Stubbo Solar Farm

State Significant Development

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Executive Summary

UPC\AC Renewables Australia (UPC) proposes to develop a new 400 megawatt (MW) solar farm with 200 MW / 200 MW-hour (MWh) of battery storage located approximately 10 kilometres (km) north of Gulgong in the Central West and Orana Region of NSW.

The project is located in close proximity to the regional road network via Blue Springs Road and the electricity network via TransGrid's 330 kilovolt transmission line, which extends along the southern boundary of the site. The site is located in a rural area, with eight non-associated residences located within 2 km of the development footprint.

The project would also be located in an area that could contribute to the pilot Renewable Energy Zone in the Central-West Orana Region. The project is classified as State significant development under the *Environmental Planning and Assessment Act 1979* (EP&A Act) as it is development for the purpose of electricity generating works with a capital investment value of more than $ 30 million.

Engagement

The Department exhibited the Environmental Impact Statement (EIS) for the project and received 17 public submissions (16 objections and one supporting) and two objections from special interest groups. Advice was also received from 19 government agencies, including Mid-Western Regional Council (Council).

The Department consulted with Council and the relevant government agencies on key issues and inspected the site on 10 February 2021.

Council, agencies and utility providers did not object to the project, and recommended the implementation of appropriate mitigation and management measures.

In response to agency advice and submissions, UPC undertook additional assessments and made amendments to the project. The amendments included road upgrades to Blue Springs Road, including its intersections at Cope Road and at the proposed site access. Additional assessments considered environmental, amenity and heritage impacts associated with the proposed road upgrades and also assessment of potential impacts on a nearby receiver not identified within EIS.

Assessment

The Department has undertaken a comprehensive assessment of the merits of the project and considered all potential issues, including the mandatory considerations under Section 4.15 of the EP&A Act. The key assessment issues identified for the project are compatibility of proposed land use and traffic and transport.

The project site covers 1,772 hectares (ha) and is currently used for grazing and intermittent dryland cropping. The development footprint (1,243 ha) is located on soils classified as Class 5 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017), meaning that the land can be occasionally cultivated for fodder crops and pasture. The project would be located in an area susceptible to erosion.

The Department considers that the project would not significantly reduce the overall agricultural productivity of the region and that the site's inherent agricultural capability would not be affected, as the site could be returned to full agricultural use following decommissioning and rehabilitation. The

Department also notes UPC's commitment to on-going consultation with landowners regarding continued farming operations, particularly grazing, within and around the development footprint.

The proposed upgrade of Blue Springs Road, and its intersection with Cope Road, would facilitate heavy vehicle access to the site and the proposed design is supported by Council and Transport for NSW.

The site and surrounds comprise gently undulating land, largely cleared of native vegetation from a history of prolonged agricultural practices. The site contains patches of remnant native vegetation, and areas with material biodiversity value have been incorporated within environmental exclusion zones (529 ha) that include riparian buffers and known Aboriginal sites (see Figure 3).

The solar farm is relatively low-lying (solar panels up to 4.3 m high) and topography and existing vegetation provides screening of the project from most nearby receivers and public vantage points.

All of the eight non-associated residences within 2 km of the development footprint are considered to have low or negligible visual impacts due to topography, distance and intervening vegetation. The site is within the 'Dark Sky Region' of the Siding Spring Observatory, and the EIS included a visual assessment with recommendations that are consistent with the Department's *Dark Sky Planning Guideline* (2016).

The project has been designed to largely avoid impacts on native vegetation and threatened species habitat. All residual impacts, including 5.53 ha of native vegetation within the site and 3.7 ha of roadside vegetation along Blue Springs Road, would be offset in accordance with the NSW Biodiversity Offset Scheme, which is included as a requirement in the consent conditions.

To address the residual impacts of the project, including Aboriginal cultural heritage, traffic, water, noise and hazards, the Department has recommended a range of stringent conditions, developed in conjunction with agencies and Council, to ensure these impacts are effectively minimised or offset to meet acceptable standards.

Summary

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

The project is consistent with NSW's *Climate Change Policy Framework* and the *Net Zero Plan Stage 1: 2020 – 2030*, as it would contribute 400 MW of renewable energy to the National Electricity Market, including a battery storage facility with a capacity of 200 MW / 200 MWh. Importantly, the battery facility 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 increase grid stability and energy security.

Further, existing adjacent transmission lines offer an opportunity for direct grid connection without significant new overhead lines and easements, and any potential impacts and efficiency losses that may result.

The project would provide flow-on benefits to the local community, including up to 400 construction jobs, ten operational jobs and capital investment of $ 418 million. A VPA has also been proposed comprising an initial payment of $ 100,000 to Council over the construction period, as well as an annual payment in the order of $ 120,000 per year in contributions to Council for community enhancement projects.

The Department supports UPC's amendments to the project to address concerns from residents and Council and has recommended a suite of conditions to address concerns raised by the community and Council, and to ensure the impacts of the development are appropriately mitigated and/or managed.

The Department considers that the project would result in benefits to the State of NSW and the local community and is therefore in the public interest and should be approved subject to strict conditions of consent.

Contents

1 Project

UPC\AC Renewables Australia (UPC) proposes to develop a new State significant solar farm at Stubbo, approximately 10 kilometres (km) north of Gulgong in the Mid-Western Regional Council local government area (see **Figure 1**).

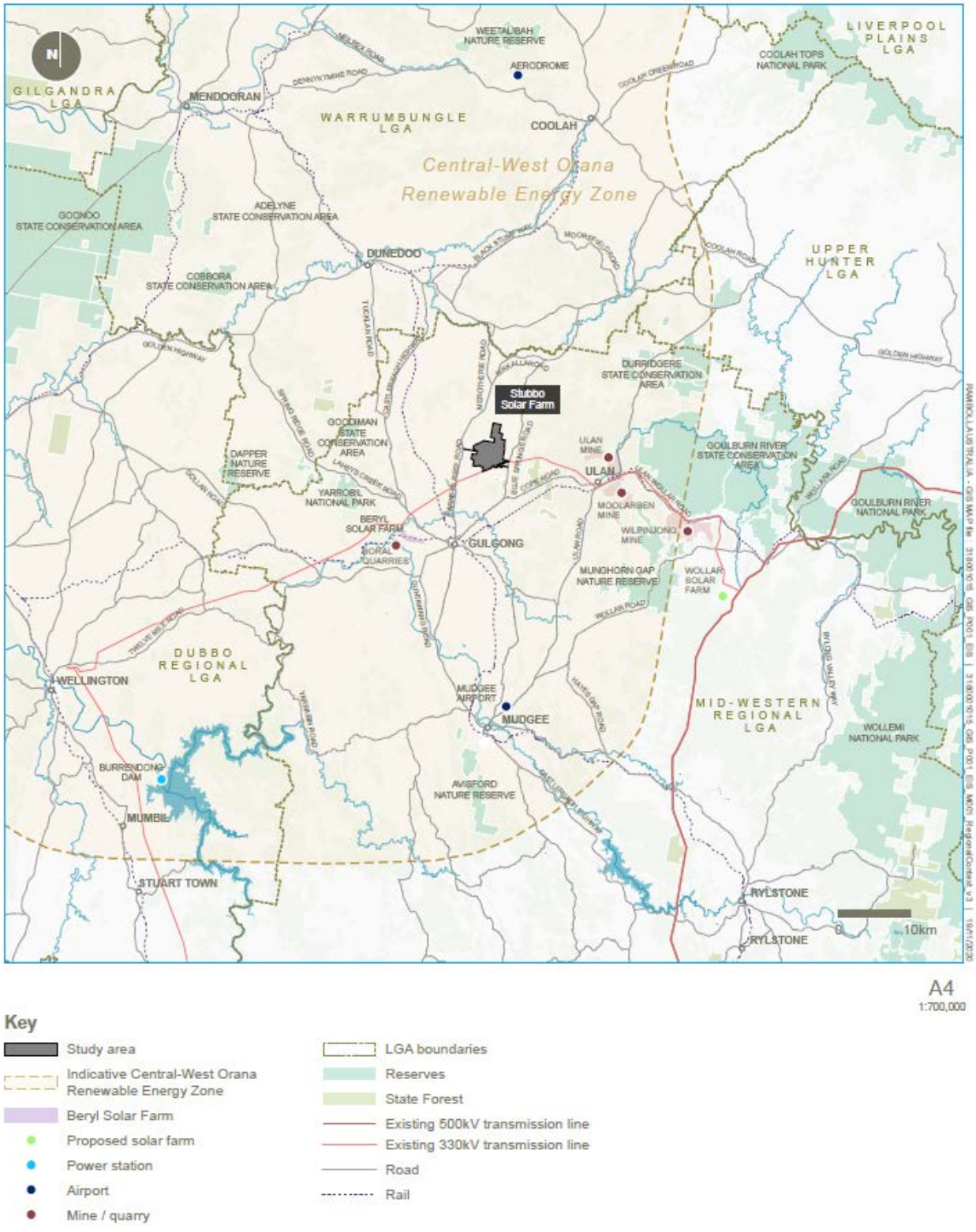

Figure 1 | Regional Context Map

The project involves the construction of a new solar farm with a generating capacity of approximately 400 megawatts (MW) and 200 MW / 200 MW-hour (MWh) of battery energy storage. It also involves the upgrading and decommissioning of infrastructure and equipment in the future. 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 TransGrid's existing 330 kilovolt (kV) overhead transmission line that transects the development site adjacent to the southern boundary at one of two proposed locations (see **Figure 3**, location A or B). The connection point location would also include a substation, operation facility.

