEEC woodland to no more than 1.99 ha;
- avoid the disturbance of native vegetation or fauna habitat located outside the development footprint;
- retire the applicable biodiversity offset credits in accordance with the NSW Biodiversity Offsets Scheme prior to commencing construction;
- prepare and implement a Biodiversity Management Plan in consultation with BCS, including measures to minimise clearing and avoid unnecessary disturbance of vegetation located within the development footprint;
- prepare and implement an incidental threatened species finds protocol to avoid and/or minimise and/or offset options to be implemented if additional threatened species are discovered on the site;
- prepare and implement appropriate active management of retained vegetation in consultation with BCS for the life of the project, to achieve vegetation integrity targets set out in the BDAR; and
- enhance habitats, including corridors, known or likely to be used by fauna species that are characteristic of the White Box – Yellow Box CEEC.

With these measures, the Department and BCS consider that the project is unlikely to significantly impact the biodiversity values of the locality.

5.4 Visual

Two public submissions objecting to the project raised concerns about visual impacts. The submissions cited potential impacts of the proposed development in the landscape and glare to surrounding properties.

Visual context

The site is located on gently undulating land surrounded by steep mountain ranges of the Great Dividing Range to the west, north and to the east of the site. The landscape is predominantly characterised by agricultural uses, including farmland, rural residences, road corridors and existing transmission line infrastructure and the vegetated ranges. The elevation of the site varies between 1050 m to 1150 m, and surrounding ridgeline elevations range between 1160 m to 1260 m.

There are scattered remnant patches of native vegetation within and around the site. While the area has largely been cleared for stock grazing, forage cropping and improved pastures, significant tracts of relatively undisturbed bushland occur along the northern, western and southern boundaries.

Two Transgrid high voltage electricity transmission lines traverse the site diagonally, a 132 kV on single circuit wooden poles and a 330 kV transmission line on single circuit lattice towers. An Essential Energy 11 kV transmission line on wooden poles also traverses the site from west to east (see **Figure 3** and **Figure 7**).

There are 16 non-associated residences within two km of the site, most are located around the New England Highway (see **Figure 7**). Due to the undulating characteristic of the landscape, three of the 16 non-associated residences (R1, R2 and R16) would have views of the project. The nearest non-associated residence with views of the project is (R1) is about 1.25 km north of the site noting that the nearest residence to the site (R26 at 495 m) is screened by topography. Fleeting views of the project are present along the New England Highway and it would not be visible from Black Mountain, which is the closest village to the site 7 km to the north.

Visual mitigation

Enerparc's visual assessment concluded that mitigation is not required for any receiver. However, Enerparc acknowledged that existing vegetation contributed to screening views of the development from R1, therefore have reached an agreement with R1 to provide vegetation screening at that property in the event that vegetation within the property screening views to the project is cleared.

Further, Enerparc offered vegetation screening at R2, however it was rejected by the resident. The Department notes that while there is no dwelling on the adjoining land parcel (R15), there is existing recently planted vegetation along the shared boundary with the purpose to screen future views to the project. Surrounding receivers and visual mitigation are further described below.

