Culcairn Solar Farm

State Significant Development Assessment

SSD 10288

January 2021

NSW Department of Planning, Industry and Environment | dpie.nsw.gov.au

Published by the NSW Department of Planning, Industry and Environment

dpie.nsw.gov.au

Title: Culcairn Solar Farm

Subtitle: State Significant Development Assessment

Cover image: Solar Farm. Source: NSW Department of Planning, Industry and Environment Image Library https://images.planning.nsw.gov.au/

Executive Summary

Neoen Australia Pty Ltd (Neoen) proposes to develop a 350 megawatt (MW) solar farm with a 100 MW / 200 MW-hour battery storage facility approximately 4 kilometres (km) south-west of Culcairn in the Riverina region of NSW.

The project site is located in proximity to the Olympic Highway, and has direct access to the electricity network via TransGrid's 330 kV transmission lines which traverse the site. The site is located in a rural area with five non-associated residences located within 1 km of the development footprint.

The project is classified as State Significant Development under the *Environmental Planning and Assessment Act 1979* (EP&A Act), and the Independent Planning Commission (the Commission) is the consent authority for the development application as more than 50 unique public submissions by way of objection were made during the exhibition of the Environmental Impact Statement (EIS), and Greater Hume Council (Council) has also objected to the project.

Engagement

The Department exhibited the EIS for the project and received 230 submissions, including two from special interest groups (one objection and one comment) and 228 from the general public (146 objections, 81 supporting and 1 providing comment). One objection was received from Council and 11 government agencies provided advice.

The Department also consulted with Council and the relevant government agencies on key issues and inspected the site, met with surrounding landowners and held a community information session on 7 November 2019.

In response to agency advice and submissions on the project, Neoen undertook additional assessment and significantly reduced the scale of the project by removing all project infrastructure north of Cummings Road (representing a 23% reduction to the project site) and increasing the distances between the development footprint and the nearest residences.

The project amendments would lead to better outcomes by reducing amenity impacts, including visual and traffic, on surrounding residences and road users, and retaining a large portion of the agricultural land (approximately 345 hectares (ha)) without impacting the generating capacity of the project.

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 *Environmental Planning and Assessment Act 1979*. The key assessment issues identified for the project are land use compatibility, visual amenity and biodiversity.

The project site is 1,039 ha and is currently used for agricultural purposes (i.e. cropping with intermittent grazing). The development footprint (892 ha) is wholly located on soils classified as Class 4 under the *Land and Soil Capability Mapping in NSW* (OEH, 2017). Assessment undertaken by Neoen indicates that the Class 4 soils can support grazing but requires active management to sustain cultivation on a rotational basis.

Even with the other solar farms approved or proposed in the Greater Hume local government area (LGA), the Department considers that the project would not significantly reduce the overall agricultural productivity of the region as a whole and that the inherent or long term agricultural capability of the site would not be affected as the site could be returned to agricultural uses in the future following

decommissioning and rehabilitation. The Department also notes that Neoen intends to graze sheep on the site during operation of the project.

The solar farm is relatively low-lying (solar panels up to 4.2 m high) and the site and surrounds comprise gently undulating land that has been highly disturbed from a history of prolonged agricultural practices. The site is mostly cleared of native vegetation, with a section of good quality riparian native vegetation along Back Creek which traverses the south-western corner of the site and would be retained. Existing vegetation provides partial screening of the project from all nearby receivers and would be supplemented by additional landscape screening.

The Department supports Neoen's amended layout which has removed a large section of the project (i.e. 313 ha) north of Cummings Road to reduce the impacts of the project in the rural landscape.

The Department also considered the potential cumulative impacts (including visual amenity, noise, agricultural land, electricity network capacity and traffic) with other State significant development solar projects proposed or approved in the LGA (i.e. Walla Walla, Jindera and Glenellen solar farms).

The project would employ up to 500 workers during the peak construction period. The Department is satisfied that there is sufficient accommodation in nearby towns, such as Culcairn, Walla Walla, Jindera, Holbrook, Albury and Wagga Wagga, and that the use of this accommodation would contribute to the local economy. However, the Department has recommended a condition requiring Neoen to prepare and implement an accommodation and employment strategy to ensure there would be sufficient accommodation to house construction workers, and to prioritise the employment of local workers, in the unlikely event that the construction of the project occurs in conjunction with the construction of other major projects, resulting in cumulative impacts on the availability of accommodation locally.

Given the distance of the project from the proposed Walla Walla Solar Farm (approximately 1.2 km to the south of the site), there is potential for the project to result in cumulative visual impacts and construction noise and traffic impacts, if the two projects were to be constructed concurrently. The Department considers that potential cumulative visual impacts would not be significant and would be materially mitigated by intervening vegetation between the solar farms. There is potential for cumulative construction noise impacts at one receiver (R17) in the event that both projects are constructed concurrently. Importantly, the noise level is well below the 'noise affected' criterion of 45 dB(A) under the Environment Protection Authority's (EPA) *Interim Construction Noise Guideline*. While Benambra Road would be shared for both projects, the traffic assessment indicates that the road network has sufficient capacity to safely accommodate construction traffic even if both projects are constructed at the same time.

The project has been designed to largely avoid impacts on native vegetation and threatened species in the locality and all unavoidable impacts (including disturbance of 0.33 ha of native vegetation) would be required to be offset in accordance with the NSW Biodiversity Offsets Scheme.

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

Summary

Overall, the Department considers the site to be appropriate for a solar farm 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 also consistent with NSW's *Climate Change Policy Framework and Net Zero Plan Stage 1: 2020 - 2030*, as it would contribute 350 MW of renewable energy to the National Electricity Market.

The project would also provide flow-on benefits to the local community, including up to 500 construction jobs, 10 ongoing operational jobs, a capital investment of $636 million, and up to $5 million in contributions to Council for community enhancement projects.

On balance, the Department considers that the Project is in the public interest, and is approvable, subject to strict conditions.

Contents

1 Project

1.1.1 Neoen Australia Pty Ltd (Neoen) proposes to develop a new State significant development (SSD) solar farm approximately 4 kilometres (km) south-west of Culcairn in the Greater Hume local government area (LGA) (see **Figure 1**). Neoen is an international renewable energy company with five large-scale operational solar farms in Australia, four of which are in NSW.

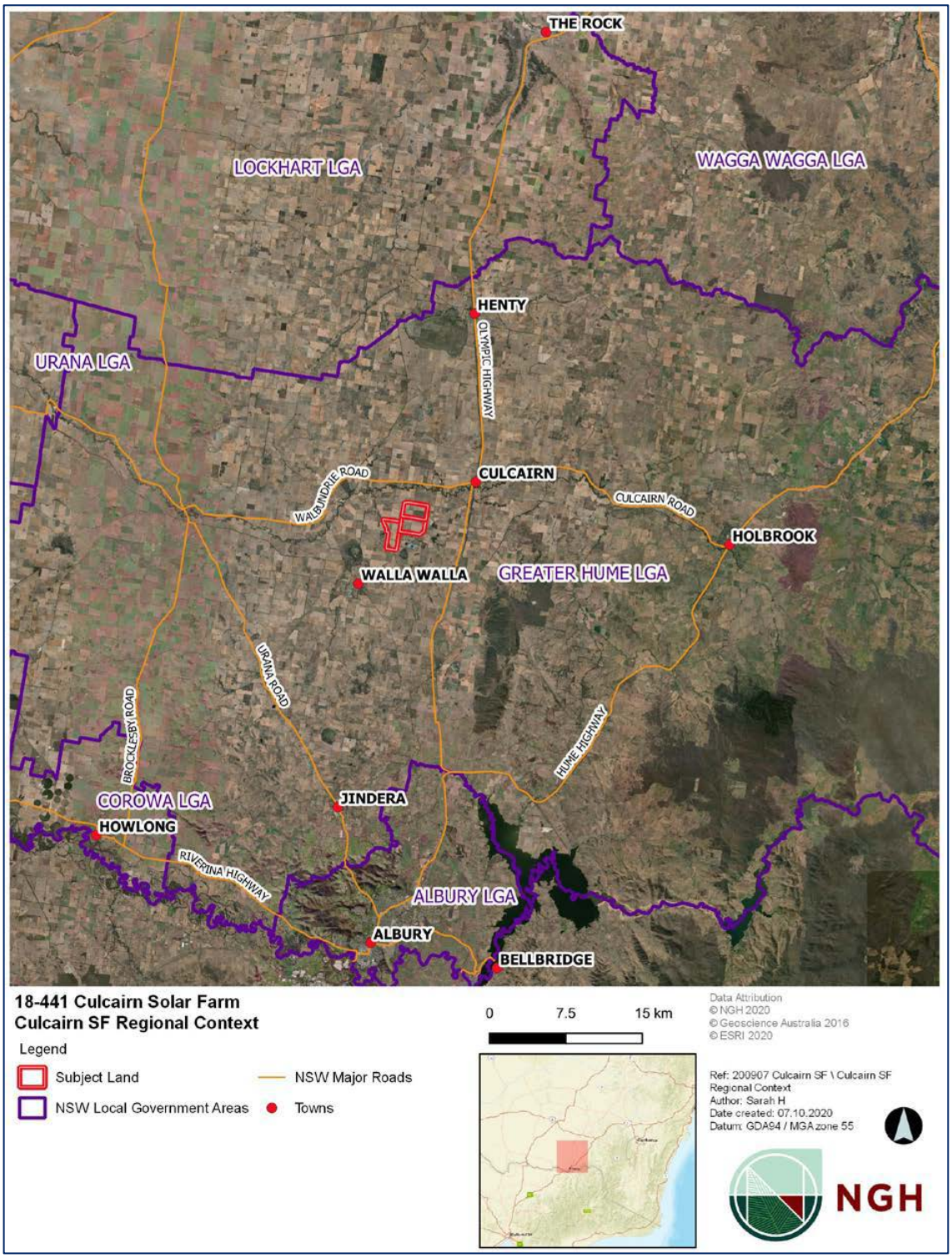


Figure 1 | Regional Context Map

1.1.2 The project involves the construction of a new solar farm with a generating capacity of approximately 350 megawatts (MW) and 100 MW / 200 MW-hour (MWh) of battery storage. It also involves the upgrading and decommissioning of infrastructure and 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.

1.1.3 The solar farm would connect to TransGrid' s existing Wagga Wagga to Jindera 330 kilovolt (kV) transmission line which traverses the site diagonally from north-east to south-west.