The battery energy storage system is proposed to be either a centralised location or distributed configuration adjacent to inverter units. If a centralised location is chosen it would be collocated at one of two proposed locations for the transmission connection point.

The site access would be at one of two locations off Blue Springs Road (see **Figure 3**) either:

- the preferred access via the existing TransGrid 330 kV easement; or
- the alternative access via a new entrance to the south of the easement.

The final site access would be subject to further detailed discussions with TransGrid. At this stage, while TransGrid has indicated it does not object to the access via its easement, it is seeking further consultation and details during detailed design. An alternate location has been proposed and assessed if access cannot be secured via the easement.

The solar farm would be constructed over approximately two years, with a peak construction period of 12 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 A**).

Table 1 | Main Components of the Project

Aspect	Description
Project summary	The project includes: • approximately 800,000 solar panels (up to 4.3 m high, single axis tracking); • approximately 70 power conversion units with inverters; • substation (3.5 m high) with two transformers; • up to 33 kV overhead and/or underground electrical reticulation connecting to the onsite substation; • connection to the existing 330 kV TransGrid transmission line at one of two locations; • 200 MW / 200 MWh battery energy storage system in a centralised location (at one of two proposed locations) or distributed configuration (up to 3.5 m high); • operational and maintenance infrastructure (3.5 m high), including office, operations room, car park, SCADA, workshop, fencing; and • access roads.

Aspect	Description
Project area	Site: 1,772 ha Development footprint: 1,243 ha (including 48.75 ha of ancillary facilities)
Access route	All vehicles would access the site via Golden Highway, Ulan Road, Cope Road and then Blue Springs Road.
Site entry and road upgrades	• Two alternative options for site entry are proposed off Blue Springs Road (see **Figure 3**) including: - the preferred access via the existing TransGrid 330 kV easement; or - the alternative access via a new entrance to the south of the easement. • If the preferred option above is selected, the existing access track would be upgraded to cater for construction and operations traffic. • If the alternative option is selected, approximately 1.58 km of road would be constructed. • Road upgrades: - Blue Springs Road from its intersection with Cope Road up to 100 m beyond the selected site access (up to 5.4 km); - proposed site access intersection; and - BAL and BAR treatments to the Cope Road and Blue Springs Road intersection. • An additional site entry for emergency access only would be provided from Barneys Reef Road.
Construction	• The construction period would last for approximately two years with a peak period of 12 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 project 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 on Monday to Friday, 7 am to 6 pm and Saturdays 8 am to 1 pm
Subdivision	Subdivision of the land on which the proposed grid substation would be located.
Employment	Up to 400 construction jobs and 10 full-time operational jobs
Capital Investment Value	$ 418 million

Figure 2 | Project site

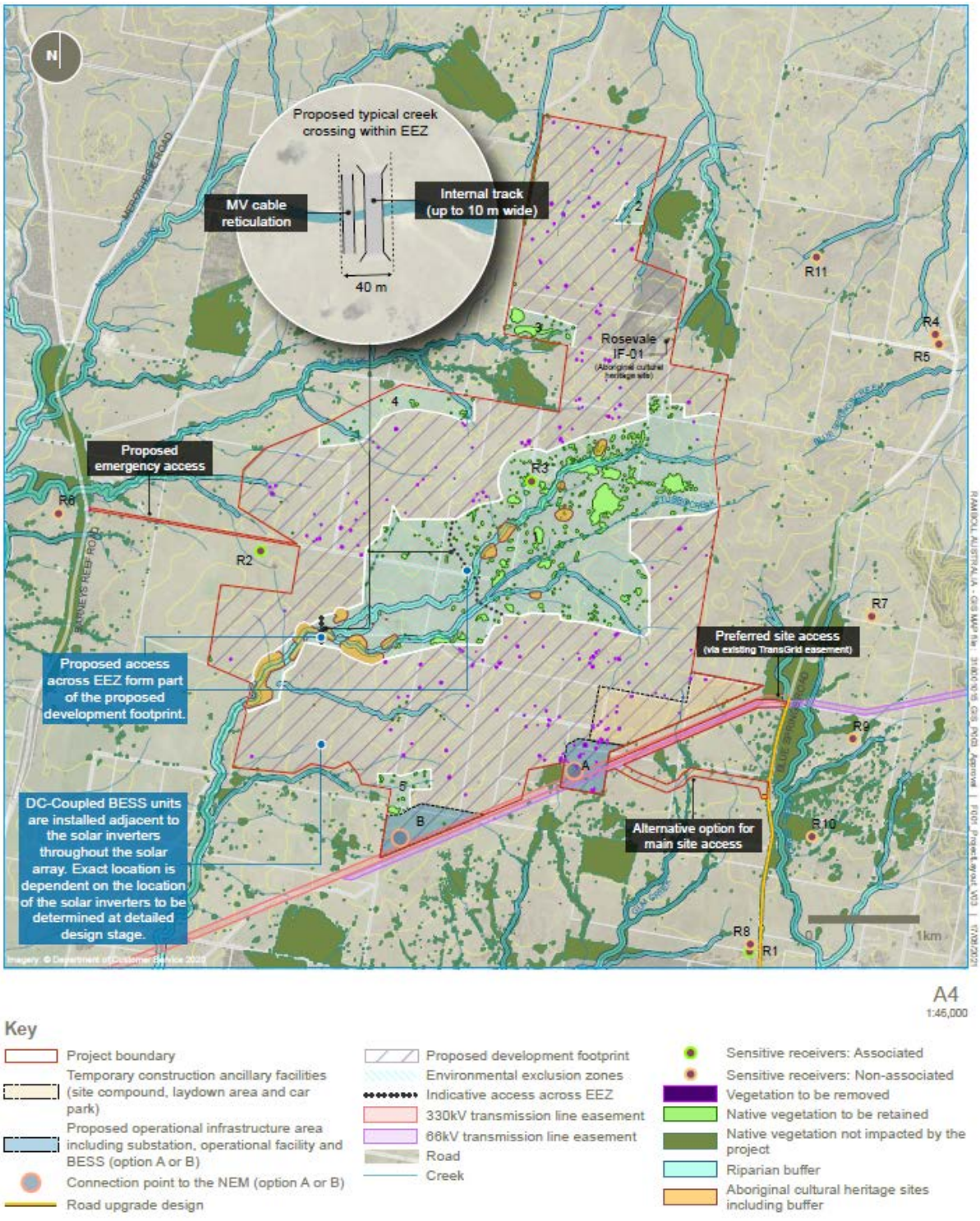

Figure 3 | Project layout

2 Strategic context

2.1 Site and Surrounds

The project is located on an approximately 1,772 hectare (ha) site within the Central West and Orana region of NSW. The site is zoned RU1 – Primary Production under the *Mid-Western Regional Local Environmental Plan 2012* (LEP) and is currently used for agricultural purposes, including grazing and dryland intermittent cropping.

The site does not include any mapped Biophysical Strategic Agricultural Land. The soils within the site are entirely classified as Class 5 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017), meaning that the land is not capable of supporting regular cultivation due to limitations such as erodible soils, shallow soils, stoniness, climatic limitations, acidification, potential for structure decline and salinity hazards.

There is existing electricity transmission infrastructure with TransGrid's 330 kV transmission line adjacent to the south boundary of the project. The main access to the site is proposed off Blue Springs Road to the east of the site (see Figure 3).

Land within the site is largely cleared of native vegetation and includes scattered native trees and vegetation along riparian corridors and isolated areas of remnant vegetation.

The proposed footprint is 1,243 ha and was designed to largely avoid site constraints including over 529 ha of exclusion zones consisting of remnant native vegetation, riparian buffers and known Aboriginal sites (see Figure 3).

There are no permanent watercourses on the site. However, there are several non-perennial watercourses and tributaries throughout the site, including Merotherie Creek, Pine Creek, Stubbo Creek and Gum Creek. There is one registered groundwater bore for stock watering purposes and 19 farm dams within the site.

There is a mining lease for metallic minerals, an authorisation held by the Secretary of Regional NSW for the exploration of coal and oil shale, and a petroleum exploration licence on the site. No activities authorised by the mining lease or the exploration licenses have been carried out on the site. There would be no ongoing restrictions on the mining or exploration of natural resources following the end of the project.

Land immediately surrounding the site is also zoned RU1, is sparsely populated and it has been used primarily for agricultural purposes (grazing and cropping).