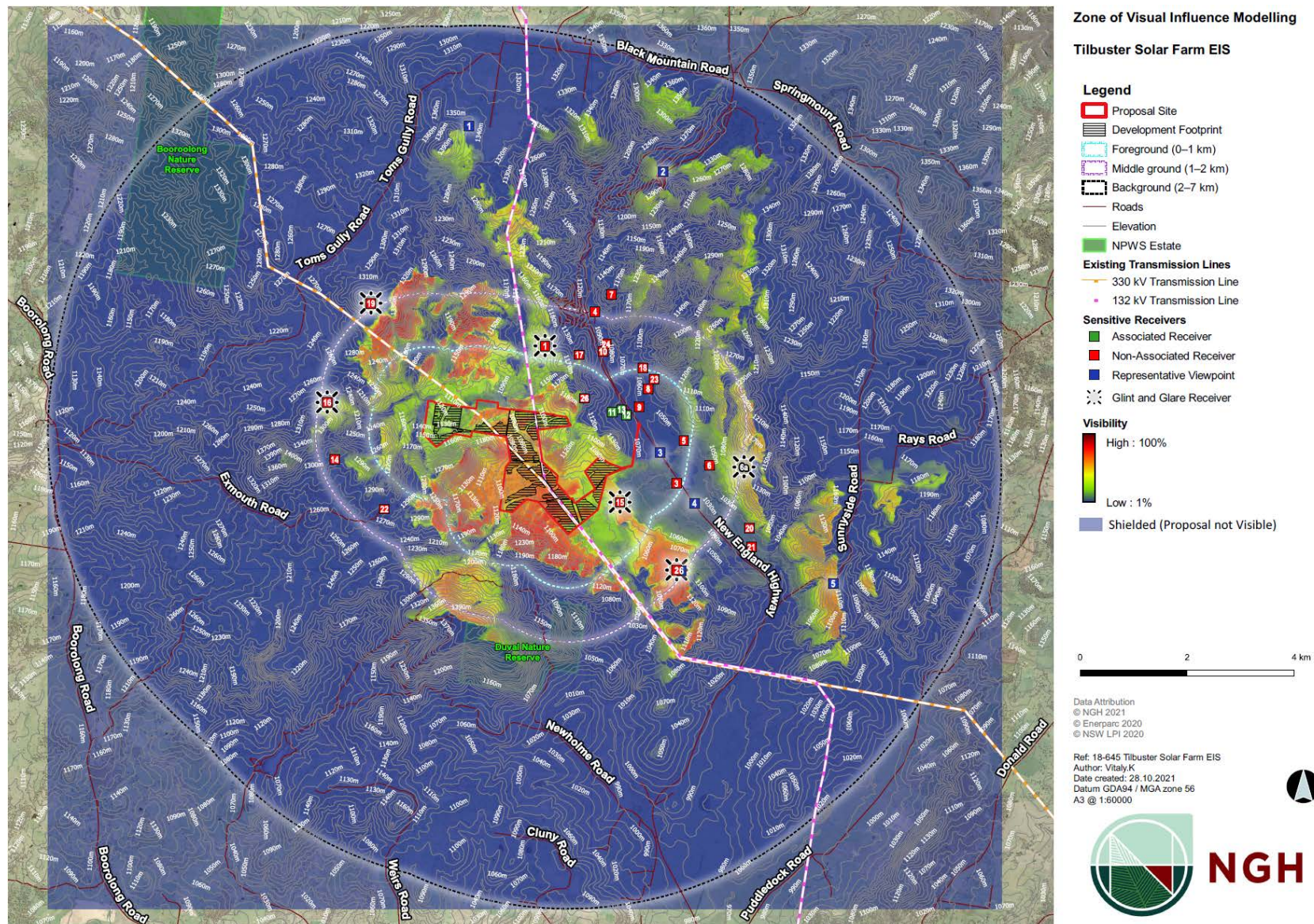


Figure 7 | Surrounding receivers and zone of visual influence

Assessment

Landscape

Steep ridgelines surround the site with well-established remnant woodland vegetation patches around and within the site (see **Figure 2, 3 and 7**) that would partially screen views of the project beyond its immediate vicinity. Amendments to the project include retaining mature vegetation at the perimeter and within the site (see **section 4.4**) that would further reduce views of the project.

The Department recognises that the introduction of the proposed solar farm to a rural landscape would result in a material change to the local landscape, but considers it would have a limited impact beyond the project's immediate vicinity. Visibility of the project for motorists travelling along New England Highway would be fleeting and largely obscured by established roadside vegetation.

The nature of the proposed development, existing vegetation and topography would minimise its visibility from surrounding residences, as the solar panels would be relatively low lying (up to 3 m high) and maintenance buildings, inverter stations and the onsite substation (up to 5 m) would generally be a similar size to agricultural sheds commonly used in the area.

Residential Receivers

Three non-associated residences located within 2 km of the site would have potential for significant views of the project. R1 is located to the north, R2 is to the south and R16 is to the west.

Residence R1 is located at an elevated location (1.16 km) at about 1.25 km north of the project site and about 1.27 km north of the nearest panel array. Enerparc reached a funding agreement with R1 to provide additional visual screening in the event that the existing stand of mature vegetation immediately south of the dwelling at R1 is cleared. R19 is also elevated (1.37 km), at 2.23 km north west of the site was also assessed. Due to the separation distance between R19 and the project site, and presence of mature vegetation between R19 and the site, views of the project from the dwelling would be obscured.

Residence R2 located 1.87 km southeast of the site objected to the project. Enerparc has advised that offered to provide vegetation screening at this residence, but the Department understands that this was not accepted. However, due to distance, topography existing vegetation (both at R2 and around and within the site), existing infrastructure (transmission lines), the Department considers that impact visual of the project would be low.

R16 is located 1.86 km west from the site, views to the site from this receiver would be largely screened by topography.

Non-residential receivers

Two non-residential receiver locations (R6a and R15) have also been assessed.

Residence R6 is located 1.65 km to the east of the site. While there would be no views to the site from the existing dwelling due to intervening topography, the landowner raised concerns of potential views from an elevated location (R6a) within the property and advised the Department of their intent to establish a new dwelling further at that location. The Department notes that there are currently no development applications approved or on foot for additional dwellings in the land. Should a new dwelling

be approved, the inclusion of some vegetation screening in combination with its separation distance (more than 2 km) from the proposed solar farm could minimise the potential visual impact of the solar farm.

R15 is an adjoining property located about 375 m south east of the site at its closest point and approximately 2 km at its furthest point. The Department notes that there is no dwelling on the land and while there are dwelling entitlements, there are no development applications approved or on foot for dwellings on the lot. While there may be views of the solar farm from the property, a dwelling, if approved, could be located on the lot away from the proposed solar farm and oriented such that the potential visual impact of the solar farm could be minimised.

The visual impact for residences surrounding the site is in general expected to be negligible or low due to distance, topography, and intervening vegetation retained around and within the site, along New England highway corridor and within neighbouring properties.

Table 6 summarises the visual impact at non-associated receivers around the site.

Table 6 | Visual Impacts at Surrounding Receivers

Receiver Group	Distance to development footprint	Mitigating Factors	Visual Impact Rating
Eastern	R3 and R5: 1.1 km – 1.28 km	<ul style="list-style-type: none"> Existing topography screens views of the project from the residence. 	Negligible
	R6: 1,650 m R6a: >2 km	<ul style="list-style-type: none"> Existing topography screens views of the project from the residence. If a dwelling is approved, the separation distance from the project site and existing patchy vegetation between the site and location would reduce impacts. 	Low
Southern	R15: 375 m – 2 km	<ul style="list-style-type: none"> There is no existing dwelling on this property land. If a dwelling is approved on the property, it could be located away from the site and oriented minimising views to the site; and Existing vegetation plantings would screen views to the project. 	Low
	R2: 1.87 km	<ul style="list-style-type: none"> Distance, existing patchy vegetation between the site and residence and existing transmission lines. 	Low
Northern	R1: 1.27 km	<ul style="list-style-type: none"> Distance and topography. Mature vegetation at property. Enerparc reached an agreement with residents to add additional vegetation screening if existing vegetation to the south of the landowners property is cleared. 	Low
	R19: 2.23 km	<ul style="list-style-type: none"> Distance and topography. Mature vegetation at the property. 	Low
	R8, R9, R10, R17, R18, R23, R24 and R26:	<ul style="list-style-type: none"> Existing topography screens views of the project from the residence. 	Negligible

Receiver Group	Distance to development footprint	Mitigating Factors	Visual Impact Rating
	495 m – 1.71 km		
Western	R16	<ul style="list-style-type: none"> Distance and topography. Existing mature vegetation at R16. 	Low
	R14, and R22: 1.52 – 2.02 km	<ul style="list-style-type: none"> Existing topography screens views of the project from the residence. 	Negligible

Glint and Glare

While photovoltaic panels are designed to absorb rather than reflect sunlight, the Department recognises that some project components have the potential to generate glare or reflection, including the galvanised steel used for the solar panel mounting framework, but that this diminishes over time.

Enerparc undertook a glint and glare analysis which identified the potential for glare to be experienced by R1, R16 and R19 at certain times of the day and in specific periods of the year under worst case scenario modelling. R1 was modelled to experience up to 42,844 minutes of glare per annum, R16 up to 900 minutes per annum, and R19 up to 51,086 minutes per annum.