1.1.4 The key components of the project are summarised in **Table 1**, shown in **Figure 3** (showing the project as amended), and described in the Environmental Impact Statement (EIS) (see **Appendix B**), Submissions Report (see **Appendix D**), Amendment Report and Amendment Letter (see **Appendix E**), and additional information provided during the Department's assessment of the project (see **Appendix F**). The project site is shown in **Figure 2**.

Figure 2 | Project Site

Table 1 | Main components of the Project

Aspect	Description
Project summary	The project includes: • approximately 900,000 single axis tracking solar panels (up to 4.2 m high) and up to 67 inverters (up to 2.5 m high); • a lithium-ion battery storage facility (up to 100 MW / 200 MWh); • an on-site substation and connection to TransGrid's 330 kV transmission line; • site office, maintenance building (up to 4 m high), switch room (up to 4 m high), storage shed (up to 6 m high), internal access tracks, laydown area, car park, vegetation screening and security fencing (up to 3.5 m high); • subdivision of land within the site for the solar farm, substation and to be retained by the landowner.
Project area	• 1,039 hectares (ha) (with an 892 ha development footprint)
Access route	Over-dimensional and heavy vehicles would access the site via the Olympic Highway, Benambra Road and Weeamera Road.
Site entry and road upgrades	• A new site access would be constructed off Weeamera Road with a Rural Property Access type treatment. • Upgrades to a section of Weeamera Road from north of the access to the Hurricane Hill Quarry to the site access point (approximately 1.4 km) to a 7 m sealed pavement to allow for two-way heavy vehicle movements.
Construction	• The construction period would last for up 18 months, including a peak period of eight to 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 is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life.
Decommissioning and rehabilitation	The project 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.
Employment	Up to 500 construction jobs and up to 10 operational jobs.
Capital investment value	$636.6 million

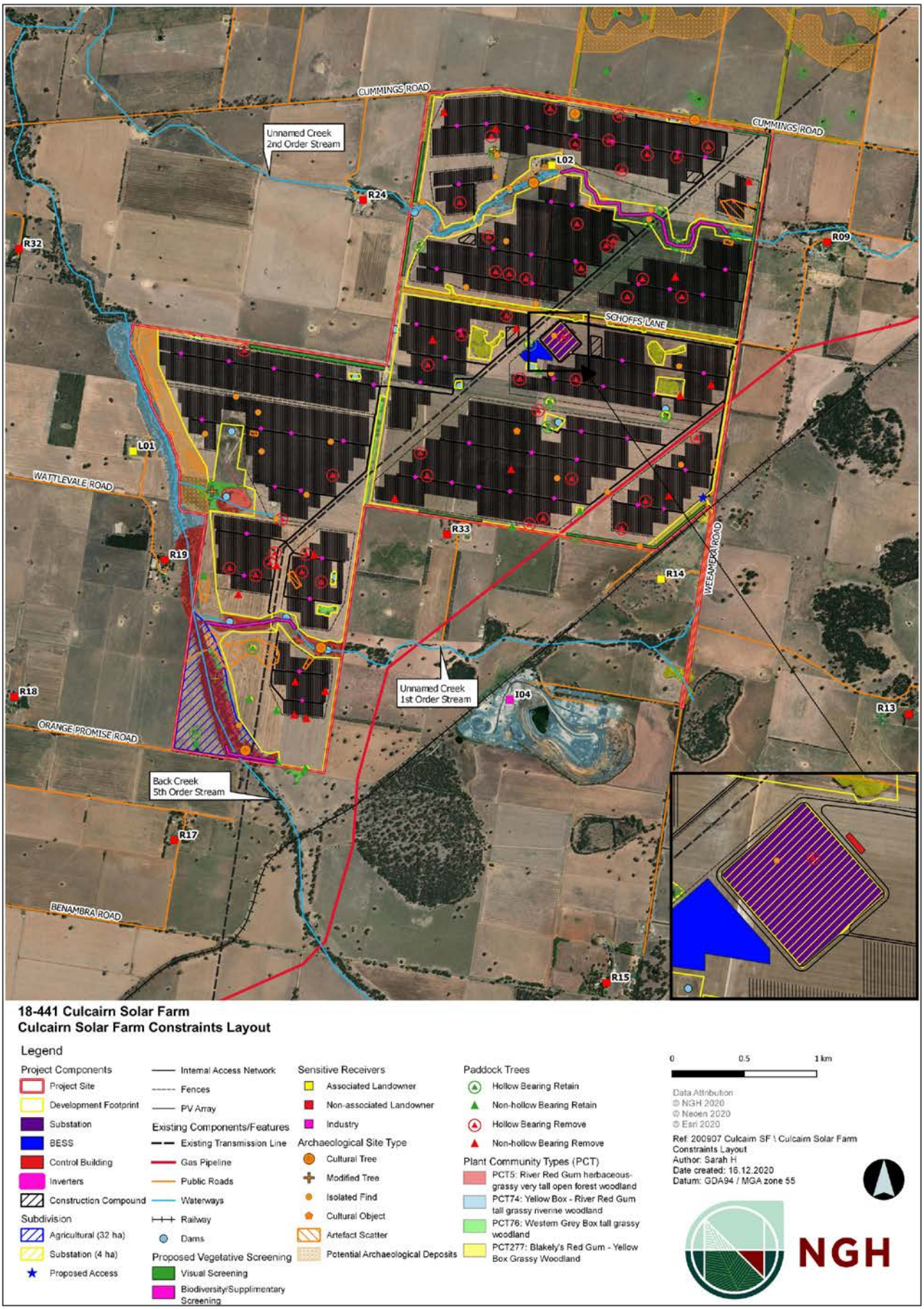


Figure 3 | Project Layout

2 Strategic context

2.1 Site and Surrounds

2.1.1 The project is located on a 1,039 ha site within the Riverina Murray region of NSW. The site (as shown in **Figure 2**) is zoned RU1 – Primary Production under the Greater Hume Local Environmental Plan 2012 (Greater Hume LEP) and is currently used for agricultural purposes, such as cropping of wheat and canola and intermittent sheep grazing.

2.1.2 The site does not include any mapped Biophysical Strategic Agricultural Land (BSAL). Under the *Land and Soil Capability Classification in NSW* (OEH, 2017), the land within the development footprint is Class 4 (land with moderate capability, requiring specialised management practices, expertise, inputs and technology to manage productivity).

2.1.3 The site comprises generally flat to gently undulating land, predominantly cleared of vegetation and cultivated for cropping. The site is located within the Murray River catchment with three watercourses traversing the site, including Back Creek to the south-west and two unnamed ephemeral tributaries flowing from east to west in the centre and south of the site. There are 16 farm dams scattered throughout the site.

2.1.4 The proposed development footprint is approximately 892 ha and was designed to largely avoid site constraints, including on-site watercourses and farm dams, remnant native vegetation, Aboriginal heritage items of high significance and to reduce visual impacts on nearby residences.

2.1.5 Land surrounding the site is also zoned RU1 and is primarily used for agricultural purposes (grazing and cropping). Weeamera Road and Cummings Road run along eastern and northern boundaries of the site. A paper road (Schoffs Lane) dissects the site in a west-east direction. Benambra Road is located approximately 3 km south and the Olympic Highway is about 4 km east of the site.

2.1.6 TransGrid's 330 kV transmission line traverses the site diagonally from north-east to south-west (see **Figure 2** and **Figure 3**).There is also an existing easement for the APA Group high pressure gas pipeline, which runs through the south-eastern corner of the site.

2.1.7 The Boral Hurricane Hill Quarry (the Quarry) is located approximately 1.5 km south of the project site along with the entry located on Weeamera Road and sharing a transport route from the Olympic Highway, along Benambra Road and Weeamera Road.

2.1.8 The south-eastern boundary of the development would be immediately adjacent to a non-operational rail corridor from Culcairn to Corowa owned by TfNSW.

2.1.9 Main southern railway is located approximately 4 km east of the project site along the Olympic Highway.

2.1.10 There are five non-associated receivers located within 1 km of the development footprint, with the closest receiver (R33) located approximately 250 m to the south. A further 13 non-associated residences are located between 1 km and 2 km from the development footprint.

2.2 Other Solar Farms

2.2.1 The Riverina Murray region has attracted considerable interest from solar developers given the presence of major transmission lines and existing electricity substations. There is one proposed SSD solar project (Glenellen Solar Farm) and two approved solar projects (Walla Walla Solar

Farm and Jindera Solar Farm) located within 50 km of the project (see **Table 2** and **Figure 4**). While there are another 4 operational and 15 approved solar projects in the region (including one currently under construction), they are located at a significant distance from the proposed project (over 70 km away).

Table 2 | Nearby solar farms

Project	Capacity (MW)	Status	Approximate distance from the project (km)
Walla Walla Solar Farm	300	Approved	1
Jindera Solar Farm	120	Approved	21
Glenellen Solar Farm	200	Proposed	21

2.2.2 Potential cumulative impacts relate to loss of agricultural land, traffic, noise, workforce accommodation and visual amenity.

2.2.3 Of the nearest SSD solar projects, Walla Walla Solar Farm (located 1 km south of the site) and Jindera Solar Farm (located 21 km south) have been approved by the Independent Planning Commission (IPC) and the proposed Glenellen Solar Farm (located 21 km south) is with the applicant to respond to submissions.

2.2.4 Should the Culcairn and Glenellen projects be approved, along with the two already approved, there is the potential for the construction periods to overlap. While the surrounding regional road network may experience an increase in traffic numbers, there would be no significant cumulative visual, noise or traffic impacts associated with an overlap of construction periods with Jindera Solar Farm or Glenellen Solar Farm given the distance from the project (approximately 21 km).

2.2.5 The approved Walla Walla Solar Farm is the closest solar farm to the project and may result in limited cumulative visual and noise impacts to some nearby residences. These impacts are further considered in **sections 5.2** and **5.3** respectively. The project is proposing to use Benambra Road and Weeamera Road for heavy vehicle transport during construction. Benambra Road would also be the main transport route for Walla Walla Solar Farm. Cumulative traffic impacts occurring from the project sharing the transport route with nearby solar farm have been considered in **section 5.3**.

2.2.6 Other potential cumulative impacts with the nearby solar farms include the loss of agricultural land and workforce accommodation. The potential cumulative impact on agricultural land in the region is discussed in **section 5.1**.