The closest nature reserve is Munghorn Gap Nature Reserve located more than 20 km to the south east.

There are eight rural non-associated residences located within 2 km of the site, most of which are located to the west of the site. The closest non-associated residence (R9) is located about 937 m to the east of the site (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. The solar farm would connect directly into this transmission line.

2.2 Other Energy Projects

The Central West and Orana region has attracted considerable interest from solar and wind developers given the presence of major transmission lines and existing electricity substations. There are two operational, one approved and two proposed SSD energy projects within approximately 50 km of the project site, with the closest project located approximately 16 km south west of the site. Most of the energy projects around Stubbo Solar Farm are located to the southwest of the site (see **Table 2** and **Figure 4**).

Table 2 | Nearby renewable energy projects

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Beryl Solar Farm	87	Operational	16
Dunedoo Solar Farm	55	Proposed	34
Wollar Solar Farm	290	Approved	38
Valley of the Winds	800	Proposed	49
Bodangora Wind Farm	120	Operational	50
Uungula Wind Farm	388	Approved	54
Liverpool Range Wind Farm	960	Approved	55
Wellington North Solar Farm	300	Approved	64
Wellington Solar Farm	174	Approved	66
Maryvale Solar Farm	125	Approved	67
Mumbil Solar Farm	140	Proposed	71
Suntop 2 Solar Farm	165	Proposed	80
Suntop Solar Farm	170	Approved	81

Given the distance of Stubbo Solar farm from all approved and proposed projects in the region, there would not be material cumulative visual or noise impacts (see Figure 4). In addition, while the surrounding regional road network may experience an increase in traffic numbers, there would be no significant cumulative impacts on the local roads along the proposed transport route from these projects, as discussed in **section 5.1**.

The closest project is Beryl Solar Farm, which is operational. Wollar Solar Farm is approved however construction has not commenced. Further, if Stubbo Solar Farm and Dunedoo Solar Farm (proposed) are approved and the construction period overlap for these projects, cumulative impacts are unlikely due to the distance between projects.

The potential cumulative impacts on agricultural land in the region and other issues are discussed further in **section 5.1**.

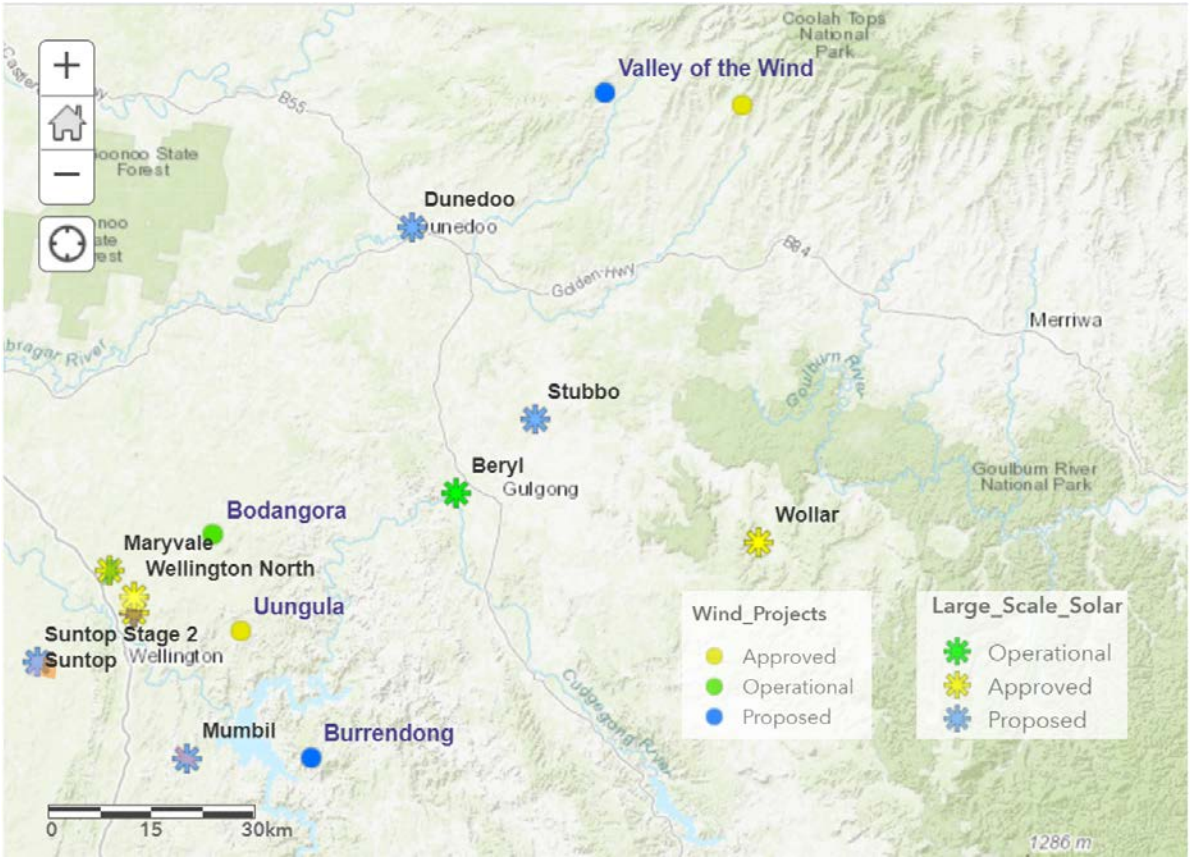

Figure 4 | Nearby renewable energy generation projects

2.3 Energy Context

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 for the development of new coal power stations in NSW, and the development of renewable energy sources, like wind, solar and pumped hydro, is experiencing rapid growth.

This is highlighted in the 2017 *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review), which outlines a strategic approach to ensuring an orderly transition from traditional coal and gas fired power generation to generation with lower emissions. It notes that Australia is heading towards zero emissions in the second half of the century.

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

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*, released in 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 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 the assessment of

large-scale solar projects and identify the key planning considerations relevant to solar energy development in NSW.

The Guideline aims to support the growth of the solar industry, whilst ensuring that impacts are adequately assessed, effective stakeholder engagement is undertaken, and that attracting investment is balanced with considering the interests of the community. UPC submitted its EIS in December 2020 and its assessment is consistent with the principles of the Guideline.

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

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 are aimed at encouraging "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 Strategy* in November 2019, which adopted the Central West and Orana Region as the pilot Renewable Energy Zone (REZ) to support transmission upgrades in this zone. 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 project would be located in an area that could contribute to the pilot Renewable Energy Zone in the Central-West Orana Region and would have access to the electrical grid at a location with available network capacity. With a capacity of 400 MW, the project would generate enough electricity to power over 149,660 homes, and is therefore consistent with *NSW's Climate Change Policy Framework and the Net Zero Plan Stage 1: 2020 – 2030*.

3 Statutory Context

3.1 State Significant Development

The project is classified as State significant development under Section 4.36 of the *Environmental Planning & Assessment Act* 1979 (EP&A Act). This is because it triggers the criteria in Clause 20 of Schedule 1 of *State Environmental Planning Policy (SEPP) (State and Regional Development)* 2011, 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 and Public Spaces is the consent authority for the development. However, under the Minister's delegation of 26 April 2021, the Executive Director, Energy, Resource and Industry Assessments, may determine the development application as Council did not object, there were less than 50 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 Regulations), a development application can be amended at any time before the application is determined. Accordingly, UPC 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 Director, Energy Assessments has accepted UPC's amended application for the following reasons:

- the project amendments directly respond to key issues raised in submissions received by the Department during the exhibition of the original application;
- UPC assessed the impacts of the amended project (see **Appendix E**); 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 *Mid-Western Regional Local Environmental Plan 2012* (LEP), the provisions of which are discussed in **section 5.1**. The RU1 zone includes various land uses that are permitted with and without consent.

Electricity generating works is not expressly listed as a prohibited land use and is therefore a permissible land use with consent under the LEP zoning table for the RU1 zone. Moreover, electricity generating works are regulated by *State Environmental Planning Policy (Infrastructure) 2007* (Infrastructure SEPP). Under the Infrastructure SEPP, electricity generating works are permissible on any land in a prescribed rural, industrial or special use zone. Land zoned RU1 Primary Production is a

prescribed rural zone pursuant to the Infrastructure SEPP. 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*).

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 F**).

UPC considers that the project does not need approval from the Commonwealth Minister for the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as surveys undertaken to date have not identified any significant impacts on matters of national environmental significance listed under the EPBC Act.

3.5 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 these matters in its assessment of the project, as well as UPC'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 G**.

4 Engagement

4.1 Department's engagement

The Department publicly exhibited the EIS from 12 January 2021 until 19 February 2021, advertised the exhibition in the *Lithgow Mercury* and the *Mudgee Guardian*, and notified adjoining landowners adjacent to the project boundary.

The Department consulted with Council and the relevant government agencies throughout the assessment. The Department also inspected the site on 10 February 2021.