It is noted that the glare assessment is conservative and only takes into consideration existing topography and not existing vegetation. Mitigating factors such as intervening existing vegetation would reduce potential glare and cloud cover would reduce the potential length of glare per annum.

The existing well-established intervening vegetation would shield or minimise views of the development from the three residences identified and reduce the potential impacts from glare. With Enerparc's commitment to providing additional visual screening at R1 should the existing stand of mature vegetation screening views of the project be cleared, the Department is satisfied that potential glare impacts can be appropriately managed and mitigated.

The Department has also recommended conditions requiring the applicant to minimise the off-site visual impacts of the development, including the potential for any glare or reflection, and to ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape. Subject to the recommended conditions, the Department is satisfied that the project would not cause significant glint or glare to nearby receivers.

Other Considerations

The project is located approximately 26 km north west from the approved Metz solar farm, and 27 km north west from the proposed Oxley solar farm. Because of the separation distance with these other solar farms, there would not be any cumulative visual impacts.

New England Highway road users would not have visual impacts from the project infrastructure, due to dominant features such as grazing and cropping paddocks, fencing transmission lines, existing vegetation and undulating topography.

Council did not raise any concerns about visual impacts from the project.

Conclusion

To address visual impacts, the Department has recommended a range of stringent conditions requiring Enerparc to:

- minimise the off-site visual impacts of the development, including the potential for any glare or reflection;
- ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and not mount any advertising signs or logos on site, except where this is required for identification or safety purposes; and
- minimise the off-site lighting impacts of the development, and ensure that any external lighting is installed as low intensity lighting (except where required for safety or emergency purposes), does not shine above the horizontal and complies with *Australian/New Zealand Standard AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting*.

Subject to the implementation of the recommended conditions, the Department considers that there would be no significant visual impacts, including cumulative visual impacts, on surrounding residences, and the rural character and visual quality of the area would be preserved as far as practicable.

5.5 Other Issues

The Department's consideration of other issues is summarised in **Table 7**.

Table 7 | Summary of other issues raised

Findings	Recommendations
Heritage	
<ul style="list-style-type: none">• Heritage NSW raised concerns about the project's impacts on several Aboriginal scar trees of high scientific and cultural value located within the development footprint in the EIS.• Surveys undertaken in consultation with Registered Aboriginal Parties (RAPs) identified 86 Aboriginal heritage sites within the site, including 49 isolated finds and 28 artefact scatters, six scarred trees and three cultural trees.• Enerparc responded to the Heritage NSW concerns by amending the development footprint to avoid impacts to these sites. The amended project design avoids all six scar trees and the three cultural trees, 11 of the 28 artefact scatters and 22 of the 49 isolated artefacts.• Most sites (74) are of low scientific significance, six sites are of moderate significance, five sites have moderate-high significance and one site is considered of high significance.• Of the 44 sites that would be impacted, 39 have low scientific significance, while five of the artefact scatters are of moderate scientific significance. The overall impact of the development on the heritage values of these sites is low, as these sites exist within a highly disturbed landscape.• Enerparc has committed to a program of salvaging the Aboriginal sites that the project would impact. Heritage NSW advised that the program must include subsurface salvage excavations at the	<ul style="list-style-type: none">• Ensure the development does not cause any direct or indirect impacts on any items located within exclusion zones or outside the approved development footprint.• Salvage and archive or relocate Aboriginal items to suitable alternative locations.• Prepare and implement a Heritage Management Plan in consultation with Heritage NSW and Aboriginal Stakeholders, including procedures for unexpected finds, in consultation with RAPs.

Findings

artefact scatter sites located in areas with an intact A soil horizon; and for RAPs to monitor topsoil stripping activities occurring in the vicinity of known Aboriginal sites.

- The Department has incorporated Heritage NSW's recommendations in the conditions of consent requiring the preparation of a detailed Cultural Heritage Management Plan.
- Surveys did not find any historic heritage items on site.
- With these measures, the Department and Heritage NSW consider that the project would not significantly impact the heritage values of the locality.

Recommendations

Traffic and Transport

- One community submission expressed concerns about impacts on access to rural properties adjacent to the site, and TfNSW and Council requested clarifications regarding the intersection treatment between the New England Highway and the access road.
 - The main transport route for heavy vehicle deliveries is via Port Botany: Friendship Road, Bumborah Point Road, Botany Road, Beauchamp Road, Denison Street, Wentworth Avenue, M1, Hunter Expressway and New England Highway.
 - Site access would be via an existing unnamed road off New England Highway.
 - An increase in traffic volumes would occur during the 12 month construction period, with a peak period of 3 to 4 months, with up to 35 heavy vehicles and 66 light vehicle movements a day expected during the peak period. Two oversized and overmass movements are required to deliver larger plant such as the substation transformer. Shuttle buses are proposed to transport approximately 80% of construction staff.
 - Traffic during operations would be negligible with a workforce consisting of approximately five full time positions.
 - While unlikely, the construction period may overlap with and share usage of the State road network with other proposed or approved State significant projects in the New England region. This includes the Metz Solar Farm, Armidale BESS (if approved), Oxley Solar Farm (if approved), Salisbury Solar Farm (if approved), Doughboy Wind Farm (if approved), Rangoon Wind Farm (if approved) and Thunderbolt Energy Hub (if approved).
 - There is sufficient capacity in the State road network to accommodate the construction traffic. The increase in traffic would have minimal impact and would not impede the ability of surrounding landowners to access their property.
 - Enerparc has agreed to Council's road upgrade specifications, including the realignment of the road reserve, which involves acquiring some private land.
 - A new Basic Right Turn and Basic Left Turn treatment would be constructed at the New England Highway intersection as agreed with TfNSW.
 - By undertaking the requested road upgrades and the implementation of a Traffic Management Plan to manage movements during the construction period, the Department, TfNSW and Council are satisfied that the project would not result
- Undertake the relevant road upgrades to the site access road and New England Highway intersection.
 - Restrict the number of vehicles during construction, upgrading and decommissioning to the peak volumes identified.
 - Prepare and implement a Traffic Management Plan, including provisions for dilapidation surveys, details of measures that would be implemented to address road safety and details of the employee bus service.

Findings

Recommendations

in significant impacts to the road network capacity, efficiency or safety.