2.2.7 Workforce accommodation for these projects would likely be sourced from the local and wider region, including neighbouring towns (such as Albury, Wagga Wagga, Walla Walla, Culcairn, Jindera and Holbrook) and LGAs, as discussed further in **section 5.3**.

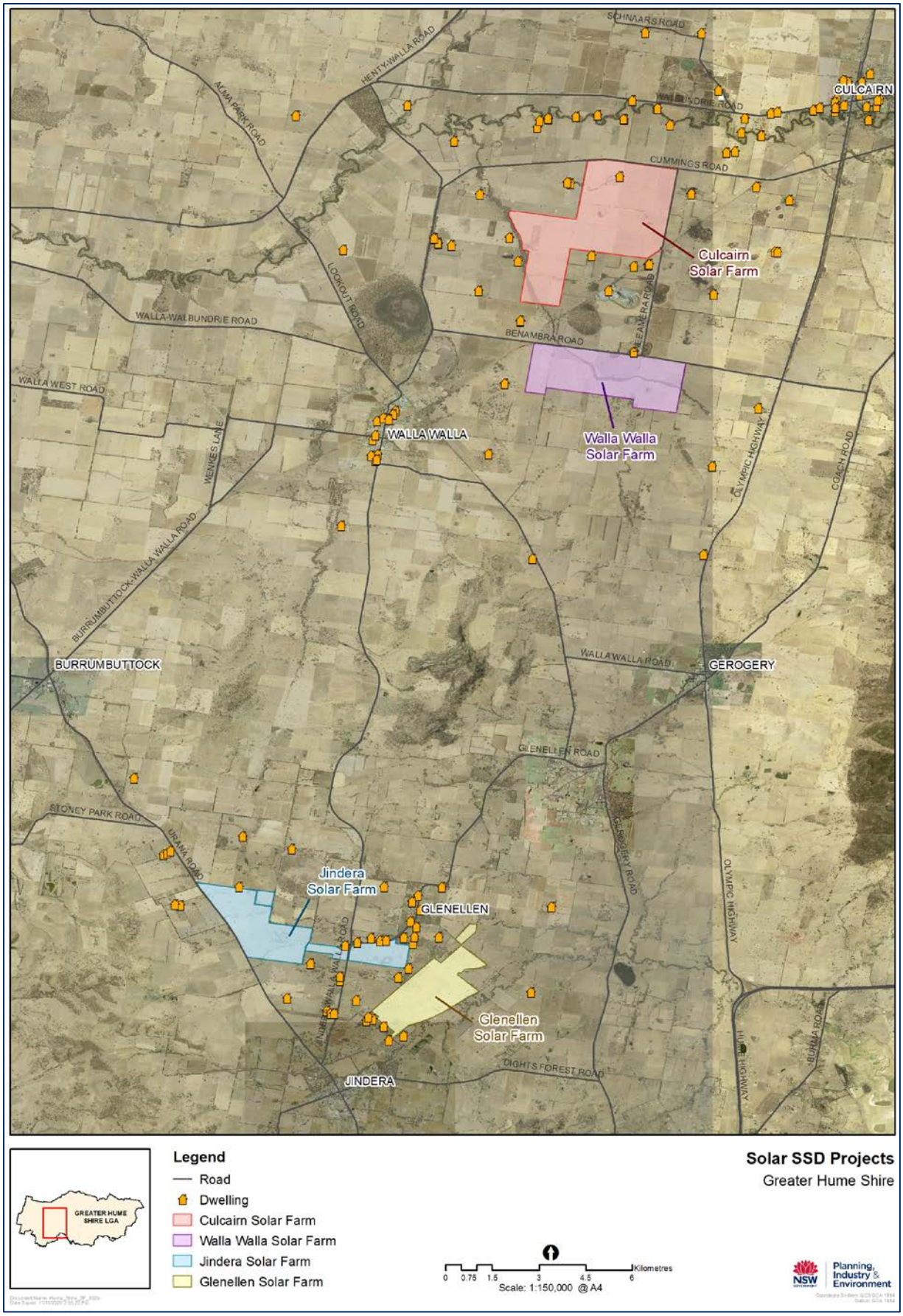


Figure 4 | Nearby Solar Farms

2.3 Energy Context

2.3.1 In 2019, NSW derived approximately 18.7% of its energy from renewable sources. The remainder was derived from fossil fuels, including 76.7% from coal and 4.1% 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 and solar farms, is experiencing rapid growth.

2.3.2 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 power generation with lower emissions. It notes that Australia is heading towards net zero emissions in the second half of the century.

2.3.3 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.

2.3.4 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.

2.3.5 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.

2.3.6 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. Neoen's assessment is consistent with the principles of the Guideline.

2.3.7 The Guideline also acknowledges that large-scale solar projects could help 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.

2.3.8 NSW is one of the nation's leaders in large-scale solar, with 14 major operational projects and eight under construction.

2.3.9 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. While the project is not located within a Renewable Energy Zone, the NSW Government has a clear policy to encourage investment in new electricity infrastructure and unlocking additional generation capacity in order to ensure secure and reliable energy in NSW, subject to appropriate site selection, detailed assessment and community consultation.

2.3.10 The project would be located in close proximity to the South West Energy Zone and would have access to the electrical grid at a location with available network capacity (even if the other

projects in the Greater Hume LGA proceed). With a capacity of 350 MW, the project would generate enough electricity to power over 131,000 homes and is therefore consistent with the NSW *Climate Change Policy Framework* and *Net Zero Plan Stage 1: 2020 - 2030*.

3 Statutory context

3.1 State Significant Development

3.1.1 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 (SEPP) (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.

3.1.2 Under Section 4.5(a) of the EP&A Act and clause 8A of the SRD SEPP, the Independent Planning Commission (the Commission) is the consent authority for the development as the project received more than 50 unique public submissions by way of objection, and Council has also objected to the project.

3.2 Amended Application

3.2.1 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, Neoen has sought to amend its application, the details of which are summarised in **section 4.4** of this report.

3.2.2 Under clause 55 of the EP&A Regulation, an application can be amended with the agreement of the consent authority (i.e. the Commission for this development), however, under the delegation of 4 August 2020, the Executive Director, Energy, Industry and Compliance can agree to amendments to an application.

3.2.3 The Department considers that it can accept Neoen's 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;
- Neoen 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

3.3.1 The site is located wholly within land zoned RU1 - Primary Production under the Greater Hume LEP, the provisions of which are discussed in **section 5.1**. The RU1 zone includes various land uses that are both permitted with and without consent. As electricity generating works are not expressly listed as permitted with or without consent, it is 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 that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP.

3.3.2 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

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

3.4.2 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 project.

3.4.3 In addition to development consent, the project only requires a separate approval under the *Roads Act 1993* for proposed road upgrades and construction of the site access.

3.4.4 Nonetheless, 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**).

3.4.5 Neoen considers that the project does not need to obtain 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

3.5.1 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).

3.5.2 The Department has considered all these matters in its assessment of the project, as well as Neoen's consideration of environmental planning instruments in its EIS, as summarised in **section 5**. The Department has also considered relevant provisions of the environmental planning instruments in **Appendix H**, and concluded that the project is consistent with the objectives of those instruments.

4 Engagement

4.1 Department's engagement

4.1.1 The Department publicly exhibited the development application and EIS from 30 January 2020 until 27 February 2020, advertised the exhibition in the Albury Border Mail, and notified adjoining landowners adjacent to the project boundary.

4.1.2 The Department consulted with Council and the relevant government agencies throughout the assessment. The Department also inspected the site and held a community information session on 7 November 2019 and met with surrounding landowners including receivers R8, R9, R14, R17 and R24 to further understand their concerns.

4.1.3 The Department notified and sought comment from TransGrid and Transport for NSW (TfNSW) (formerly Roads and Maritime Services) and comment was provided by the APA Group (in regard to the high-pressure gas pipeline on the site) in accordance with the Infrastructure SEPP, as discussed further in **section 4.5**.

4.2 Neoen's engagement

4.2.1 Neoen undertook engagement with the local community as detailed in the EIS, including a dedicated project website, an online feedback form, a dedicated email address and phone number, community open day, general information flyers and individual meetings with adjacent and nearby landowners.

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

4.3 Submissions and Submissions Report

4.3.1 During the exhibition period of the EIS, the Department received 230 submissions, including:

- 228 public submissions (146 objections, 81 supporting and 1 comment); and
- 2 special interest group submissions (1 objecting and 1 providing comment).

4.3.2 Of the 146 public objections received, 138 were unique submissions.

4.3.3 Advice was also received from 12 government agencies, including an objection from Greater Hume Council.

4.3.4 Full copies of submissions are attached in **Appendix C**.

4.3.5 Neoen 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 F**).

4.4 Amended Application

4.4.1 Following consideration of submissions on the project, Neoen amended its application on two occasions, in June 2020 and October 2020, as detailed in the Amendment Report and Amendment Letter (see **Appendix E**).

4.4.2 The amended application includes:

- removing all project infrastructure north of Cummings Road (313 ha);
- total reduction of the development footprint by 234 ha (from 1,126 ha to 892 ha);
- an additional 60 m setback from residence R24, resulting in a separation distance of 498 m, including an additional 5 m of vegetation screening (resulting in 20 m wide screening);
- additional riparian screening in the vicinity of residences R17 to increase habitat connectivity across the site and reduce visual impacts;
- reduction in proposed clearing of paddock trees by 35 (from 99 to 64);
- reduction of native vegetation clearing from 0.61 ha to 0.33 ha;

- upgrading a section (1.4 km) of Weeamera Road from 6 m to 7m width.

4.4.3 The project as originally proposed is shown in **Figure 5**, the amended layout is shown in **Figure 3** and the amendments to the project are summarised in **Table 3**.