The Department notified and sought comment from the Director of the Siding Springs Observatory in accordance with the EP&A Regulation, and from TransGrid and Transport for New South Wales (TfNSW) in accordance with the Infrastructure SEPP, as discussed further in **sections 4.5** and **5.3**.

4.2 UPC's Engagement

UPC undertook engagement with the local community as detailed in the EIS, including a dedicated project-specific website[1], social networks, a dedicated email address, phone number and feedback form available on the project website. UPC also consulted with nearby landholders via letters, fact sheets notifications (via hard copy and email), individual meetings with adjacent and nearby landowners, phone calls; conducted targeted presentations and briefings, and community information sessions.

UPC also undertook consultation with the Department and relevant government agencies during the assessment process.

4.3 Submissions and Submissions Report

During the exhibition period of the EIS, the Department received 17 public submissions, consisting of 16 objections and one in support.

In addition to the public submissions, two special interest groups objected to the project.

Advice was also received from 19 government agencies, including from Mid-Western Regional Council.

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

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

4.4 Amended Application

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

The amended application includes:

[1] https://stubbosolarfarm.com.au/

- upgrade the intersection at Cope Road and Blue Springs Road, including a Basic Right (BAR) and Basic Left (BAL) turn sealed treatments for 100 km/h speed;
- upgrade to the proposed site access intersection;
- upgrade Blue Springs Road from Cope Road up to 100 m beyond the selected site access (5.4 km); and
- assessment of an additional surrounding receiver not identified prior to EIS lodgement.

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 would not increase the impacts of the project as a whole, the Department did not exhibit the Amendment Report. Council and TfNSW have indicated support for the project as amended.

4.5 Key issues – Government Agencies

Mid-Western Regional Council (Council) does not object to the project, but initially raised concerns about traffic and transport, road upgrades, water source, workforce accommodation, waste, land use, vegetation, bushfire hazards, consultation, decommissioning and developer contributions. Land use compatibility is addressed in **section 5.1**, traffic and transport are addressed in **section 5.2** and all other matters are discussed further in **section 5.3**.

The **Department's Biodiversity, Conservation and Science Directorate** (BCS) requested clarification about the Category 1-exempt land designation and further justification for removal of species from candidate list in the Biodiversity Development Assessment Report (BDAR). UPC provided additional evidence for the Category 1-exempt land, revised mapping to include areas of Category 2 land and potential habitat targeted survey. BCS confirmed there were no residual concerns and biodiversity is discussed in **section 5.3**.

Transport for NSW (TfNSW) recommended to upgrade the intersection of Cope and Blue Springs Road, including Basic Right (BAR) and Basic Left (BAL) turn treatments. UPC agreed to the road upgrades recommended by TfNSW. Traffic and transport are discussed in **section 5.2**.

The **Australian Rail Track Corporation** (ARTC) noted that access over ARTC railway lines for construction and operation will need specific requirements on existing public roads for vehicles not currently gazetted to use such roads and related level crossings. UPC committed to obtain approval from ARTC as required for access over any ARTC railway lines at level crossings. Further the Department notes that Ulan Road and Cope Road are approved B-double routes.

TransGrid confirmed that request for transmission connection is being assessed and noted that the proposed site access via the existing TransGrid easement would require TransGrid approval.

The **Department's Water Group** (DPIE Water) and the **Natural Resources Access Regulator** (NRAR) initially requested additional information to confirm access to a secure water supply. DPIE Water and NRAR also provided recommendations regarding erosion and sediment control, works within waterfront land and relevant approvals and licences required under the *Water Management Act 2000*. These recommendations have been incorporated into the conditions of consent where appropriate and discussed in **section 5.3**. UPC in its response to submissions committed to develop an erosion and sediment control plan as part of a Construction Soil and Water Management Plan.

Department of Primary Industries – Agriculture (DPI agriculture) supported UPC's commitment to a soil survey to establish site baseline. DPI agriculture recommended a preconstruction soil survey with

geotechnical assessment that could be used to inform final decommissioning and rehabilitation. UPC committed to undertaking a geotechnical assessment as recommended by DPI agriculture.

Department of Primary Industries – Fisheries (DPI Fisheries) noted that the construction of internal roads and cable crossings on Stubbo Creek should be in accordance with DPI Fisheries Guidelines document: *Policy and Guidelines for Fish Habitat Conservation and management* (2013) and UPC have agreed to meet this requirement.

Heritage NSW (Aboriginal Cultural Heritage) supported UPC's approach to avoid 25 Aboriginal sites located within the project site and salvage one isolated stone artefact. Heritage NSW is satisfied with the Aboriginal Cultural Heritage assessment and Aboriginal consultation undertaken by UPC.

Heritage NSW (Historic Heritage) noted that there are no historic sites recorded or identified in the locality and supports UPC's commitment to unanticipated finds protocol for historic heritage.

Fire & Rescue NSW (FRNSW) requested UPC to develop a detailed Emergency Response Plan and recommended a condition of consent requiring UPC to prepare a Fire Safety Study for the BESS in consultation and to satisfaction of FRNSW. UPC have accepted these requirements and the Department has incorporated FRNSW's recommendations into the conditions of consent.

Rural Fire Service (RFS) recommended establishing an asset protection zone, including 50 m inner protection area as per *Planning for Bushfire Protection* 2019. RFS also recommended consent conditions related to construction standards, property access, water and utility services and electricity management. UPC have accepted these requirements and the Department has incorporated these recommendations into the condition of consent, as appropriate.

The **Department's Crown Lands Division**, the **Environment Protection Authority** (EPA), **Regional NSW – Mining, Exploration & Geoscience** (MEG), the **Siding Spring Observatory**, **Essential Energy** and **WaterNSW** raised no concerns regarding the project.

4.6 Key Issues – Community

Of the 17 public submissions, 16 objected and one supported the project. 15 submissions were from the local community, including the submission supporting the project.

Five of the objections (around 30 %) were received from residents located within 2 km of the site, three objections (around 20 %) were from residents located between 2 km and 10 km from the site, four of the objections (25 %) were received from residents located between 10 km and 25 km from the site and the rest of the objections (four) were received from residents located more than 25 km from the site.

The issues raised in public submissions objecting to the project relate to construction traffic impacts, property devaluation, project location and scale, waste management, biodiversity impacts, impacts to soil and water, sourcing of water, air pollution, bushfire hazards, decommissioning, noise and visual amenity impacts, workforce accommodation, concerns about consultation, impacts to agricultural land, lack of benefits and employment for local community.

The submission received in support of the project noted the benefits to the local community and businesses.

4.7 Key Issues – Special Interest Groups

Save Our Surroundings (SOS) Central West NSW objected to the project and raised several concerns, including: net benefit of the proposal, site selection, biodiversity, heritage, land use and pollution, traffic and transport, socio-economic benefits, jobs generation, water use and pollution, hazards and risks, waste management and disposal, decommissioning and consultation. It also raised amenity issues such as visual and noise. UPC provided a response to each of the issues raised, including cross references to relevant sections of the EIS in the response to submissions report.

Wellington Valley Wiradjuri objected to the project raising concerns with the Aboriginal Heritage field survey undertaken and recommended a further comprehensive survey for the development area. UPC responded to each concern raised and referred to the Aboriginal Cultural Heritage Assessment Report (ACHAR).

Section 5 of this report provides a summary of the Department's consideration of these matters and recommended conditions.

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, and traffic and transport. The Department has also considered the full range of potential impacts associated with the project and has included a summary of the conclusions relating to these matters in **section 5.3**. A list of the key documents that informed the Department's assessment is provided in **Appendix A**.

5.1 Compatibility of Proposed Land Use

Provisions of the Mid-Western Regional LEP

The site is wholly located within the RU1 Primary Production zone under the LEP. As discussed in **section 3.3**, a solar farm is a permissible land use with consent under the LEP zoning table.

The project is also consistent with the objectives of the RU1 zone under the Mid-Western Regional LEP, particularly in relation to:

- encouraging diversity in primary industry enterprises and systems appropriate for the area; and
- minimising fragmentation and alienation of resource lands.

While the Mid-Western Regional LGA has traditionally relied upon mining and agriculture, the introduction of solar energy generation would contribute to a more diverse local industry, thereby supporting the local economy and community. In addition, the proposed solar farm would encourage renewable energy development, which is consistent with the *Mid-Western Regional Local Strategic Planning Statement 2020*.

The project is consistent with the Department's *Central West and Orana Regional Plan 2036*, which identifies the development of renewable energy generation as a future growth opportunity for the region.

The Department notes that the site is classified as soil capability class 5 (see **section 2.1**).

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.

Potential impacts on agricultural land

Concerns about the project's impact on agricultural land were raised by five of the community submissions objecting to the project.

The project is located within the Central West and Orana region of NSW, which has a strong and diverse agricultural sector, with over 8.9 million ha of the region being used for agriculture output. The site (1,772 ha) does not include any mapped Biophysical Strategic Agricultural Land (BSAL) and is currently used predominantly for sheep and cattle grazing and limited cropping.