Noise

- One objection raised concerns about potential noise from the project. The closest residential receiver (R26) is 495 m north of the development footprint.
- Noise generated by the proposed construction activities are predicted to be well below the 'highly noise affected' criterion of 75 dB(A) and below the 'noise affected' criterion of 45 dB(A) in the EPA's Interim Construction Noise Guideline (the ICNG) at all residential receivers.
- The operational noise levels are also predicted to be below the lowest intrusive criteria in the *NSW Noise Policy for Industry* (EPA, 2017) at all residential receivers.
- Enerparc has committed to implementing noise mitigation work practices, including a noise management plan.
- Road traffic noise during the construction and operation of the project would comply with the relevant criteria in the EPA's *Road Noise Policy*.
- Given the distance from other developments, there would be no significant cumulative noise impacts.
- The Department has recommended conditions requiring Enerparc to minimise noise during construction, upgrading or decommissioning, and limiting operational noise.
- Minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG.
- Comply with the noise management levels as derived from the *NSW Noise Policy for Industry* (EPA, 2017) at any non-associated residence
- Restrict construction hours to Monday to Friday 7 am - 6 pm, and Saturday 8 am - 1 pm unless inaudible at non-associated receivers.

Water and erosion

- An objection raised concerns about potential erosion from the project.
- The site is traversed by Duval Creek (fifth order stream) and a network of tributaries consisting of 18 unnamed first, second and third order ephemeral streams (see **Figure 3**).
- The project has been designed to avoid the third order streams, however 11 watercourse crossings would be required for internal access tracks, electrical cabling and perimeter security fencing.
- The project layout was amended to partially encroach into a third order watercourse buffer areas, in consultation and with endorsement from DPIE Water.
- Nine farm dams within the site would be infilled, and three would be kept for fire-fighting purposes.
- The project has been designed to avoid the 1% AEP flood level and Enerparc has committed to implementing buffer zones consistently with the *Guidelines for Controlled Activities on Waterfront Land*.
- Erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques.
- The project would not affect groundwater resources or groundwater dependent ecosystems.
- The project requires around seven megalitres (ML) of water during construction and around 100 kilolitres of water annually
- Minimise the siting of solar panels and ancillary infrastructure within watercourses.
- Design, construct and maintain the project to reduce impacts on surface water and flooding at the site.
- Minimise any soil erosion in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) and ensure the project is constructed and maintained to avoid causing erosion on site.
- Unless DPIE Water agrees otherwise, ensure all works are undertaken in accordance with *Guidelines for Controlled Activities on Waterfront Land* (NRAR, 2018).

Findings

- during operation. A 20,000 litre tank would also be established and maintained as water supply for fire protection.
- Subject to the recommended conditions, the Department considers that the project would not significantly impact water resources.

Recommendations

- Ensure there is sufficient water for all stages of the project, and if necessary, adjust the scale of the development to match available water supply.

Subdivision

- Enerparc proposes to consolidate and subdivide three lots (lot 1 DP 585523, lot 1 DP 225170 and lot 3 DP 800611) into two newly created lots (lot "A" with 577.43 ha and lot "B" with 298.92 ha). Lot "B" would constitute the proposed solar farm.
- This subdivision is to facilitate lease agreements with the landowners and enable the continuation of agricultural practices on a newly created lot (lot "A").
- A subdivision of the proposed lot "B" would be required to enable the proposed substation to be transferred to Transgrid.
- Enerparc also proposes to subdivide land at the New England Highway intersection (320 m² in lot "A") to allow for a road reserve at the proposed road upgrade, consistent with Council's request.
- The proposed subdivision of the lot for the substation would be below the minimum lot size of 200 ha and prohibited under a strict reading of the LEP. Notwithstanding, under Section 4.38(3) of the EP&A Act, development consent for the project as a whole can be granted despite the subdivision component of the application being prohibited by the LEP.
- The Department is satisfied that the subdivision should be approved as it:
 - is necessary for the operation of the substation;
 - would not result in any additional dwelling entitlements on the subdivided lots; and
 - is consistent with the key objectives of the RU1 zone as it would encourage diversity and primary industry enterprises and minimise conflict between land uses.
- The Department notes that Council raised no concerns with the proposed subdivision.
- Subdivide the proposed lots in accordance with requirements of section 157 of the *Environmental Planning and Assessment Regulation 2000*.

Hazards

- Although the site is not mapped as bushfire prone land, the surrounding land contains areas mapped as Category 1 vegetation, considered to be the highest risk for bush fire.
- Enerparc would maintain an Asset Protection Zone around the entire site and prepare and implement a bushfire management plan to manage fire risk.
- Enerparc may include stock grazing during operation to manage ground cover and associated fire hazards outside the exclusion zones.
- The Department is satisfied that the bushfire risks can be suitably controlled through the implementation of standard fire management procedures and recommendations made by the RFS and FRNSW, including:
 - The BESS associated with the development must not exceed a total capacity of 15 MW across the project site and must be installed in an arrangement consistent with the EIS.
 - Ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2019* and

Findings

- managing the site as an Asset Protection Zone, including a defensible space of at least 10 m around the perimeter of the solar array areas and around the buildings, switching station and battery storage units;
- the APZ should include 20 m defensible space around woody vegetation;
- a 20,000 litre water supply tank, fitted with a 65 mm Storz fitting and an FRNSW compatible suction connection, located adjacent to the internal access road; and
- the development and implementation of a comprehensive Emergency Response Plan.
- Enerparc undertook a preliminary risk screening and found that the quantity of dangerous goods would be below the SEPP 33 threshold.
- The project would comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for electric, magnetic and electromagnetic fields.
- The site is not identified as flood prone land under the Armidale LEP, and the EIS includes flooding mitigation measures for relevant stages of the development.
- Further, DPIE Water and Council raised no concerns about flooding.
- Subject to the recommended conditions, the Department is satisfied that risks associated with the project would be minimal.

Recommendations

- Standards for Asset Protection Zones.
- Ensure the defensible space and solar arrays are managed as an APZ and the development is suitably equipped to respond to fires including water supply tank and appropriate connectors.
 - Prepare a Fire Safety Study and an Emergency Plan for the development.
 - Store and handle all liquid chemicals, fuels and oils used on-site in accordance with all relevant Australian Standards and the *EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook*.