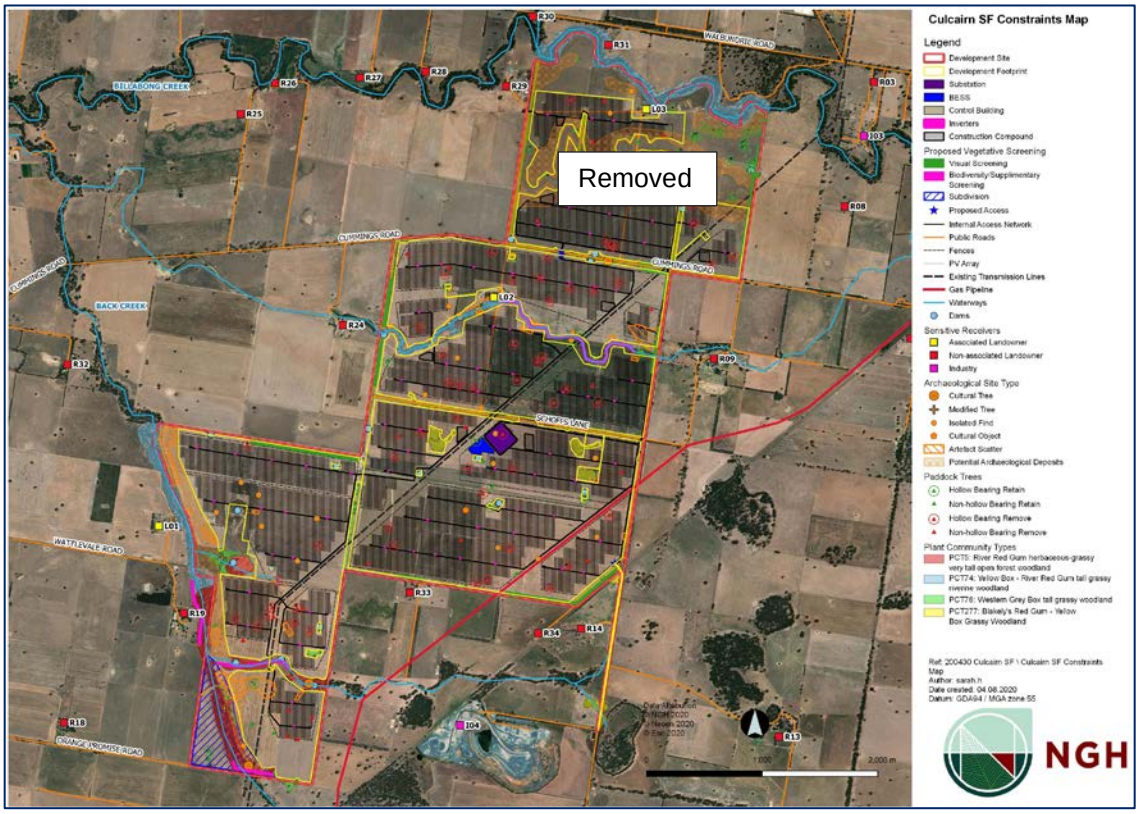


Figure 5 | Project Layout as proposed in the EIS (January 2020)

Table 3 | Summary of amendments to the project during the assessment process

Aspect	EIS (January 2020)	Final Proposed Project (October 2020)
Project site (ha)	1,351	1,039
Development footprint (ha)	1,126	892
Number of PV panels	1,100,000	900,000
Distance from R24 to solar panels	437	498
Native vegetation removal (ha)	0.61	0.33
Clearing of paddock trees	99	64
Upgrade to Weeamera Road, between the Quarry entry and the site access (approximately 1.4 km)	Widen to a 6 m paved seal	Widen to 7 m paved seal

4.4.4 Despite the proposed changes, the generating capacity of the project would remain the same as Neoen proposes to use more efficient solar panels than originally proposed.

4.4.5 The Department provided the Amendment Report and Amendment Letter to government agencies for review and comment and made both documents available on the Department's website. As the project amendments would reduce the impacts of the project as a whole the Department did not exhibit the Amendment Report and Amendment Letter.

4.4.6 Following the publication of the Amendment Report and Submissions Report, the Department received feedback from five members of the community who considered that the scale of the project amendments did not adequately address the community concerns regarding loss of agricultural land use, biodiversity impacts and visual impacts. Following this, Neoen further amended the project through an Amendment Letter to remove the section of the project site north of Cummings Road. No comments were received on this amendment.

4.5 Key Issues – Government Agencies

4.5.1 **Greater Hume Shire Council** objected to the project, citing that the project would have unacceptable amenity impacts to nearby neighbours, particularly R14 and R17. Council also objected to the loss of agricultural land associated with the project, advising that it believed the site was composed of high-quality agricultural land.

4.5.2 Other concerns raised by Council included dust, socio-economic impacts, biodiversity, Aboriginal cultural heritage, development contributions, road upgrades and the perception that the solar farm may affect the microclimate for neighbouring properties. These issues are all discussed in **section 5** of this report.

4.5.3 The Department's **Biodiversity & Conservation Division** (BCD) requested clarifications on the proposed management measures of two Aboriginal heritage items. BCD also recommended Neoen develop an unexpected finds protocol for Aboriginal cultural heritage and include it in the revised Aboriginal Cultural Heritage Assessment report. Neoen addressed all recommendations in the Submissions Report and BCD confirmed these issues have been resolved.

4.5.4 BCD also initially advised that Neoen's Biodiversity Development Assessment Report (BDAR) did not provide sufficient information to properly consider the biodiversity impacts of the project. It recommended Neoen to revise the BDAR to include further information about potential direct and indirect impacts, Serious and Irreversible Impacts, prescribed impacts, and EPBC matters. Neoen updated the BDAR accordingly, to BCD's satisfaction. BCD has advised that it has no residual concerns with the BDAR or the proposed development, subject to the recommended conditions of consent. These matters are discussed in **section 5** of this report.

4.5.5 **Department of Primary Industries – Agriculture** (DPI Agriculture) did not raise concerns with the project, noting its contribution to the Government's target of net zero emissions by 2050. DPI Agriculture initially noted that secondary industries in the supply chain (for example agricultural suppliers) have not been addressed in detail in the economic impact report. It also noted that it does not object to the proposed subdivision and supports the proposed grazing program during operation of the project. DPI Agriculture also recommended that, if approved, all below ground infrastructure and cabling be removed to ensure the land can be returned to pre-project status, following decommissioning and rehabilitation of the project. Neoen responded to these requests and recommendations in its Submissions Report and undertook an agricultural impact assessment. DPI Agriculture has advised that it has no residual concerns with the proposed development subject to the recommended conditions of consent. These matters are discussed further in **sections 5.1** and **5.4**.

4.5.6 **Transport for New South Wales** (TfNSW) advised that it raised no objection to the amended project, subject to the preparation of a Traffic Management Plan in consultation with Council and TfNSW and ensure that the project does not cause glint and glare to the travelling public on the public road network. These recommendations are discussed in **section 5.3**. Neoen has

addressed these matters in the Submissions Report and TfNSW confirmed it has no residual concerns.

4.5.7 TfNSW and **John Holland Rail** initially requested additional information about the location of project infrastructure in relation to the adjacent non-operational Culcairn to Corowa rail corridor and potential impacts to the existing rail infrastructure during construction and decommissioning. It also noted that concurrence from TfNSW would be needed for any ground works beyond 2 m deep within 25 m of the rail corridor as required by the Infrastructure SEPP. In its Submissions Report Neoen clarified that there would be no ground disturbance that triggers this requirement. TfNSW confirmed it has no residual concerns.

4.5.8 The Department's **Water Group** (DPIE Water) made a number of recommendations regarding the project's water supply, on-site watercourse crossings and riparian buffers, flood mitigation and erosion and sediment control, which are discussed further in **section 5.3** and incorporated into the recommended conditions of consent.

4.5.9 The **Rural Fire Service** (RFS) and **Fire & Rescue NSW** (FRNSW) recommended that a comprehensive Fire Safety Study (FSS) for the BESS component should be prepared. The Department has adopted this into the recommended conditions of consent where appropriate.

4.5.10 The Department's **Crown Land Group** (DPIE Crown Lands) required closure and purchase of a Crown public road within the site (i.e. Schoffs Lane), in the event that it is required for access to the project area. In its response, Neoen confirmed that the Crown Road is currently in the process of being purchased by one of the landowners. DPIE Crown Lands confirmed it has no further comments.

4.5.11 **TransGrid** supports the project, subject to a range of recommendations to ensure the project adheres to connection requirements and easement guidelines.

4.5.12 The Department's **Division of Resources & Geoscience** (DRG), the **Environment Protection Authority** (EPA) and the **Heritage Council of NSW** raised no concerns and made no recommendations.

4.6 Key Issues – Community

4.6.1 A summary of all submissions received from the public is provided in **Table 4**.

4.6.2 Of the 228 submissions received from the public, 146 objected, 81 supported and 1 provided comments on the project. Of the 146 objections received, 138 were considered unique submissions.

Table 4 | Summary of Community Submissions

Submitter	Object*	Support	Comment	Total
< 2 km	53 (52)	19	0	72
2 – 5 km	25 (24)	9	1	35
5 – 25 km	36 (32)	13	0	49
> 25 km	32 (30)	40	0	72
TOTAL	**146 (138)**	**81**	**1**	**228**

* Numbers in brackets represent unique submissions

4.6.3 Around half (53%) of all objections were received from residents located within 5 km of the site, 25% were from residents located between 5 km and 25 km from the site and 22% were from residents located more than 25 km from the site. Regardless of proximity to the site, all submissions objecting to the project typically focused on local impacts and matters relevant to the local community.

4.6.4 The key issues raised in public submissions objecting to the project are summarised in **Figure 6**. The most common matters raised in submissions objecting to the project include:

- land use compatibility, specifically regarding the use of prime agricultural land, impacts on adjacent agricultural activities, food security and reducing the agricultural output of the region;
- visual impacts on the surrounding landscape, the proximity to neighbours, the effectiveness of vegetation screening, and glint and glare caused by the project; and
- socio-economic factors, including lack of benefit to the local community being limited to a short-term construction period, property devaluation and insurance liability for neighbouring properties.

4.6.5 Other issues raised in objections included hazards (particularly increased bushfire risk along Billabong Creek), biodiversity (particularly the clearing of paddock trees and the loss of habitat for threatened species), social (including community division, impacts on mental health within the community, stress and anxiety), amenity (noise, dust, traffic), water and erosion (potential groundwater and soil contamination, filling dams resulting in potential flooding), cumulative (other solar farms), decommissioning and a perception that the project may alter the microclimate for adjacent neighbours.