DPI Agriculture recommended UPC undertake a soil survey and geotechnical assessment prior to construction to better understand site limitations, minimise erosion and to inform site rehabilitation to its original land and soil capability. UPC committed to undertake a geotechnical survey and soil survey as recommended by DPI Agriculture.

As the site is currently used for grazing and limited cropping, the Department accepts that the solar farm would reduce the agricultural output of the site while the solar farm remains operational. However,

the development footprint occupies approximately 70 % of the site, allowing the current agricultural practice to continue over the remaining 30 % (approximately 529 ha) of the site. Also, UPC has committed to further consultation with landowners regarding opportunities for continued farming in and around the solar farm.

The inherent agricultural capability of the land would not be affected by the project due to the relatively low scale of the development, and UPC proposes to return the land back to existing levels of agricultural capability. To this end, the Department has included requirements to maintain the current land capability of the site (including ground cover and maintaining grazing within the development footprint, where practicable) during the construction and operation of the project, and to 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.

Council recommended UPC undertake an analysis of the economic impacts of removing agricultural land and production activities. In response, UPC prepared an Agricultural Resource Assessment analysing impacts of the project on agricultural outputs, and estimate a reduction in potential output of not more than 20 %, assuming grazing were to continue on the site.

In regard to potential cumulative impacts, the development footprint of the project combined with the other approved and/or operational SSD solar farms in the Central West and Orana region would be approximately 4,000 ha. The loss of 4,000 ha of agricultural land represents a very small fraction (0.045 %) of the 8.9 million ha of land being used for agricultural output in the Central West and Orana region and would result in negligible reduction in the overall productivity of the region.

The potential loss of a small area of cropping and grazing 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 in relation to reducing greenhouse gas emissions;
- the economic benefits of solar energy in an area with good solar resources and capacity in the existing electricity infrastructure; 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, as the land could be easily returned to agricultural land following decommissioning and UPC has committed to facilitate agriculture activities in and around the solar farm where practical.

5.2 Traffic and Transport

Nine submissions raised concerns about the potential traffic and road safety impacts on local roads during the construction period.

Traffic Routes and Site Access

Most of the components for the project would be transported from the Port of Newcastle, Sydney or the North Coast. The haulage route would be via Golden Highway (State road), Ulan Road (local road), Cope Road (local road) and Blue Springs Road (local road), see **Figure 5**.

The site access point proposed for the project would be located to the east of the site via an existing TransGrid easement or via a new constructed site access road to the south of TransGrid's easement (see **Figure 5**). An emergency only access would be located to the west of the proposal from Barneys Reef Road (local road), see **Figure 3** and **Figure 5**.

Ulan Road is a sealed road with one lane in each direction and 10 m width, it is an approved B-double route. Cope Road is a sealed road that allows for two-way traffic and is also an approved B-double route. Blue Springs Road is sealed, with an unsealed section that starts approximately 8 km north of the site. It has no markings for centre line or road edges. Barneys Reef Road is sealed in part (including where the emergency access to the site is proposed).

Traffic volumes

The main increase in project related traffic would occur during the two-year construction period, with a peak period during the second year. The estimated peak daily vehicle movement comprises 60 heavy vehicle movements and around 230 light vehicle movements. A peak construction workforce of approximately 400 workers per day would be required on site.

Additionally, it is anticipated that there would be 20 oversize/over mass vehicle movements during the construction and maintenance phases of the project. As construction activities would be restricted to daytime hours, construction related vehicles would be using the local road network during the day only. Heavy vehicles up to 26 m in length would be used for transporting materials and components to the site.

The Department notes that UPC proposes to use a combination of individual vehicles, minivans and shuttle buses from nearby towns Gulgong or Mudgee to minimise the number of construction-related light vehicles. The Department has included a requirement within the Traffic Management Plan for UPC to develop measures to ensure employee use of this service, which is supported by TfNSW and Council.

Traffic generation during operations would be significantly less than the construction phase (i.e. up to 20 light vehicles and occasionally heavy vehicles would be required for repairs and maintenance activities only).

The traffic assessment provided by UPC considered both mine-related traffic from several coal mines in the area and general community-related traffic.

No other approved or proposed energy projects in the New South Wales Central West and Orana Region share a common transport route, excepting:

- Dunedoo Solar Farm (proposed), which would share a section of Golden Highway (if approved), which is part of the State road network and has enough capacity to accommodate the construction traffic; and
- Wollar Solar Farm (approved), which would share a section of Ulan Road (between Golden Highway and Cope Road), which is a local road and also has enough capacity to accommodate the construction traffic.

For these reasons, the Department considers that there would be no material cumulative traffic impacts on the State or local road network as a result of the project. Notwithstanding, the Department has included a requirement in the Traffic Management Plan to minimise potential cumulative traffic impacts.

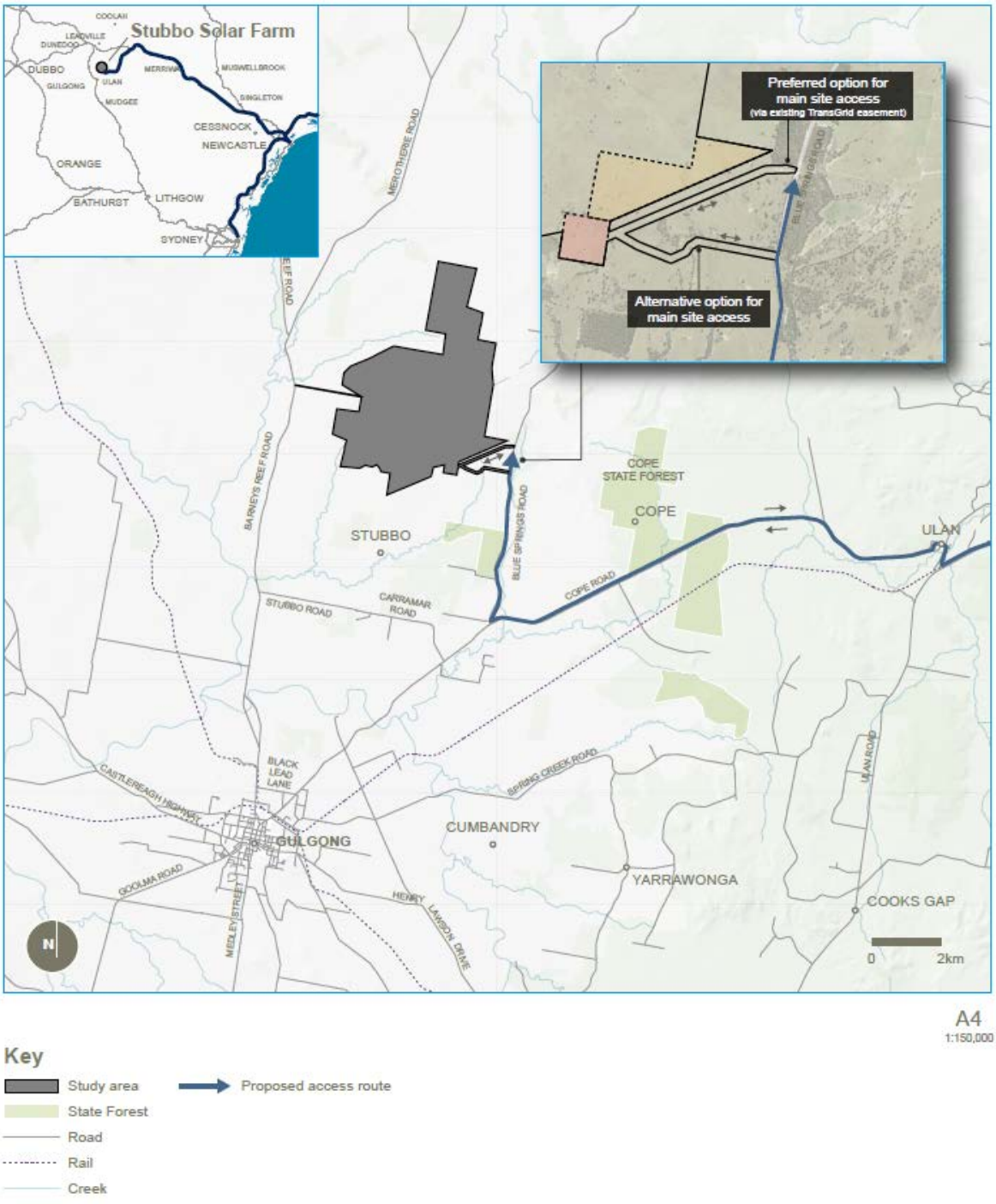

Figure 5 | Access route and site access

Road Upgrades and Maintenance

Council initially raised concerns about construction traffic impacts on Gulgong township and requested that a Construction Traffic Management Plan be prepared to minimise impacts to local roads. Council supported the recommended condition restricting over-dimensional and heavy vehicles to a designated route, but requested light vehicles also avoid Gulgong.