Socio-economic Impacts

- Two community submissions raised concerns that the project would devalue surrounding properties.
 - The Department considers that the project would not result in any significant or widespread reduction in land values in areas surrounding the project.
 - The project would generate direct and indirect benefits to the local community, including:
 - up to 125 workers would be required during the 3 to 4 months peak construction period;
 - expenditure on accommodation and business in the local economy by workers who would reside in the area; and
 - the procurement of goods and services by Enerparc and associated contractors.
 - Further, Enerparc has reached an in-principle agreement with Council to enter into a VPA, including a lump sum payment of \$1,529,000 on commencement of construction.
- Enter into a VPA with Council.

Cumulative Impacts

- Council raised concerns about cumulative impacts.
 - As described in **section 2.2**, the project would not have material cumulative visual, noise or traffic and transport impacts.
 - The area has attracted interest from renewable energy developers considering the announcements made in relation to the New England Renewable Energy Zone.
- Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the employment of local workers.

Findings

Recommendations

- Enerparc would source approximately half of the construction workers from the local and regional community where possible.
- While it is unlikely that the entire construction period of these projects would overlap, the Metz Solar Farm and the New England Solar Farm are currently under construction. Development applications have also been lodged for the Oxley Solar Farm and Armidale BESS. If these projects are approved, up to 1,450 construction personnel may be required in the region.
- While there is sufficient workers accommodation for this project, to manage the potential cumulative impacts associated with multiple projects in the region and to encourage locally sourced workers, Enerparc would be required to develop an Accommodation and Employment Strategy in consultation with Council. The Strategy would require Enerparc to:
 - propose measures to ensure there is sufficient accommodation for the workforce associated with the project;
 - consider cumulative impacts with other projects in the area;
 - prioritise employment of local workers; and
 - monitor and review the effectiveness of the strategy, including regular monitoring during construction.
- To address any potential cumulative impacts associated with multiple projects being built simultaneously in the region, an Accommodating and Employment Strategy has been recommended.

Decommissioning and rehabilitation

- The Department has developed standard conditions for solar farms to cover this stage of the project life cycle, including clear decommissioning triggers and rehabilitation objectives such as removing all above and below ground infrastructure and restoring land capability to its pre-existing agricultural use.
 - DPI Agriculture requested that pre-development land and soil capabilities can be at least attained or better at closure and rehabilitation of the solar farm. DPI Agriculture also requested all underground infrastructure to be removed to 500 mm below surface and recommended a closure strategy if a return to agricultural use is anticipated. Enerparc committed to removing all infrastructure at decommissioning, including infrastructure to 500 mm below ground.
 - With the implementation of the standard conditions, the Department considers that the solar farm would be suitably decommissioned at the end of the project life, or within 18 months if operations cease unexpectedly, and that the site be appropriately rehabilitated.
- Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.

6 Recommended Conditions

The Department has prepared recommended conditions of consent for the project (see **Appendix I**).

The Department consulted with Enerparc and the relevant agencies on the conditions for the project, particularly BCS and DAWE regarding mitigating the direct and indirect impacts on biodiversity values and Council and TfNSW regarding the road upgrades and maintenance requirements.

These conditions are required to:

- prevent, minimise, and/or offset adverse impacts of the project;
- ensure standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

The recommended conditions use a risk-based approach that focuses on performance-based outcomes. This reflects current government policy and the fact that solar farms require relatively limited ongoing environmental management once the project has commenced operations. In line with this approach, the Department has recommended operating conditions to minimise traffic, biodiversity, amenity, heritage, water and bushfire impacts, and that the following management plans be prepared and implemented:

- Traffic Management Plan
- Biodiversity Management Plan
- Heritage Management Plan; and
- Emergency Plan.

The recommended conditions also require Enerparc to provide detailed final layout plans to the Department prior to construction.

Other key recommended conditions include:

- *biodiversity offsets* – retiring biodiversity offset credits in accordance with the NSW Biodiversity Offsets Scheme;
- *roads* – requiring relevant road upgrades are undertaken prior to the commencement of construction;
- *operating hours* – undertaking construction, upgrading or decommissioning activities on-site during standard construction hours, unless these activities that are inaudible at non-associated receivers;
- *water and flooding* - ensuring the solar panels and ancillary infrastructure (including security fencing) are designed, constructed and maintained to reduce impacts on surface water, flooding and groundwater at the site;
- *fire* – ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2019*; and
- *accommodation and employment* – requiring an accommodation and employment strategy be prepared and implemented to ensure there would be sufficient accommodation to house construction workers, and to prioritise the employment of local workers.

7 Evaluation

The Department has assessed the development application, EIS, submissions, Submissions Report, amended development application and additional information provided by Enerparc and advice received from relevant government agencies. The Department has also considered the objectives and relevant considerations under Section 4.15 of the EP&A Act.

The site is wholly located on land zoned RU1, where electricity generating works are permissible with consent under the Infrastructure SEPP.

The project site is in a rural landscape, with 16 non-associated residences within 2 km of the development footprint, and the nearest non-associated residence is located 495 m to the north.

The site would have direct access to Transgrid's 330 kV electricity network, which traverses the site and has direct access to the local and regional road network via an unnamed road off New England Highway.

The project layout largely avoids key constraints, including remnant CEEC woodland vegetation, amenity impacts to nearby non-associated residences, Aboriginal cultural heritage sites, good quality agricultural land and watercourses and flood prone land. Any residual impacts would be relatively minor and can be managed through the recommended conditions of consent.

The Department has considered the biodiversity impacts of the project under the BC Act and notes that Enerparc has significantly refined the project layout in response to the Department and BCS concerns regarding serious and irreversible impacts on the CEEC woodland present on site, reducing clearing of the CEEC woodland from 23.2 ha to 1.99 ha. All residual biodiversity impacts would be offset in accordance with the NSW Biodiversity Offset Scheme, which has been included as a requirement in the recommended conditions.

Furthermore, Enerparc has committed to implementing additional mitigation measures above and beyond meeting the credit liability obligations. Actions include actively managing residual areas for the life of the project to achieve specific ecological condition targets, habitat improvement works for species such as the greater glider, and installation of fauna friendly fencing to maintain biodiversity connectivity. The Department and BCS support this approach and consider the project would no longer result in a serious and irreversible impact with the limits to CEEC woodland clearing and these measures in place.

The Department considers that there would be no significant visual impacts on surrounding residences, with distance, intervening topography and vegetation providing screening from non-associated residences and the public road network.