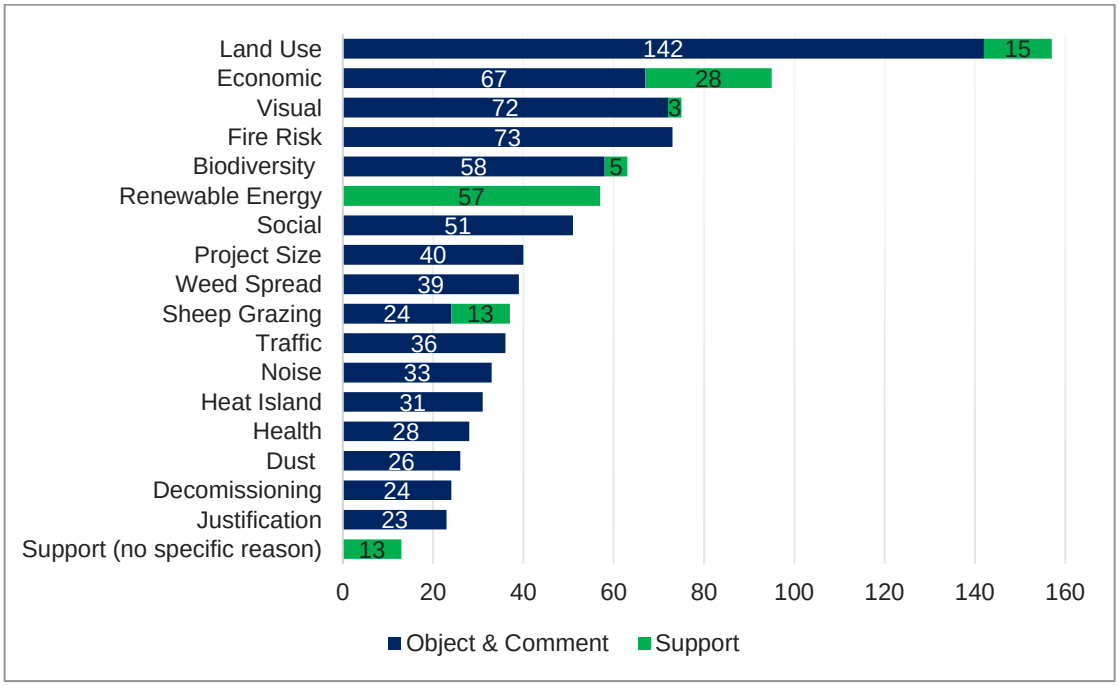


Figure 6 | Key Issues Raised in Public Submissions

4.6.6 The key matters raised in the supporting submissions included views that:

- the project would make a beneficial contribution to NSW's future energy demands by providing renewable energy;
- the local economy would benefit as the project would creating local jobs and support local businesses;

- the project would be in an optimal location, on mostly cleared flat land that is in close proximity to the grid;
- the project constitutes a good use of land and would continue to support agriculture through managed grazing that would assist with maintaining groundcover and increase the economic output of the land; and
- support without stating specific reasons.

4.6.7 A further breakdown and summary of key issues raised by the public is summarised in **Appendix D. Section 5** provides a summary of the Department's consideration of these matters and recommended conditions.

4.7 Key Issues – Special Interests Groups

4.7.1 **APA Group** is responsible for managing gas infrastructure across Australia and provided comment on the Barnawartha - Culcairn high pressure gas pipeline running through the site, which it owns and operates. APA Group has advised that several additional studies including a Safety Management Study, Electrical Interference Study and Risk Assessment are required to be prepared in consultation with APA Group to ensure the safety and protection of the high-pressure gas line. Where appropriate, these recommendations have been incorporated into the recommended conditions of consent. The Department has recommended a condition of consent requiring Neoen to complete and implement a Safety Management Study in consultation with APA Group. APA Group confirmed it has no outstanding concerns subject to the recommended conditions.

4.7.2 **NSW Farmers - Billabong Branch** objected to the project as it considered that the subject land has the potential to be mapped as 'Important Agricultural Land' by the Department of Primary Industries and that the data on which Neoen had assessed agricultural capability in the EIS was incorrect. The agricultural capability of the site is discussed in **section 5.1**.

4.7.3 Other issues raised by NSW Farmers - Billabong Branch include negative social and economic impacts, loss of amenity to nearby neighbours and bushfire risk. These issues are further considered in **section 5.3.**

5 Assessment

5.0.1 The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the two key issues, being land use compatibility and visual amenity.

5.0.2 The key constraints for the project are shown in **Figure 2**. The Department has considered the full range of potential impacts associated with the project and has included a summary of the conclusions 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 Greater Hume LEP

5.1.1 The site is located wholly within the RU1 Primary Production zone under the LEP. As discussed in **section 3.2**, a solar farm is a prohibited land use under a strict reading of the LEP.

5.1.2 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.

5.1.3 Firstly, the LEP expressly references the Infrastructure SEPP and acknowledges that electricity generating works are regulated by the Infrastructure SEPP, rather than the LEP. As described above, a solar farm is permitted with consent on land zoned RU1 under the Infrastructure SEPP.

5.1.4 Secondly, the project is not inconsistent with the objectives of the RU1 zone, particularly in relation to:

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

5.1.5 While the Greater Hume LGA has traditionally relied upon 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 *Greater Hume Local Strategic Planning Statement 2018*.

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

5.1.7 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 as the inherent agricultural capability of the land would not be affected in the long term.

5.1.8 Council objected to the project with a number of concerns, including its view that the development may not be consistent with the objectives of the LEP on the basis that the site contains high quality agricultural land. While 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

5.1.9 The majority of public submissions, including a submission from the local branch of NSW Farmers Association, raised the loss of agricultural land as a key concern, as well as impacts on surrounding agricultural practices. While DPIE Primary Industries did not raise any concerns regarding the project, many submissions, including from Council, also considered the site should be classified as prime or important agricultural land, and objected to the long term use of the site for electricity production over agriculture.

5.1.10 The project is located within the Riverina Murray region, which has a strong and diverse agricultural sector, with over 9.1 million ha of the region being used for agricultural output. The site (1,039 ha) is currently used for cropping with intermittent grazing.

5.1.11 The central area of the project site has been leased for the past three years to an adjoining neighbour and utilised for annual cropping for grain and hay as well as sheep grazing of residual crop material. Prior to 2017 this area was used for annual cropping of wheat and canola on a 2 to 1 rotational basis. Similarly, the southern portion of the project site is predominantly used for annual cropping of wheat and canola on a rotational basis with cattle grazing over the summer.

5.1.12 While the site is not mapped as Biophysical Strategic Agricultural Land (BSAL), the Department notes that both Council and many members of the public considered that the site should be classified as prime or important agricultural land. Under the existing *Land and Soil Capability Mapping in NSW* (OEH), which provides a broad-scale regional view of the land and soil capability across NSW, the land within the development footprint is predominantly Class 4 (land with moderate to severe limitations for some land uses, requiring specialised management practices, expertise, inputs and technology to prevent soil and land degradation) and generally suitable for grazing for pasture improvement (see **Figure 7**).

5.1.13 The Department understands that DPI Agriculture is undertaking an agricultural mapping program across NSW to assist with identifying important agricultural land, however this has not yet been finalised, exhibited or adopted by NSW Government and therefore is not directly applicable to the assessment of this project.

5.1.14 Importantly, the assessment is based on soil sampling and assessment undertaken in accordance the *Land and Soil Capability Assessment Scheme* (OEH 2012) and a subsequent agricultural impact statement (AIS) prepared by Riverina Agriconsultants. The assessment validated the mapped Class 4 land (moderate limitations), which can support grazing but requires active management to sustain cultivation on a rotational basis. DPI Agriculture has accepted the conclusions of the soil and agricultural studies and agreed that the productivity of the land is limited due to waterlogging issues.

5.1.15 As the site is currently used for cropping with intermittent grazing, the Department accepts that the project would reduce the agricultural output of the site while the solar farm remains operational. The development footprint would occupy approximately 85% of the site and 3% (i.e. 32 ha) of the site would be subdivided to allow the current agricultural practice to continue.

5.1.16 Further, Neoen proposes to manage the land through sheep grazing during the operation of the development footprint. Neoen has estimated that only 25% of the site would be removed from agricultural production during the operation of the solar farm (mainly for construction of roads, buildings, hardstands), with the remainder of the site being available for sheep grazing around the solar panels. Other Neoen operating solar farms in NSW (i.e. Parkes, Griffith and Coleambally solar farms) and in Victoria already successfully include this practice. Neoen has estimated that the proposed sheep grazing would require 1.5 full time equivalent jobs throughout the project operation in addition to 10 jobs required for operation of the project.

5.1.17 In response to submissions on the project, Neoen has also removed a 313 ha (i.e. 23%) section of the project site north of Cummings Road (see **Figure 7**). This area is currently used for cattle grazing and forage crops. The Department considers this a significant reduction in the size of the project that would ensure large portions of the broader site remain in commercial agricultural production. Further, the AIS concluded that of the three distinct land parcels within the originally proposed project site (i.e. south-west, central and northern), the excluded northern parcel has higher production potential and better soil types.

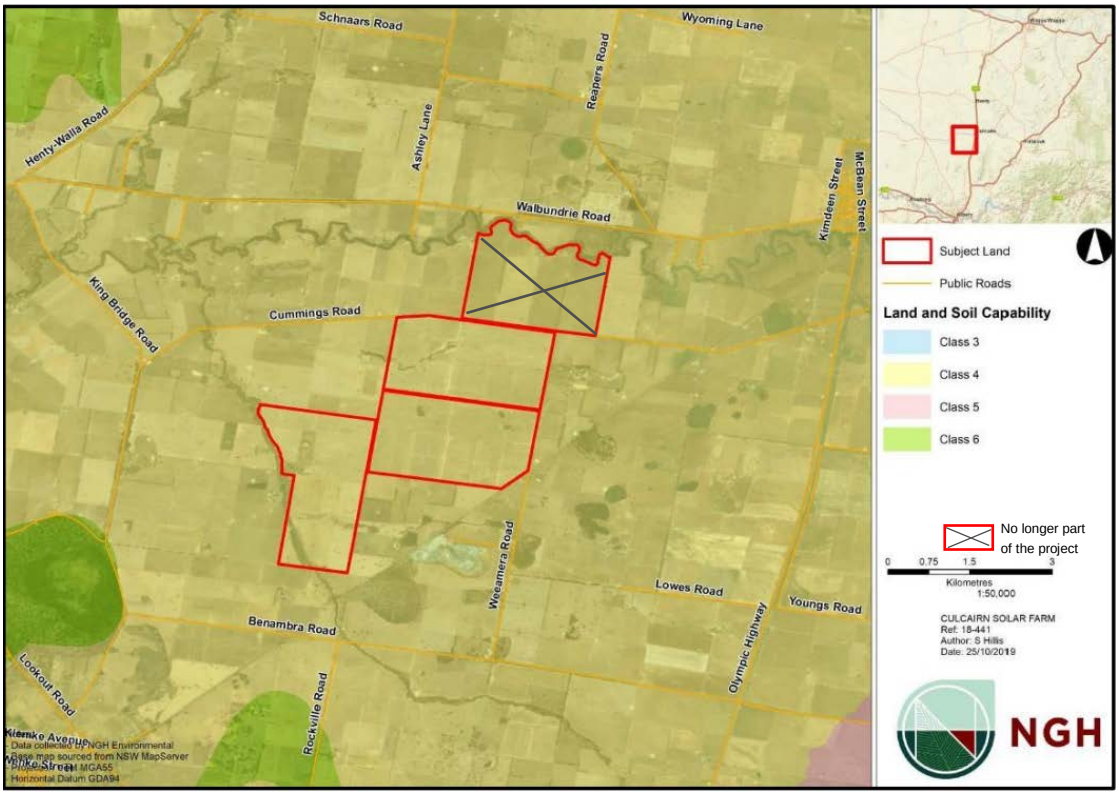


Figure 7 | Land and Soil Capability Class

5.1.18 In addition, approximately 32 ha would be subdivided from the south-western lot within the project site to allow the landowner to continue their farming practices. Consequently, the amendments to the project have resulted in the retention of over 345 ha of agricultural land (or 25% of the original project site).