TfNSW did not object to the proposed transport route, provided the intersection of Cope Road and Blue Springs Road was upgraded.

UPC has committed to prepare a Construction Traffic Management plan in consultation with Council and TfNSW to address concerns raised by both agencies. The heavy vehicle transport route would

avoid the Gulgong township, however the Department considers it would be impractical to preclude all light vehicles access through Gulgong, particularly as some workers may be accommodated n Gulgong.

Both Council and TfNSW recommended road upgrades at the Blue Springs Road and Cope Road intersection. The intersection upgrades comprise a Basic Right (BAR) turn and a Basic Left (BAL) turn treatment and UPC has committed to undertake these road upgrades.

Council supports the upgrade of the intersection of Cope Road and Blue Springs Road, and also requested a site access treatment and the upgrade of Blue Springs Road from its intersection with Cope Road, up to 100 m beyond the site access point. UPC accepted the proposed road upgrade requirements and incorporated these works into the project.

Council also requested a dilapidation survey of the project traffic routes along the local road network be undertaken prior to the commencement of construction and throughout construction work, with necessary repairs to be undertaken to maintain the road asset.

The Department has included a requirement for UPC to develop and implement these measures through the Traffic Management Plan (TMP), including the following requirements:

- upgrade the intersection of Cope Road and Blue Springs Road with a BAR and BAL turn treatments, constructed for a 100 km/h speed environment, able to accommodate the largest vehicle using the intersection, with adequate roadside drainage;
- upgrade the intersection of the site access point off Blue Springs Road to the satisfaction of Council;
- upgrade Blue Springs Road from Cope Road up to a minimum 100 m beyond the selected site access including road widening and drainage improvement; and
- provide appropriate signage prior to construction work being undertaken at Blue Springs Road and Cope Road intersection.

UPC consulted with TfNSW and Council about the proposed road upgrades, and have committed to preparing road dilapidation surveys and repairing any damage resulting from the construction traffic.

TfNSW and Council have confirmed they are satisfied with the road design and upgrades UPC have committed to undertake.

Recommended Conditions

The Department has recommended conditions of consent requiring UPC to:

- undertake the relevant road upgrades prior to the commencement of construction;
- restrict the number of vehicles during construction, upgrading and decommissioning to the peak volumes identified in the EIS;
- ensure the length of vehicles (excluding over-dimensional vehicles) does not exceed 26 m; and
- prepare a TMP in consultation with TfNSW and Council, including provisions for dilapidation surveys, details of the measures that would be implemented to address road safety, and details of the employee shuttle bus service.

Subject to the recommended conditions, the Department, TfNSW and Council are satisfied that the project would not result in significant impacts on road network capacity, efficiency or safety.

5.3 Other issues

The Department's consideration of other issues is summarised in **Table 3**.

Table 3 | Other issues

Findings	Recommendations
Visual	
• Four submissions raised concerns about potential visual impacts. Of these, two were from residences within 2 km of the site (R11 and R5), whilst the other two were located more than 10 km away. • The site and surrounds comprise undulating hills of largely cleared agricultural land with scattered paddock trees and roadside vegetation, largely limiting and obscuring views to the site from surrounding areas. • The solar panels would be relatively low lying (up to 4.3 m) and the proposed maintenance buildings and substation would be similar in size to agricultural structures commonly found in the area. • There is one non-associated receiver (R9) within 1 km of the site, and a further seven non-associated receivers (R4 to R8, R10 and R11) within 2 km of the site. • R9 is the closest residence being 937 m east of the site. Views from R9 would be limited by topography and existing vegetation east of Blue Springs Road, resulting in low to negligible visual impact. • R11 is located 1.2 km north-east of the site. Views of the project from R11 would be obscured by a ridgeline running north to south and located between the residence and the development footprint, resulting in low to negligible visual impact. • Residences R4 to R8, R10 are all located more than 1 km from the site, which would make the solar farm difficult to discern due to distance, as well as due to intervening vegetation and topography. Visual impacts on these receivers is considered low to negligible. • Visual impacts on motorists travelling along Cope Road, Blue Springs Road, Governor Road, Carramar Road and the southern side of Stubbo Road would be largely obscured by established roadside vegetation, with the exception of a small section of Blue Springs Road near the proposed site access. Motorist's views from this location would be fleeting and are not considered to be significant. • While photovoltaic panels are designed to absorb rather than reflect sunlight, galvanised steel used for the solar panel framework has the potential to generate glare or reflection, however this diminishes over time. • The setback distances from nearby receivers, topography and intervening vegetation would shield or minimise potential glare and reflection impacts, which would be temporary in any case. • The Department has recommended conditions to minimise the off-site visual impacts of the development, including potential glare or reflection, and to ensure the visual	• Ensure that external lighting is minimised and complies with *Australian/New Zealand Standard AS/NZ 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting* and the *Dark Sky Planning Guideline* (DPIE 2018), or their latest versions. • Prohibit any signage or advertising on the development, unless it is for safety purposes.

Findings	Recommendations
appearance of all ancillary infrastructure blends in as far as possible with the surrounding landscape. • The project is located about 122 km south of the Siding Spring Observatory and therefore falls inside the 'Dark Sky Region' covered by the NSW Government's *Dark Sky Planning Guideline*. • There would be no permanent night lighting installed within the project site and after hours lighting would be strictly for maintenance and emergency situations. UPC have also committed to complying with the lighting design principals outlined in the Dark Sky Planning Guideline. • The Department consulted with the Observatory during its assessment, who confirmed it had no concerns regarding the project. • The Department considers that visual impacts of the project on the surrounding residences and road users would be minimal, and is satisfied that the project would not affect the observing conditions of the Observatory in accordance with the Dark Sky Planning Guideline.	
Biodiversity	
• The site is largely comprised of cleared agricultural land with patches of paddock trees and isolated paddock trees scattered throughout the site. • The project has been designed to avoid and minimise impacts on biodiversity and introduces exclusion zones, collectively covering 528 ha of the 1,772 ha site. The exclusion zones comprise riparian land surrounding Stubbo Creek, which traverses the site centrally from east to south-west, as well as larger patches of paddock trees and higher condition woodland. • No development is proposed within the exclusion zones, except for access provision to connect the northern and southern portions of the site (see **Figure 3**). • Approximately 5.5 km of Blue Springs Road north of the Cope Road, including the Cope Road intersection, requires upgrade for heavy vehicle access, impacting predominantly native roadside vegetation characterised as remnant canopy, with partly intact shrub and groundcover. The project would disturb 204.34 ha of native vegetation within the site, and a further 3.7 ha of roadside vegetation. Collectively, impacted Plant Community Types (PCTs) comprise: - 0.9 ha of Western Grey Box Grassy Woodlands (PCT 81); - 0.03 ha of White Box Grassy Woodlands (PCT 266); - 206.17 ha of Rough Barked Apple-red gum- Yellow Box Grassy Woodland (PCT 281); - 0.7 ha of Slaty Gum Dry Sclerophyll Forests (PCT 1177); and - 0.24 ha of Narrow-leaved Ironbark – Red Stringybark – Black Pine Dry Sclerophyll Forests (PCT 1770). • White Box Grassy Woodlands and Rough Barked Apple-red gum- Yellow Box Grassy Woodland form part of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland, a critically endangered ecological community (CEEC) under the	• Retire the applicable biodiversity offset credits in accordance with the *NSW Biodiversity Offsets Scheme*. • Prepare and implement a Biodiversity Management Plan in consultation with BCS, including measures to protect and manage vegetation and fauna habitat outside the approved disturbance area.

Findings	Recommendations
Biodiversity Conservation Act 2016 (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). • Western Grey Box Grassy Woodlands forms part of *Inland Grey Box Woodland in the Riverina, and Grey box Grassy Woodland and Derived Native Grasslands of South-Eastern Australia*, listed as endangered ecological community (EEC) under the BC Act and the EPBC Act. • Potential threatened species habitats were recorded for two threatened fauna species within or adjacent to the site namely; Black Falcon (*Falco subniger*) and Barking Owl (*Ninox connivens*). • Potential threatened species habitats were recorded for five threatened fauna species within or adjacent to Blue Springs Road; namely, Grey-crowned Babbler (*Pomatostomus temporalis temporalis*), Little Lorikeet (*Glossopsitta pusilla*), Dusky Woodswallow (*Artamus cyanopterus*), Diamond Firetail (*Stagonopleura guttata*) and Brown Treecreeper (*Climacteris picumnus victoriae*). All species are listed as Vulnerable under the BC Act. • Several threatened flora and fauna species have been assumed present along Blue Springs Road. • No significant impacts were predicted on matters of national environmental significance under the EPBC Act. • No evidence of Koala was recorded and no impacts on aquatic ecological values are predicted to occur within the site or Blue Springs Road. • Residual impacts on native vegetation and native species would generate 505 ecosystem credits and 2,408 species credits under the BC Act. 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. • With these measures, both BCS and the Department consider that the project is unlikely to result in a significant impact on the biodiversity values of the locality.	
Noise	
• Four public submissions expressed concern about potential impacts of noise and vibration. • There is one non-associated residence located within 1 km of the site, a further seven non-associated residences within 2 km, and the closest receiver R9 is 937 m east of the site. • Noise generated during construction and decommissioning within the site would be less than 35 dBA at all non-associated surrounding residences and would therefore comply with the daytime 'noise management level' (NML) of 45 dBA under the *Interim Construction Noise Guideline* (DECC 2009). No construction is proposed during evening or night-time. • Construction noise associated with the upgrade of Blue Springs Road is predicted to exceed noise management level of 45 dB(A) at 10 residences south of the site. Road upgrades	• Minimise noise generated by the 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 –