The project would not result in any significant reduction in the overall agricultural productivity of the region. Importantly, the site could be returned to agricultural uses after the project is decommissioned and the inherent agricultural capability of the land would not be affected in the longer term.

Given the distance of the project from other approved and proposed major projects in the region, with the nearest being the proposed Armidale BESS located around 25 km south east and the approved Metz Solar Farm located approximately 26 km south east of the site, there would be minimal localised cumulative impacts, including no visual or noise impacts and no cumulative impact on local roads along the project's transport routes.

The solar farm development is a suitable land use for the site as it has good solar resources and available capacity on the existing electricity network located in an area that could contribute towards the Renewable Energy Zone in the New England Region.

Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources. It would generate over 331,128 MWh of clean electricity annually, which is enough to power over 56,100 homes and save over 317,883 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the *NSW Climate Change Policy Framework* and *Net Zero Plan Stage 1: 2020 – 2030*.

Further, the project includes an energy storage facility, with a capacity of 15 MW / 30 MWh, that would enable the project to store solar energy for dispatch to the grid outside of daylight hours and / or during periods of peak demand, which has the potential to contribute to increased grid stability and energy security.

The Department considered the submissions made through the exhibition of the project and the issues raised by the community and agencies during consultation. These matters have been addressed through changes to the project and the recommended conditions of consent. In addition, Council and the agencies consulted supported the project subject to conditions.

To address the residual impacts of the project, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and the Council, to ensure these impacts are effectively minimised, managed and/or offset. Enerparc has reviewed the conditions and does not object to them.

On balance, the Department considers that the project achieves an appropriate balance between maximising the efficiency of the solar resource development and minimising the potential impacts on surrounding land users and the environment. Through job creation and capital investment, the project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community and \$1,529,000 through Enerparc's proposed voluntary contributions.

On balance, the project is in the public interest, subject to the recommended conditions of consent (see **Appendix I**).

8 Recommendation

It is recommended that the Director, as delegate of the Minister for Planning:

- **considers** the findings and recommendations of this report;
- **accepts** and **adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant consent to the application;
- **agrees** with the key reasons for approval listed in the notice of decision;
- **grants** consent to the application in respect of Tilbuster Solar Farm (SSD 9619); and
- **signs** the attached development consent and recommended conditions of consent (see **Appendix I**).

Prepared by:

Anthony Ko, Team Leader

Javier Canon, Senior Environmental Assessment Officer

Recommended by:



Javier Canon

Senior Environmental Assessment Officer
Energy Assessments

Recommended by:

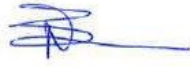


Anthony Ko

Team Leader
Energy Assessments

9 Determination

The recommendation is **Adopted** / ~~Not adopted~~ by:



3/3/22022

Nicole Brewer

Director

Energy Assessments

Appendices

Appendix A – List of Documents

Tilbuster Solar Farm – Environmental Impact Statement, NGH environmental, 6 October 2020

Tilbuster Solar Farm – Submissions Report, 9 August 2021

Tilbuster Solar Farm – Amendment Report, 25 August 2021

Tilbuster Solar Farm – Response to request for information, 15 February 2022

Appendix B – Environmental Impact Statement

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>

Appendix C – Submissions

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>

Appendix D – Submissions Report

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>

Appendix E – Amendment Report

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>

Appendix F – Additional Information

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>

Appendix G – Considerations of Commonwealth Matters

In accordance with the assessment under the bilateral agreement with the Commonwealth Government, the Department provides the following additional information required by the Commonwealth Minister, in deciding whether or not to approve a proposal under the EPBC Act.

The Department's assessment has been prepared based on the assessment contained in the Tilbuster Solar Farm Environmental Impact Statement (EIS), Submissions Report, Amendment Report and additional information provided during the assessment process, public submissions, and advice provided by the Department's Biodiversity, Conservation and Science Directorate (BCS), other NSW government agencies and the Commonwealth Department of Agriculture, Water and Environment (DAWE).

This Appendix is supplementary to, and should be read in conjunction with, the assessment included in **section 5.3** of this assessment report which includes the Department's consideration of impacts to listed threatened species and communities, and mitigation and offsetting measures for threatened species and communities, including for Matters of National Environmental Significance (MNES).

Identifying MNES

The Biodiversity Assessment Report for the Tilbuster Solar Farm has identified and addressed all the listed threatened species and communities which the decision on referral (EPBC 2020/8716 dated 1 September 2020) considered that the controlled action may, or is likely to, have an impact on. These entities include:

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered.
- Koala (*Phascolarctos cinereus*) – Vulnerable.
- Greater Glider (*Petauroides Volans*) – Vulnerable.
- Bluegrass (*Dichanthium setosum*) – Vulnerable.

The Department notes that based on additional surveys and assessment undertaken after it was considered as a controlled action, Enerparc concluded that the likelihood of occurrence of Bluegrass on the site is inherently low, therefore the species is not further considered in MNES. That is because despite appropriately timed and targeted surveys, this species was not recorded within the site. Further, Enerparc concluded and BCS agreed that there would not be a significant impact on the Koala or Greater Glider. That is because high condition vegetation proposed to be retained in the amended project, mitigation measures that allow free movement of species onto and through the site, along with vegetation management to improve vegetation condition. The Department has recommended conditions include mitigation measures above and beyond requirements to retire the credit liability to address the potential for SAIL on the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and DNG from the project, as discussed in **section 5.3** of this assessment report. The Department and BCS has concluded that with the avoidance proposed and additional measures the project would not be considered likely to have a serious and irreversible impact.

Further detailed consideration of the impact on these three threatened species or ecological communities is provided below.

Enerparc assessed the significance of the impacts on these species using the methodology outlined in the *Matters of National Environmental Significance Significant Impact Guidelines 1.1 (2013)* as summarised in section 5.4.1 of the EIS and in the Submissions Report.

DAWE determined that other matters under the EPBC Act are not controlling provisions with respect to the controlled action. These include listed World Heritage, National Heritage, migratory species, Ramsar wetlands, Commonwealth marine environment, Commonwealth land, Commonwealth action,

nuclear action, Great Barrier Reef Marine Park, Commonwealth Heritage places, overseas and a water resource, in relation to coal seam gas development and large coal mining development.