5.1.19 The inherent agricultural capability of the land would also not be affected by the project due to the relatively low scale of the development. To this end, the Department has included requirements to maintain the land capability of the site (including groundcover and maintaining grazing within the development footprint), and to return the land to agricultural use following decommissioning.

5.1.20 Neoen would be required to return the land back to existing levels of agricultural capability and the Department has included rehabilitation objectives in the recommended conditions to maintain the productivity of the agricultural land during the construction and operation of the project, and to fully reinstate the agricultural capability of the land following decommissioning of the project.

5.1.21 Regarding potential cumulative impacts, the development footprint of the project combined with other operational, approved and proposed SSD solar farms in the Riverina Murray region would be approximately 8,000 ha. The loss of 8,000 ha of agricultural land represents a very small fraction (0.09%) of the 9.1 million ha of land being used for agricultural output in the Riverina Murray region[1], and would result in a negligible reduction in the overall productivity of the region.

5.1.22 If all four proposed SSD solar projects within Greater Hume LGA proceed, they would have a combined development footprint of approximately 2,000 ha, which is approximately 0.59% of the 335,000 ha of land being used for agriculture within the Greater Hume LGA.

[1] *Riverina Murray Agricultural Industries Final Report*, Department of Planning and Environment, January 2016

5.1.23 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; and
- the environmental benefits of solar energy in an area with good solar resources and capacity in the existing electricity infrastructure.

5.1.24 Based on these considerations, the Department considers that the proposed solar farm represents a reasonable use of the land that is generally consistent with the broader and specific land use planning objectives for the site and the region under relevant planning instruments and strategies.

Potential Impacts on Neighbouring Agricultural Activities

5.1.25 Concerns were raised in some submissions about potential impacts on neighbouring agricultural activities. These concerns included potential impacts on livestock and cropping from the spread of weeds, increased flooding, erosion, and potential changes to the microclimate as a result of solar panels, also referred to as “Photovoltaic Heat Island Effect” (PVHI).

5.1.26 While evidence shows that solar panels can increase air temperatures above solar panels a study commissioned by Greater Shepparton Council on the Shepparton Solar Farm (referenced in Neoen’s EIS) found that lateral temperatures drop very quickly from the perimeter of a solar farm in part due to natural convections, which take warm air upwards.

5.1.27 The study found that changes to air temperatures would be negligible within 30 m of the development footprint, and that any impacts would be further reduced once vegetation screening at the project boundary became effective. In addition, Neoen has located the development footprint more than 30 m away from the boundary of adjacent private properties.

5.1.28 The Department considers that, with the implementation of the recommended conditions of consent, including setback distances and vegetation screening, the project would not significantly impact the agricultural operations of neighbouring landholders given the relatively low impacts associated with the solar farm.

5.1.29 The Department has recommended strict land management conditions to control the growth of weeds, reducing the potential spread of weeds to neighbouring properties. In this regard, Neoen would be required to restore groundcover of the site following construction or upgrading, maintain the ground cover with appropriate perennial species and manage weeds within this groundcover. This groundcover would be required to be maintained to an acceptable standard, to reduce the risk of erosion and loss of soil from the project site. Additionally, Neoen would be required to prepare and implement measures to control weeds and feral pests through a Biodiversity Management Plan, and there are separate regulatory requirements that apply to all landowners under the *Biosecurity Act 2015* in regard to managing these potential issues.

5.1.30 The recommended conditions also require Neoen to ensure that the solar panels and ancillary infrastructure are designed, constructed and maintained to reduce the impacts of flooding and erosion.

5.1.31 There are also a range of other legislative requirements that apply to the management of land and water that would apply to the solar farm, including mitigating impacts of development on

waterfront land, ensuring that the project does not pollute waterways and obtaining any necessary approvals for water supply.

5.2 Visual Impacts

5.2.1 Concerns about visual impacts were raised in approximately half (49%) of the public submissions objecting to the project. These concerns included the proximity of the project to surrounding residences and potential impacts on the scenic quality, landscape and rural outlook of the area due to multiple proposed solar farms within the locality. Council also raised concerns about visual impacts specifically to R14 and R17. Some submissions (6%) raised concerns regarding the potential visual impacts associated with glint and glare from the project.

Visual Context

5.2.2 The site is generally flat with little variation in height with a very gentle slope (1 to 2 m) from east to west and is currently used for agriculture, including cropping and grazing.

5.2.3 Native vegetation remains in the form of isolated paddock trees spread across the site, roadside vegetation, riparian vegetation and small patches of remnant woodland. Well established and continuous vegetation stretches are located along large sections of the project boundary and roadside corridors, particularly along Weeamera Road and Cummings Road.

5.2.4 Back Creek and two unnamed ephemeral watercourses traverse the site. The creeks sides have well established planted and remnant native vegetation.

5.2.5 TransGrid's Jindera to Wagga Wagga 330 kV overhead transmission line traverses the site and surrounds from south-west to north-east direction.

5.2.6 There are five non-associated residences within 1 km of the development footprint, with the closest residence R33 (currently unoccupied residence) located approximately 249 m south from the nearest solar infrastructure, followed by R19 (363 m), R24 (498 m), R9 (585 m) and R17 (1,157 m). There are an additional 13 residences located between 1 km and 2 km from the development footprint (refer to **Figure 8**).

5.2.7 The site would not be visible from the towns of Culcairn (4 km north-east) or Walla Walla (3.7 km south-west).

Visual Mitigation

5.2.8 Neoen has proposed the following avoidance and mitigation measures to reduce the potential visual impacts on surrounding receivers:

- removing all project infrastructure north of Cummings Road, which has removed infrastructure in the vicinity of residences R8 and R29;
- setting back project infrastructure from residence R24 by a further 60 m, providing a minimum separation distance of 498 m between the project and the residence;
- supplementary riparian screening in the vicinity of R17 and R19 to increase habitat connectivity and quality and reduce visual impacts;
- setting back project infrastructure from R33 by a further 120 m, providing a separation distance of 250 m;
- reaching an agreement with the landowner for R14;
- retaining the native vegetation within the site; and

- planting vegetation screening along sensitive parts of the site boundary in order to screen views of the project from nearby receivers and road users. All proposed screening would be to a minimum depth of 5 m with more extensive landscaping to a depth of 20 m to reduce views from the most affected receivers (i.e. R9, R17, R24 and R33);
- using non-reflecting materials and paints to reduce glint and glare; and
- minimising unnecessary night-time lighting of the development and using lower intensity lighting to reduce disturbance to neighbouring properties.