Findings	Recommendations
would occur in stages along Blue Springs Road, including vegetation clearing for up to 4 weeks generating noise up to 77 dB(A) at different times, being above the highly affected noise criterion of 75 dB(A). However, these impacts would be for a short duration and UPC has committed to minimising impacts with a suite of mitigation measures including: regular training workers to use equipment in ways to minimise noise, regularly inspect and maintain equipment to ensure it is in good working order, appoint a community liaison officer where required, provide a contact point for information and complaints. • Construction traffic noise would generally comply with the relevant criteria in the EPA's Road Noise Policy, except for a minor exceedance of up to 0.3 dB(A) along Blue Springs Road. This is expected to have a negligible impact on receivers, noting that differences up to 2dB(A) are generally indiscernible to the human ear. • Noise generated during the normal operation of the proposed facility would not exceed 35 dB(A) LAeq,15min for any non-associated receiver, and would therefore comply with day, evening, and night-time noise trigger levels under the EPA's *Noise Policy for Industry*. • Vibration impacts from construction works would not impact any surrounding residences or known heritage sites due to separation distances of more than 100 m. • UPC has committed to implementing the noise mitigation work practices set out in the ICNG, including using alternatives to 'beeper' alarms, maintaining equipment in good working order and establishing a complaint handling procedure. • The Department has recommended conditions requiring UPC to minimise noise during construction, upgrading or decommissioning as well as limiting to operational noise.	6 pm and Saturday, 8 am – 1 pm.
Heritage	
<u>Aboriginal Cultural Heritage</u> • Surveys identified 25 Aboriginal heritage sites, including nine isolated finds, three isolated finds with potential archaeological deposits (PADs), two artefact scatters, nine artefact scatters with PADs, one PAD and one modified tree. • UPC has committed to avoid all of the 25 Aboriginal sites, excepting one isolated find, assessed to be of low significance (Rosevale IF-01, see Figure 3). • UPC has committed to salvaging and relocating Rosevale IF-01 prior to the commencement of construction. • As a result of the amendments to the project, UPC undertook an additional Aboriginal Cultural Heritage Assessment for the proposed Blue Springs Road upgrades in consultation with Registered Aboriginal Parties (RAPs). • No additional Aboriginal sites were identified in the additional area surveyed, as described in the addendum ACHAR (see **Appendix E**). • Consultation with RAPs informed the project design and management measures.	• 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 relocate Aboriginal items in consultation with RAPs. • Prepare and implement a Heritage Management Plan including a contingency plan and reporting procedure if unexpected items are found, in consultation with RAPs and Heritage NSW.

Findings	Recommendations
• Wellington Valley Wiradjuri Aboriginal Corporation (WVWAC) raised concerns about the survey methodology undertaken for the project. • In the Response to Submission report, UPC noted that each of the concerns raised by WVWAC were addressed in the ACHAR. • Heritage NSW advised that it is satisfied with the Aboriginal Cultural Heritage assessment undertaken and is satisfied with UPC's response to issues raised by the RAPs. • If Aboriginal artefacts or skeletal material are identified during construction of the project all work would cease and an unexpected finds procedure would be implemented. • With these measures, the Department and Heritage NSW consider that the project is unlikely to result in significant impacts on the heritage values of the locality. <u>Historic Heritage</u> • No heritage items listed on Commonwealth, National or State registers are located within or surrounding the site. • Site inspections undertaken did not identify any new heritage sites or items occurring within or near the development footprint. • In relation to historic heritage, Heritage NSW did not raise concerns and supports UPC's commitment to an unexpected finds protocol for historic heritage. • The Department is satisfied that the project would not have any adverse impacts on local or State heritage items in the local area.	
Hazards	
• The site is not identified as bushfire prone land, however grassland and patches of woodland within and around the site constitute a bushfire risk. • UPC would be required to maintain a 20 m defendable space around all project infrastructure and manage the defendable space and solar array areas as an Asset Protection Zone. • UPC would also be required to comply with the RFS's *Planning for Bushfire Protection 2019* and prepare a Fire Safety Study and Emergency Plan to manage the fire risk. • The Department and RFS are satisfied that the bushfire risks can be suitably controlled through the implementation of standard fire management procedures. • The project would comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for electric, magnetic and electromagnetic fields. • UPC completed a preliminary risk screening for the project in accordance with SEPP No.33 – Hazardous and Offensive Development (SEPP 33), which concluded that the storage and transport of hazardous materials for the project (including the risks associated with battery storage) would not exceed the relevant risk screening thresholds and the project is not considered to be 'potentially hazardous".	• Ensure that the development complies with the relevant requirements in the RFS's *Planning for Bushfire Protection 2019* and Standards for Asset Protection Zones. • Ensure the defendable 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 and implement an Emergency Plan in consultation with RFS and FRNSW. • Prepare a Fire Safety Study in consultation with FRNSW and RFS. • Store and handle all liquid chemicals, fuels and oils

Findings	Recommendations
• UPC prepared a preliminary hazard analysis (PHA) in accordance with the *Hazardous Industry Planning Advisory Paper No. 6 'Hazard Analysis'* (HIPAP 6) and *Multi-level Risk Assessment* including for the battery storage component of the project. The PHA study found that risks were able to be effectively managed with hazard prevention and mitigation measures. • UPC have committed to implementing a range of hazard prevention and mitigation measures to manage potential risks associated with the battery storage facility, including: - a 20 m Asset Protection Zone (APZ) around the battery storage facility; - monitoring and control systems with automated shutdown capability; and - appropriate separation between battery sub-units. • Subject to the recommended conditions, the Department is satisfied that risks associated with the facility would be minimal.	used on-site in accordance with all relevant Australian Standards and the EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Handbook*.
Water, soil and erosion	
• Six public submissions raised concerns about potential water and soil erosion impacts from the project. • The site falls within the upper catchment of Stubbo Creek, which is an ephemeral watercourse traversing the site centrally from east to west. • The proposed exclusion zones cover Stubbo Creek and surrounding riparian lands. The development footprint avoids the exclusion zones, with the exception of two crossings required for internal access, electrical cabling and security fencing (see Figure 3). • There are no wetlands on the site. • No riparian vegetation would be cleared and UPC has committed to implement buffer zones in accordance with the *Guidelines for Controlled Activities on Waterfront Land*. • There are 19 small farm dams within the site, and those within the exclusion zones are proposed to be retained. • UPC has committed to undertake a soil survey prior to construction, consistent with advice from DPI Agriculture to ensure the site is returned to pre-development conditions following decommissioning. • DPIE Water recommended UPC prepare a Construction and Operational Environmental Management Plan that includes an Erosion and Sediment Control Plan, noting the risk of erosion and sedimentation. • UPC has committed to implement measures to avoid and minimise soil erosion and sedimentation, including preparing a construction soil and water management plan. • The project is not expected to affect groundwater resources or groundwater dependent ecosystems. • The site is not identified as flood prone land and has been characterised as having low flooding risk.	• 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) and *Policy and Guidelines for Fish Habitat Conservation and Management* (2013). • Prepare a Soil and Water Management Plan in consultation with DPIE Water.

Findings	Recommendations
• The project would require around 200 kilolitres per day of water during construction (mainly for dust suppression) and around 5 megalitres (ML) of water annually during operation (mainly for cleaning panels). A static water supply of 20,000 litre capacity would be established and maintained for fire protection. • UPC has consulted with potential water suppliers in the area and would appoint a water contractor post approval. • UPC has also committed to follow any applicable water restrictions in the area. • Subject to the recommended conditions, the Department and DPIE Water consider that the project would not result in significant impacts to water resources.	
Subdivision	
• UPC require a freehold title over the proposed substation in order to proceed with construction. • As UPC has not finalised the preferred transmission connection point and substation location (see Figure 3), it has proposed two potential subdivisions on the basis that one proposed substation would be constructed, as follows: - option A: Lot 69 DP 750765 subdivided into two new lots including 5 ha for the substation; and - option B: Lot 146 DP 1018333 subdivided into two new lots including 5 ha for the substation. • A newly created substation lot would be below the minimum lot size of 100 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 part of the project as it: - is necessary for the operation of the solar farm as it is required for the transfer of the substation to TransGrid; - would not result in any additional dwelling entitlements on subdivided land; 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 in relation to the proposed subdivision. • The Department is satisfied that the proposed subdivision is in the public interest, as it would allow the solar farm to be developed, realising net benefits to the National Electricity Market in a timely manner.	• Subdivide land as per one of the two options identified, in accordance with the requirements of the EP&A Act, the *Environmental Planning and Assessment Regulation 2000, Conveyancing Act 1919* (NSW) and the *NSW Land Registration Services* (or its successor).