Impacts on EPBC Listed Species and Communities

Impacts on threatened ecological communities

The assessment of native vegetation threatened ecological communities and vegetation integrity under the *Biodiversity Conservation Act 2016* (NSW) (BC Act) indicated that three were identified as being present on site. These were: Broad – leaved Stringybark – Yellow Box shrub/grass open forest of the New England Tablelands Bioregion, Tenterfield Woollybutt – Silvertop Stringybark open forest of the New England Tablelands Bioregion and Blakely's Red Gum – Yellow Box grassy open forest or woodland of the New England Tablelands Bioregion.

Of these, the Broad – leaved Stringybark and the Blakely's Red Gum are associated with the BC Act listed as Critically Endangered Ecological Community (CEEC) White Box Yellow Box Blakey's Red Gum Woodland and Derived Native Grassland (Box Gum Woodland), and within these there is a portion of EPBC Act listed as critically endangered Box Gum Woodland.

The project would clear 105.6 ha of the CEEC, including 1.99 ha of very high vegetation condition. The Department notes that the impacts on high quality CEEC was reduced following lodgement of the EIS in response to the Department's concerns, as described in **sections 4.4** and **5.3** of this assessment report.

Further detailed consideration of the impact on this threatened ecological community, including proposed mitigation, management and offsetting requirements, is considered in **section 5.3** of this report.

Threatened species assessment of significance

The Department has considered the impacts on three EPBC listed species identified in the referral advice (Box Gum Woodland, Koala and Greater Glider).

Requirement for Decisions under Threatened Species and Communities

In accordance with Section 139 of the EPBC Act, in deciding whether or not to approve, for the purposes of Section 18 or 18A of the EPBC Act, the taking of an action and what conditions to attach to such an approval, the Commonwealth Minister must not act inconsistently with certain international environmental obligations, Recovery Plans or Threat Abatement Plans. The Commonwealth Minister must also have regard to relevant approved conservation advice.

Australia's International Obligations

Australia's obligations under the *Convention on Biological Diversity* (Biodiversity Convention) include the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding.

The recommendations of this assessment report are consistent with the Biodiversity Convention, which promotes environmental impact assessment (such as this process) to avoid and minimise adverse

impacts on biological diversity. Accordingly, the recommended development consent requires avoidance, mitigation and management measures for listed threatened species, and all information related to the project is required to be publicly available to ensure equitable sharing of information and improved knowledge relating to biodiversity.

Approved Conservation Advice and National Recovery Plans

The approved conservation advice and national recovery plans relevant to this project are discussed below and are available at <http://www.environment.gov.au/biodiversity/threatened/species/>.

Approved conservation advice under the EPBC Act for threatened species that would potentially be significantly impacted are available for the Greater glider and Koala.

Approved national recovery plan under the EPBC Act for threatened species that would potentially be significantly impacted is available for the Box Gum Woodland.

Enerparc considered relevant approved conservation advice and recovery plans in its assessment of impacts on MNES.

Threat Abatement Plans

The Threat Abatement Plans relevant to this project are discussed below and are available at <http://www.environment.gov.au/biodiversity/threatened/threat-abatement-plans/approved>

Threat Abatement Plan for disease in natural ecosystems caused by *Phytophthora cinnamomi* (relevant to White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland)

Phytophthora cinnamomi (*P. cinnamomi*) is a microscopic soil-borne organism (i.e. pathogen) that can cause plant disease and death by interfering with the movement of water and nutrients to plants. It can be spread in water, soil or plant material that contains the pathogen, and dispersal is favoured by moist or wet conditions. It can be carried in both overland and subsurface water flow and by water moving infested soil or organic material. Native and feral animals have been implicated in spreading *P. cinnamomi*, particularly where there are digging behaviours (e.g. pigs, rabbits). Humans, however, have the capacity to disturb and transport more soil than any other vector.

Box Gum Woodland is identified as an ecological community that may be affected by *P. cinnamomi*.

The Department notes that construction related activities have the potential to introduce or spread the pathogen through the movement of vehicles, the use of construction equipment/tools for undertaking excavation work, footwear and the introduction of infected soil or building materials to uninfected areas.

The threat abatement plan for managing the impacts of *P. cinnamomi* identifies actions to minimise its spread to uninfected sites and mitigate impacts at infected sites.

Threat Abatement Plan for predation, habitat degradation, competition and disease transmission by feral pigs (relevant to White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland)

Feral pigs impact on native flora and fauna due to their presence, movement, rooting, wallowing, trampling, consumption of water, animals, plants and soil organisms. Direct impacts from feral pigs include predation, habitat loss and degradation, competition and disease transmission, which can impact on native flora and fauna.

Measures to control feral animals are recommended in the conditions which would be implemented as part of the Biodiversity Management Plan and/or biodiversity stewardship agreements for the site and offset areas. Therefore, the Department considers the approval of the project would not be inconsistent with the threat abatement plan for threats from feral pigs.

Threat Abatement Plan for competition and land degradation by rabbits (relevant to White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland)

Rabbits have direct impacts on native flora and fauna by grazing on native vegetation and preventing regeneration, and by competing with native fauna for habitat and food. Rabbits also have indirect and secondary impacts, such as supporting populations of introduced predators by providing a food source, and denuding vegetation exposing fauna species to increased predation. Their behaviour, including digging and browsing, also leads to a loss of vegetation cover and consequent slope instability and soil erosion, which further degrades fauna habitat.

Measures to control feral animals are recommended in the conditions which would be implemented as part of the Biodiversity Management Plan and/or biodiversity stewardship agreements for the site and offset areas.

Therefore, the Department considers the approval of the project would not be inconsistent with the threat abatement plan for threats from rabbits.

Additional EPBC Act Considerations

Table below contains the additional mandatory considerations, factors to be taken into account and factors to have regard to under the EPBC Act additional to those already discussed.

EPBC Act section	Considerations	Conclusion
Mandatory considerations		
136(1)(b)	Social and economic matters are discussed in section 5.5 of this report.	The project would provide benefits for the local and regional economy and is of public benefit. Up to 125 workers would be required during the construction period and Enerparc has committed to source workers from the local community where possible, and would provide for up to 5 jobs during operation of the project. Impacts on the local community would mostly occur during the construction period, which has been considered in the assessment report. The recommended conditions require Enerparc to implement road upgrades, manage traffic movements along the transport route, and minimise potential amenity impacts including noise, dust and visual by implementing visual mitigation measures if requested by specific receivers. Furthermore, Enerparc has entered into a VPA with Council, including a lump sum amount of \$1,529,000 (adjusted annually for CPI) to be paid into a community benefit fund on commencement of construction.