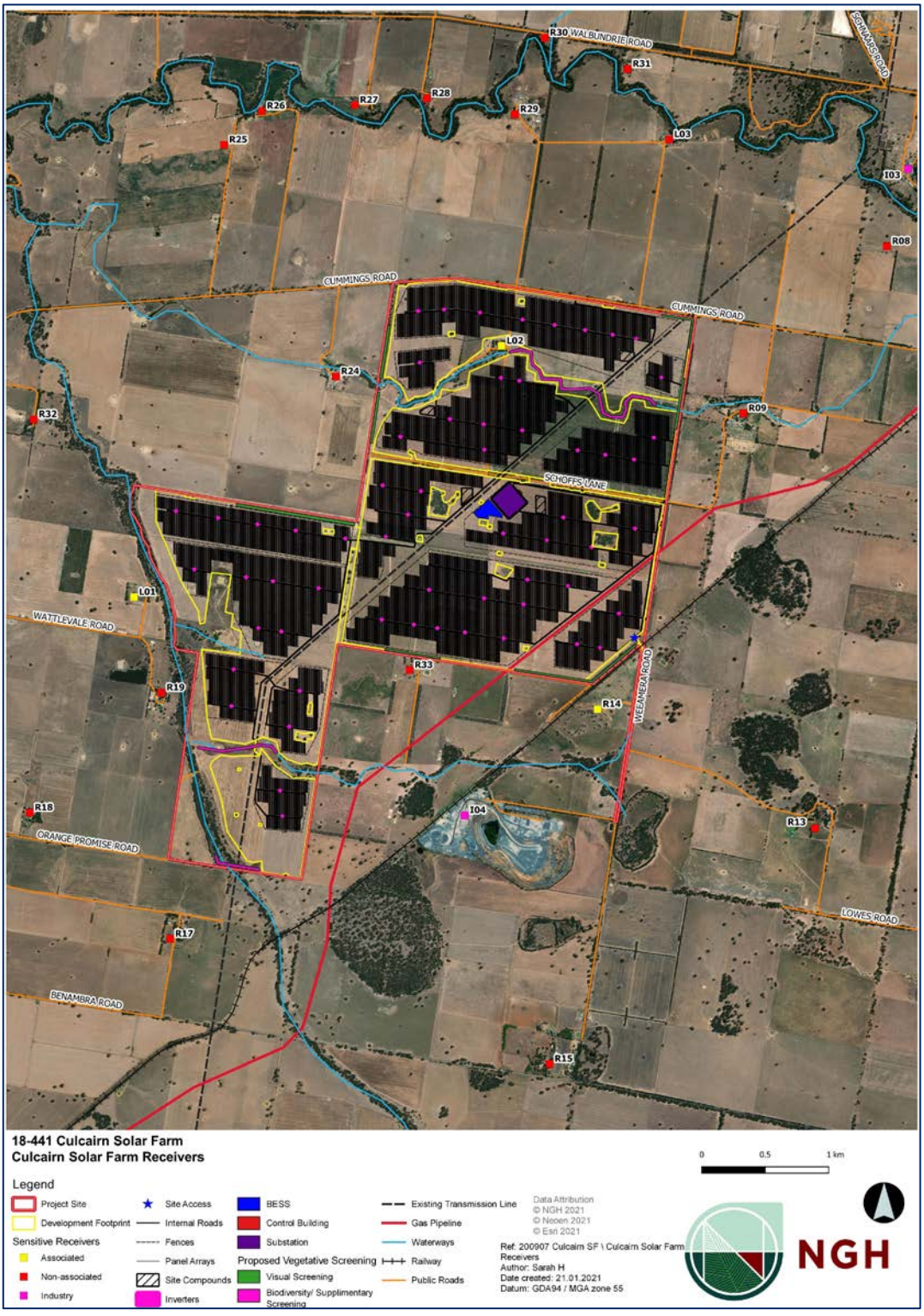


Figure 8 | Visual Context

Assessment

Landscape

5.2.9 The solar farm would be located in an area that is largely surrounded by flat agricultural land.

5.2.10 Impacts on the local landscape have been reduced through project design, including removal of a large section of the project north of Cummings Road, the buffer distances between project infrastructure and local residences and roads, and the retention of remnant native vegetation, both along the perimeter of the site and within the site.

5.2.11 Public submissions highlight that the landscape is valued by the community for its scenic value and agricultural history. The Department notes however, that the low lying nature of the development and existing and proposed vegetation would serve to minimise its visibility from the surrounding area, and the solar farm would not be visible from any major roads or scenic drives.

5.2.12 The Department notes that Morgan's Lookout and Benambra National Park are located approximately 7 km west and 10 km to the south-east respectively, at their closest points, however given the distance, topography and intervening vegetation, the project would not have a significant visual impact on these vistas.

5.2.13 The project would not be visible from vehicles travelling along the Olympic Highway or users of the Main Southern Railway, which are both located about 4 km east of the site. Views of the project for vehicles travelling along Weeamera Road and Cummings Road would largely be screened by existing vegetation and supplementary plantings along the boundary of the project.

5.2.14 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 and would not be visible from the township of Culcairn (4 km north-east) or Walla Walla (3.7 km south-west).

Residences

5.2.15 The EIS and Amendment Report include a visual impact assessment (VIA) based on 12 representative viewpoints, including photomontages from nine surrounding residences that were initially identified to have potential visual impacts and three public viewpoints (at Weeamera Road, Cummings Road and Morgan's Lookout). The VIA found that due to distance, topography and vegetation, it is not likely that the project would be visible from any other residences.

5.2.16 The nature of the proposed development would serve to minimise its visibility from surrounding residences as the solar panels would be relatively low lying (up to 4.2 m high) and the maintenance buildings, power conversion units and substation would be a similar size to agricultural sheds commonly used in the area. Neoen has committed to design and paint buildings to minimise the visual impact on the local landscape and the Department has recommended conditions to ensure this occurs.

5.2.17 Following the exhibition of the proposed development application and to address ongoing concerns from the Council and neighbouring landholders, Neoen reduced the scale of the project by removing all infrastructure north of Cummings Road and providing additional setbacks from the nearest receivers. This reduced the number of residences located within 1 km of the project boundary from nine to five, as shown in **Table 5** and **Figure 8**. It should be noted that although **Table 5** is focused on the residences within 1 km of the site, the Department's assessment considered all potentially affected residences. The Department considers that the

visual impacts to residences located beyond 1 km of the site would be low due to intervening vegetation and predominantly flat terrain.

Table 5 | Visual Impacts at Surrounding Receivers within 1 km of the Project Boundary

Receiver	Distance to project boundary (m)*	Distance to solar infrastructure (m)	Mitigating Factors	Visual Impact Rating
R9 (east)	499	585	• Dense mature vegetation at the residence and along the eastern side of Weeamera Road. • Setback of project infrastructure 86 m from the project boundary. • Additional landscape planting within site along Weeamera Road (5 m wide) is proposed.	Low
R17 (south-west)	629	1,157	• Existing mature vegetation at the residence and dense riparian vegetation along Back Creek. • Setback of project infrastructure 530 m from the project boundary. • Supplementary vegetation enhancement within Back Creek and the unnamed creek in the south riparian zones to increase habitat connectivity and reduce visibility of the project.	Low
R19 (west)	250	363	• Scattered mature vegetation at receiver and dense riparian vegetation along Back Creek. • Setback of project infrastructure 113 m from the project boundary. • Supplementary planting along the unnamed creek located to the south-east to increase habitat connectivity and reduce visibility of the project.	Low
R24 (west)	343	498	• Patches of mature vegetation at residence, along the western project boundary and riparian vegetation along the unnamed creek. • Setback of project infrastructure 155 m from the project western boundary. • 20 m deep landscape planting proposed along the project boundaries visible from R24.	Low
R33 (south)	121	249	• Scattered paddock trees between the residence and the project boundary. • Additional vegetation screening along southern project boundary (20 m deep).	Low - moderate

** Note – distances are to the footprint as amended*

5.2.18 Residence R9 is located approximately 585 m east of the nearest solar infrastructure and objected to the project. The residence is at the same elevation as the project site. The residence has well established and dense vegetation within the curtilage of the residence and along Weeamera Road between the residence and the project site reducing the visual impacts.

5.2.19 In addition, Neoen proposes to supplement the existing vegetation along Weeamera Road with a 5 m deep vegetation buffer to provide additional screening. The Department considers that the visual impact at this residence with mitigation would be low.

5.2.20 Residences R17 and R19 are located 1.16 km and 363 m respectively from the nearest solar infrastructure and benefit from existing dense mature riparian vegetation along Back Creek and an unnamed creek that would screen views of the project. The Department notes that R17 objected to the project while R19 did not provide a submission. The Department considers that both residences would benefit from the setback of solar infrastructure from the site's south-western and southern boundaries and the proposed enhancement of the riparian vegetation that would increase habitat connectivity and provide additional screening.

5.2.21 Given the above, the Department considers that setback from the solar infrastructure, existing intervening vegetation and proposed additional planting would reduce the visual impacts on R17 and R19 to low.

5.2.22 Residence R24 is located 498 m west and approximately 780 m north of the nearest solar infrastructure (the project infrastructure would have an "L" shape in the vicinity of this residence). R24 objected to the project raising concerns about visual impacts. Views of the project from the residence would be screened by the existing mature vegetation along the creek line and project boundary, and the presence of outbuildings surrounding the residence to its east and south. It is also noted that the dominant view from this residence is to the north (i.e. away from the solar farm). In addition, the residence would also benefit from the proposed setback of infrastructure from the project boundary to its east (see **Figure 8**) and the proposed 20 m deep landscape screening.

5.2.23 The Department considers that with the existing intervening vegetation, distance to the solar infrastructure (including setbacks from the project boundary) and proposed landscape screening, the visual impacts on this residence would be low.

5.2.24 The nearest residence, R33, is located 121 m south of the project boundary. Views of the project from R33 would be filtered by existing vegetation. The residence is currently unoccupied and dilapidated (refer to **Figure 9**). The Department understands that the ownership of this land is shared between the landowners of residences R8 and R9.

5.2.25 The Department acknowledges that Neoen has proposed an additional 120 m setback as part of the amended application that has increased the separation distance between the residence and the nearest solar infrastructure to approximately 250 m. In addition, Neoen proposed to extend the length the vegetation screening along the southern boundary of the project site (i.e. in between the residence and solar infrastructure). This would further reduce the views of the project from R33.

5.2.26 The Department considers that visual impacts to R33 would not be significant due to the existing vegetation, additional setbacks and proposed vegetation screening. The Department considers that the proposed setback and vegetation screening in the vicinity of R33 would reduce the visual impact at this residence to low to moderate.

Figure 9 | View from the Project Site towards R33

5.2.27 In addition, the removal of the infrastructure north of Cummings Road resulted in changes of the impact assessment for three residences (i.e. R8, R29 and LO3 – see **Figure 8**).

5.2.28 Residences R8 and R29 were identified in the EIS as located within 1 km of the project site (270 m and 800 m respectively). Both residences submitted objections to the project expressing concerns about visual impacts. However, the removal of the section of the project north of Cummings Road resulted in these residences now located 1.4 km and 1.9 km from the project infrastructure. Given the distances and with the existing intervening vegetation along Cummings Road the Department considers the visual impacts for these residences would be low to negligible.

5.2.29 Residence LO3 was identified in the EIS as an associated landowner (i.e. a host for the solar infrastructure north of Cummings Road). However, the amended application has removed the land owned by this landowner from the project site (i.e. north of Cummings Road). Neoen have advised that the landowner of this residence is non-associated for the project as amended. The residence is located approximately 1.3 km from the project boundary. The Department considers that given the distance to the project infrastructure, topography and the existing intervening vegetation along Cummings Road the visual impacts at this receiver would be low.

Visual Impacts on Residence R14

5.2.30 Residence R14 is located approximately 308 m south-east of the project site and would have an elevated, unobscured view of a large portion of the project infrastructure. The owners of R14 objected to the project raising concerns, about the visual impacts the project would have on their property. The VIA assessed that R14 would experience high unmitigated visual impacts and that the impacts would be reduced to moderate with the proposed vegetation screening.

5.2.31 During the site visit, the Department met with the owners of R14 at their property to discuss their concerns and have a better appreciation of the potential impacts to R14.

5.2.32 In its submission to the Department, Council specifically raised concerns about visual impacts to R14 and the duration it would take for the proposed vegetation screening to be effective in minimising the impacts. Council also suggested considering alternative mitigation measures.

5.2.33 Following the EIS exhibition, Neoen reached an agreement with the landowners of residence R14 to accept the impacts of the project and confirmed this in writing with the Department. Given the above, the Department now considers residence R14 to be an associated residence for the purposes of this assessment.