Findings	Recommendations
Decommissioning and rehabilitation	
• Two public objections raised concerns about decommissioning, rehabilitation and the use of the land after its operational life. • The Department has developed strict conditions for solar farms to cover this stage of the project life cycle, including clear decommissioning triggers and rehabilitation objections such as removing all above and below ground infrastructure and restoring land capability to its pre-existing agricultural use. • With the implementation of these measures, 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 would appropriately rehabilitated.	• Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.
Land values	
• Two public submissions raised concern that the project would have an adverse impact on neighbouring land values, particularly as a result of the proximity of the project. • The Department notes that: - property values are influenced by a number of factors; - there is no clear evidence to suggest that solar farms in NSW are adversely affecting property values; - the project is permissible with development consent under the Infrastructure SEPP and the LEP; - a detailed assessment of the merits of the project has found that the project is unlikely to generate any significant economic, environmental or social impacts; - the impacts of the project can be further minimised by imposing suitable conditions on the project, and requiring a range of standard mitigation measures to be implemented; and - the Department considers the visual impacts of the project on the surrounding residences and road users would not be significant. • Accordingly, the Department considers the project would not result in any significant or widespread reduction in land values in the areas surrounding the solar farm.	• No specific conditions required.
Socio-economic Impacts	
• Some submissions raised concerns that the project would have negligible benefits to the local community following construction. • The project would generate direct and indirect benefits to the local community, including: - up to 400 workers would be required during the construction period; - expenditure on accommodation and business in the local economy by workers who would reside in the area; and	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the employment of local workers. • Enter into a VPA with Council.

Findings	Recommendations

- the procurement of goods and services by UPC and associated contractors

- UPC estimates that approximately half of the construction would be sourced from the local and regional community where possible, primarily from Gulgong and Mudgee.
- Further, UPC has reached in-principle agreement with Council to enter into a VPA, including:
  - an initial payment to Council of $ 100,000 during project construction; and
  - an annual contribution of $ 300 per MW towards community projects (in the order of $ 120,000 per year) identified in Council's Community Plan / Delivery Program.
- The project is unlikely to result in significant demand on community services and infrastructure (excluding roads considered above) given the relatively low level of local employment generated once it is operational.
- Noting the above, the Department considers that the project would provide economic benefits for the local community.
- There is potential for construction of the project to overlap with the construction of the approved Wollar Solar Farm and the proposed Dunedoo Solar Farm (if approved). Should this occur, up to 845 construction personnel may be required in the region. However, the Department considers that although possible, it is unlikely that the entire construction periods of these three projects would overlap.
- Council recommended UPC submit an Accommodation and Employment Strategy considering different scenarios and assuming the construction period overlaps with other major projects and considering peak tourism activity.
- UPC has committed to develop and implement an Accommodation and Employment Strategy in consultation with Council.
- While the Department considers there to be 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, UPC would be required to develop an Accommodation and Employment Strategy in consultation with Council. The Strategy would require UPC 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.

6 Recommended Conditions

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

The Department consulted with UPC and the relevant agencies on the conditions for the project, particularly Council and TfNSW in regard to 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
- Soil and Water Management Plan
- Heritage Management Plan; and
- Emergency Plan.

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

Other key recommended conditions include:

- *roads* – requiring relevant road upgrades are undertaken prior to the commencement of construction;
- *biodiversity offsets* – retiring biodiversity offset credits in accordance with the NSW Biodiversity Offsets Scheme;
- *operating hours* – undertaking construction, upgrading or decommissioning activities on-site during standard construction hours, unless these activities that are inaudible at non-associated receivers;
- *roads* – requiring relevant road upgrades are undertaken prior to the commencement of construction, and maintenance and repair of any damage during construction, upgrades or decommissioning activities;
- *fire* – ensure that the development complies with the relevant asset protection requirements in the *RFS's Planning for Bushfire Protection 2019*;
- *accommodation and employmen*t – 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; and
- *community enhancement* – requiring UPC to enter into a VPA with Council, which would provide funding for community projects for the operational life of the development.

7 Evaluation

The Department has assessed the development application, EIS, submissions, Submissions Report, amended development application and additional information provided by UPC 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 project site is located in a rural area, with eight non-associated residences located within 2 km of the development footprint, with the nearest non-associated residence located 937 m at its closest point.

The site would have direct access to local and regional road network via Blue Springs Road and Cope Road and to the electricity network via an existing TransGrid transmission line, which extends along the southern boundary of the site. The project would also be located in an area that could contribute to the pilot Renewable Energy Zone in the Central-West Orana Region.

The Department considers the site to be suitable for a solar farm as it has good solar resources and available capacity on the existing electricity network.

The project has been designed to largely avoid key constraints, including amenity impacts to nearby non-associated residences, good quality agricultural land, watercourses, remnant native vegetation and Aboriginal heritage sites. Any residual impacts would be relatively minor and can be managed through the recommended conditions of consent.

The Department considers that the project is not likely to have significant visual impacts on surrounding residences and motorists due to topography, distance to receivers and existing intervening vegetation.

The project would not result in any significant reduction in the overall agricultural productivity of the region. The site does not include any mapped BSAL and approximately 30 % of the site (about 528 ha) would be retained for continued agricultural practices. Additionally, UPC has committed to facilitate agricultural activities in and around the solar farm where practical. 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.

Importantly, the project would assist in transitioning the electricity sector from coal and gasfired power stations to low emissions sources. It would generate over 883,008 MWh of clean electricity annually, which is enough to power over 149,660 homes and save over 847,000 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*.

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 and/or offset. UPC has reviewed the conditions and does not object to them.

The Department considers that the project achieves an appropriate balance between maximizing the efficiency of the solar resource development and minimising the potential impacts on surrounding land uses and the environment. The project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community, through job creation, capital investment and substantial contributions to Council for community enhancement projects.

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

8 Recommendation

It is recommended that the Executive Director, as delegate of the Minister for Planning and Public Spaces:

- **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 for the application in respect of Stubbo Solar Farm (SSD 10452) as amended; and
- **signs** the attached development consent and recommended conditions of consent (see **Appendix F**).

Prepared by:

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Recommended by:

21/6/21

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Appendices

Appendix A – List of references documents

Stubbo Solar Farm – Environmental Impact Statement, Ramboll Australia Pty Ltd (December 2020)

Stubbo Solar Farm – Response to submissions report, Ramboll Australia (June 2021)

Stubbo Solar Farm – Amendment Report, Ramboll Australia (June 2021)

Stubbo Solar Farm – Additional information letter, UPC (June 2021)

Appendix B – Environmental Impact Statement

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/31031

Appendix C – Submissions

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/31031

Appendix D – Submissions Report

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/31031

Appendix E – Amendment Report

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/31031

Appendix F – Recommended Conditions of Consent

See the Department's website at:

https://www.planningportal.nsw.gov.au/major-projects/project/31031

Appendix G – 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 considerations of 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 of 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	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. 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)), as the project: • 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 *Net Zero Plan Stage 1: 2020 – 2030*, and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. 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. In addition, the Department considers that appropriately designed SSD solar development, in itself, is consistent with many of the principles of ESD. UPC 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. Consideration of the protection of the environmental (Object 1.3(e)) is provided in **section 5** of this report. UPC has applied both the precautionary principle and the *conservation of biological diversity* and *ecological integrity* have undertaken careful evaluation and assessment to avoid serious or irreversible damage to the environment where practicable. Following its consideration, the Department

Aspect	Summary
	considers that the project can be undertaken in a manner that would improve or 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. Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in **Section 5** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality.
State significant development	Under Section 4.36 of the EP&A Act and the *State Environmental Planning Policy (SEPP) (State and Regional Development) 2011* the project is considered a State Significant Development. The Minister for Planning and Public Spaces is the consent authority for the development. However, under the Minister's delegation of 26 April 2021, the Executive Director, Energy, Resources and Industry Assessments, may determine the project.
Environmental Planning Instruments	The *Mid-Western Regional Local Environmental Plan 2012* applies and is discussed in **sections 3.3** and **5.1** of this report, particularly regarding permissibility, land use zoning, bushfire and subdivision. The project is permissible under the Infrastructure SEPP. In accordance with the Infrastructure SEPP, the Department has given written notice of the project to TfNSW, TransGrid and the Director of the Siding Springs Observatory. 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 these matters in **section 5** of this report. 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. Mid-Western Regional Council is listed under SEPP *(Koala Habitat Protection)* 2021. UPC's assessment found no evidence of Koala, the Department has considered this in **section 5.3** of this report.