EPBC Act section	Considerations	Conclusion
Factors to be taken into account		
3A, 391(2)	<p>Principles of ecologically sustainable development (ESD), including the precautionary principle, have been taken into account, in particular:</p> <ul style="list-style-type: none"> • the long term and short term economic, environmental, social and equitable considerations that are relevant to this decision; • conditions that restrict environmental impacts and impose monitoring and adaptive management, reduce any lack of certainty related to the potential impacts of the project; • conditions requiring the project to be delivered and operated in a sustainable way to protect the environment for future generations and conserving the relevant matters of national environmental significance; • advice provided within this report reflects the importance of conserving biological diversity, ecological and cultural integrity in relation to all of the controlling provisions for this project; and • mitigation measures to be implemented which reflect improved valuation, pricing and incentive mechanisms are promoted by placing a financial cost on the Applicant to mitigate environmental impacts of the project. 	The Department considers that the project, if undertaken in accordance with the recommended conditions of consent, would be consistent with the principles of ESD.
136(2)(e)	Other information on the relevant impacts of the action.	The Department considers that all information relevant to the impacts of the project has been taken into account in its assessment.
Factors to have regard to		
176(5)	Bioregional plans	There is no approved bioregional plan related to the activity.
Considerations on deciding on conditions		
134(4)	<p>Must consider:</p> <ul style="list-style-type: none"> • Information provided by the person proposing to take the action or by the designated Applicant of the action; and • The desirability of ensuring as far as practicable that the condition is a cost effective means for the Commonwealth and the person taking the action to achieve the object of the condition. 	<p>All project related documentation is available from the Department's website www.planningportal.nsw.gov.au</p> <p>The Department considers that the conditions at Appendix I are a cost effective means of achieving their purpose. The conditions are based on material provided by the Applicant that was prepared in consultation with the Department, BCS and other government agencies.</p>

Conclusions on Controlling Provisions

For the reasons set out in **section 5.3** of this report and this Appendix, the Department considers that the impacts of the action would be acceptable, subject to the avoidance and mitigation measures described in the EIS, Amendment Report and the recommended conditions of consent in **Appendix I**.

Appendix H – Statutory Considerations

In line with the requirements of Section 4.15 of the EP&A Act, the Department's assessment of the project has given detailed consideration to a number of statutory requirements. These include:

- the objects found in Section 1.3 of the EP&A Act; and
- the matters listed under Section 4.15(1) of the EP&A Act, including applicable environmental planning instruments and regulations.

The Department has considered all these matters in its assessment of the project and has provided a summary of this assessment below.

Aspect	Summary
Objects of the EP&A Act	<p>The objects of most relevance to the Minister's decision on whether or not to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act.</p> <p>The Department is satisfied that the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 1.3(c)), particularly as the project:</p> <ul style="list-style-type: none">• is a permissible land use on the subject land;• is located in a logical location for efficient solar energy development;• is able to be managed such that the impacts of the project could be adequately minimised, managed, or at least compensated for, to an acceptable standard;• would contribute to a more diverse local industry, thereby supporting the local economy and community;• would not fragment or alienate resource lands in the LGA; and• is consistent with the goals of the Renewable Energy Action Plan and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. <p>The Department has considered the encouragement of ESD (Object 1.3(b)) in its assessment of the project. This assessment integrates all significant socioeconomic and environmental considerations and seeks to avoid any potential serious or irreversible environmental damage, based on an assessment of risk-weighted consequences.</p> <p>In addition, the Department considers that appropriately designed SSD solar development, in itself, is consistent with many of the principles of ESD. WSD has also considered the project against the principles of ESD. Following its consideration, the Department considers that the project can be carried out in a manner that is consistent with the principles of ESD.</p> <p>Consideration of environmental protection (Object 1.3(e)) is provided in section 5.3 of this report. Following its consideration, the Department considers that the project is able to be undertaken in a manner that would at least maintain the biodiversity values of the locality over the medium to long term and would not significantly impact threatened species and ecological communities of the locality. The Department is also satisfied that any residual biodiversity impacts can be managed and/or mitigated by imposing appropriate conditions and retiring the required biodiversity offset credits.</p> <p>Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in section 5.5 of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality.</p>
State significant development	<p>Under Section 4.36 of the EP&A Act the project is considered a State significant development.</p> <p>The Minister for Planning is the consent authority for the development.</p> <p>Under the Minister's delegation of 26 April 2021, the Director, Energy Assessments, may determine the project.</p>

Aspect	Summary
Environmental Planning Instruments	<p>The <i>Armidale Dumaresq Local Environmental Plan 2012</i> (Armidale LEP) applies and is discussed in section 2.1 and 3.3 of this report, particularly regarding permissibility and land use zoning. The Project is permissible under the Infrastructure SEPP.</p> <p>In accordance with the Infrastructure SEPP, the Department has given written notice of the project to Transgrid and Essential Energy as the electricity supply authorities and TfNSW.</p> <p>Enerparc completed a preliminary risk screening and preliminary hazard analysis in accordance with SEPP No. 33 – Hazardous and Offensive Development. The Department's consideration of this analysis is discussed in section 5.5.</p> <p>The Department has considered the provisions of the SEPP (Primary Production and Rural Development) 2019. Of relevance to the project, the SEPP aims to facilitate the orderly economic use and development of lands for primary production, to reduce land use conflict and sterilisation of rural land and to identify State significant agricultural land. While the location of State significant agricultural land has not been finalised, the Department has considered all of these matters in section 5.2 of this report.</p> <p>The Department has considered the provisions of SEPP No. 55 – Remediation of Land. A preliminary assessment of the land found no contaminated land within the project site, and the Department is satisfied the site is suitable for the development.</p> <p>Armidale Regional Council is listed under SEPP No. 44 – Koala Habitat Protection (SEPP 44). Enerparc's assessment concluded that connectivity of Koala habitat across the development site is poor, and areas where connective pathways are present has generally been avoided, and the Department has considered this in section 5.3 of this report.</p>

Appendix I – Recommended Conditions of Consent

See the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/tilbuster-solar-farm>