Glint and Glare

5.2.34 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. Neoen's assessment of glint and glare concluded that the project is unlikely to present a glare risk to the nearby residences, road users and aircrafts.

5.2.35 The setback distances from nearby residences, existing well-established intervening vegetation and the proposed vegetation screening would shield or minimise views of the development from surrounding residences, including views of infrastructure with the potential to create glare or reflection. In addition, any glint or glare experienced by nearby receivers would be temporary, depending on the time of day and receiver location.

5.2.36 The Department has 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.

Night Lighting

5.2.37 One public submission raised concerns about the potential impact of night-lighting from the project.

5.2.38 Neoen has committed to minimising unnecessary night-time lighting of the development and using lower intensity lighting to reduce disturbance to neighbouring properties.

5.2.39 In addition, the Department has recommended conditions requiring Neoen to 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.*

5.2.40 With these mitigation measures in place, the Department considers the impact of night-lighting on residences and the landscape would be minimal.

Cumulative Impacts

5.2.41 The project is located approximately 1.2 km north of the proposed Walla Walla Solar Farm at its closest point. There is potential that the proposed developments could result in cumulative visual impacts on residence R17.

5.2.42 R17 would be located approximately 800 m from the development footprint of each projects. Due to the distance, existing vegetation and topography of the area, views from R17 to both projects would be limited and both projects would be relatively low lying, with panels up to 4.2 m in height.

5.2.43 The Department notes that Neoen has committed to further mitigate visual impacts to R17 by supplementing the existing riparian vegetation with 20 m deep planting along the onsite

watercourses to increase habitat connectivity and mitigate loss of paddock trees which would further minimise visual impacts by screening the views of solar panels for R17.

5.2.44 In consideration of the low lying nature of the development, the distance from both projects and both existing and proposed vegetation screening, the Department considers that cumulative visual impacts would not be significant.

5.2.45 Vehicles using Benambra Road to access Walla Walla township would have potential to experience cumulative visual impacts with Walla Walla Solar Farm. The Department considers however, given the existing and proposed roadside vegetation along Benambra Road (required under the recommended development consent for Walla Walla Solar Farm), that cumulative impacts on users of this local road would be negligible.

Conclusion

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

- establish and maintain a vegetation buffer along visually sensitive parts of the site, including along sections of Weeamera Road and Cummings Road, and in the vicinity of surrounding residences, which must:
  - be planted prior to the commencement of construction;
  - consist of a variety of endemic species that would facilitate the best possible outcome in terms of visual screening;
  - reduce views of the solar panels and ancillary infrastructure within 3 years of the commencement of construction; and
  - be properly maintained with appropriate weed management.
- prepare a detailed Landscaping Plan for the site which must include a description of measures that would be implemented to ensure the effectiveness of the vegetation buffer;
- 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.*

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

5.3 Other issues

5.3.1 The Department's consideration of other issues is summarised in **Table 6**.

Table 6 | Summary of Other Issues Raised

Findings	Recommendations
Biodiversity	
• Public submissions expressed concern about impacts on Billabong Creek and that the removal of a large number of paddock trees would impact wildlife that inhabits the area. • The site is largely comprised of cleared agricultural land with patches of high quality native vegetation along Back Creek, which traverses the site in the south-western corner, and along Weeamera Road. • Native vegetation is present in the form of scattered paddock trees, roadside vegetation, riparian vegetation, and small isolated patches of remnant woodland. Sections of planted and remnant native vegetation are present along Back Creek and two ephemeral drainage lines that run through the site. • Neoen has designed the project to avoid: – 70.53 ha out of 70.86 ha of native vegetation; – 72 out of 136 paddock trees occurring within the site; – all 16 farm dams present on site which would remain in situ and continue to provide riparian habitat; and – any impact to Billabong Creek by removing all infrastructure north of Cummings Road. • However, the project would disturb 0.33 ha of native vegetation, including: – 0.32 ha of Blakely's Red Gum – Yellow Box grassy tall woodland (Box-gum Woodland) (PCT 277) in low to moderate condition; – 0.01 ha of River Red Gum herbaceous-grassy very tall open forest wetland (PCT 5); and – 64 paddock trees, including 49 hollow bearing, consisting of Box-gum Woodland (46 trees, including 35 hollow bearing) and Western Grey Box tall grassy woodland (PCT 76) (18 trees, including 14 hollow bearing). • Box-gum Woodland (PCT 277) forms part of Blakeley's Red Gum - Yellow Box grassy woodland is listed as critically endangered ecological community (CEEC) under the *Biodiversity Conservation Act 2016* (BC Act). However, Neoen considers it does not meet the criteria of CEEC under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to a very degraded understory dominated by exotic annual grasses. • Following the receipt of the revised BDAR, BCD acknowledged that further avoidance of removal of Box-gum Woodland and additional proposed connectivity plantings within the site would reduce the potential for further fragmentation due to the loss of scattered paddock trees and minimise the likelihood for significant impacts on the vegetation community. • 0.78 ha out of 5.41 ha of Western Grey Box tall grassy woodland within the project site is considered endangered under the BC Act and forms part of the threatened ecological community (TEC) under the EPBC Act. The impact to this vegetation has been avoided by the development. • The impact to native vegetation requires the project to offset 44 ecosystem credits under the BC Act. • Three threatened species listed under the BC Act have suitable habitat within the site: – *Cullen parvum / Small Scurf-pea*; – *Swainsona recta / Small Purple-pea*; – *Swainsona sericea / Silky Swainson-pea*. • Removal of 0.17 ha of habitat located within Box-gum Woodland would require an offset of 15 species credits. • The site is not considered to include potential Koala habitat. • The impacts on native vegetation and native species would generate 44 ecosystem credits and 15 species credits under the BC Act. The final credit	• Retire the applicable biodiversity offset credits in accordance with the *NSW Biodiversity Offsets Scheme*. • Prepare and implement a Biodiversity Management Plan in consultation with BCD, including measures to protect and manage vegetation and fauna habitat outside the approved disturbance area.

Findings	Recommendations
requirement would be retired on accordance with the *NSW Biodiversity Offset Scheme.* • With these measures, both BCD and the Department consider that the project is unlikely to result in a significant impact on the biodiversity values of the locality.	
Traffic and Transport	
• Public submissions raised concerns about construction traffic impacts on local roads, insufficient road upgrades and potential cumulative impacts with Walla Walla Solar Farm if both projects are constructed at the same time. <u>Site access</u> • The transport route for over-dimensional and heavy vehicles for the project during construction and operation is via the Olympic Highway, Benambra Road and Weeamera Road. Benambra Road and part of Weeamera Road are used by heavy vehicles associated with the Quarry. • The access for construction and operational traffic would be via a single site access point in the south-eastern corner of the site off Weeamera Road (see **Figure 3**). • The section of Weeamera Road between Benambra Road and access to the Quarry is currently 8 m wide and sealed. • North of the Quarry, Weeamera Road is currently 5.5 m wide and unsealed. Neoen has proposed to upgrade this unsealed section of Weeamera Road (approximately 1.4 km) to a 7 m sealed pavement to allow for two-way heavy vehicle movement and Council support this upgrade. • All roads along the proposed heavy vehicle haulage route (i.e. Olympic Highway, Benambra Road and Weeamera Road) form part of the State's 26 m B-Double network and would be able to accommodate project construction traffic without a requirement for an upgrade, apart from the section of Weeamera Road identified for the above upgrade. The largest vehicle proposed to be used during construction would be 26 m in length. • Similarly, the intersection of Olympic Highway and Benambra Road has previously been upgraded to accommodate turning vehicles up to 36 m long and would not require further upgrades. • The Department has recommended conditions to undertake dilapidation surveys for Benambra Road and Weeamera Road and repair any damage caused by the project to the satisfaction of Council. <u>Traffic volumes</u> • The main increase in traffic volumes would occur during the 18 month construction period, with a peak construction period of up to 12 months. During the peak period, the project would generate up to 100 heavy vehicle movements per day and 150 light vehicle movements per day. • Neoen has also committed to using a shuttle bus for construction workers. • Additionally, there would be up to 9 over-dimensional vehicles during construction. • Traffic during operations would be negligible, with up to 5 light vehicle movements per day and occasionally up to 5 heavy vehicle movements per day (as part of routine maintenance). <u>Rail corridor</u> • The south-eastern boundary of the development would be immediately adjacent to the rail corridor from Culcairn to Corowa owned by TfNSW. • TfNSW initially recommended a number of conditions to be included in the consent for works within 25 m of the rail corridor. However, in its Submissions Report, Neoen confirmed that works within 50 m of the rail corridor would be limited to vegetation screening and maintaining an Asset Protection Zone and there would be no ground penetrating works beyond 2 m deep within 25 m of the rail corridor.	• Construct the primary site access point as rural property access type treatment. • Upgrade Weeamera Road between the access to the Quarry and the site access point to a 7 m wide sealed pavement. • Restrict the number of vehicles during construction, upgrading or decommissioning to the peak volumes identified within the EIS. • Ensure the length of vehicles does not exceed 26 m. • Prepare and implement a Traffic Management Plan in consultation with TfNSW and Council, including measures that would be implemented to address road safety, details of the employee shuttle bus service and strategies to encourage use of the shuttle bus service and car-pooling. • Undertake road dilapidation surveys and repair any damage identified to the satisfaction of Council.

Findings	Recommendations
• TfNSW recommended to be consulted on the final design of the non-operational rail corridor crossing of Weeamera Road. Neoen has committed to this and TfNSW confirmed that it has no outstanding issues. <u>Cumulative traffic impacts</u> • Part of the proposed transport route is currently utilised by the Quarry, and would also be the primary haulage route for the proposed Walla Walla Solar Farm. • No other approved or proposed SSD project in the local area would share the common haulage route, except for sections of the Olympic Highway, which has sufficient capacity to absorb the associated traffic volumes. • Benambra Road currently has an average of 42 vehicles per day. If both solar farms are approved and constructed concurrently, the cumulative peak traffic movements would be an additional 145 heavy vehicle movements and 350 light vehicles per day on Benambra Road. • Neoen's Traffic Impact Assessment indicates that Benambra Road has sufficient capacity to accommodate traffic volumes from both solar SSD projects. Based on the worst-case scenario (i.e peak construction periods of two solar projects overlap) the level of service on Benambra Road and Weeamera Road would still be maintained at 'A' (best traffic flow conditions). Council did not raise any concerns regarding the traffic assessment or cumulative impacts. • The Department has recommended conditions requiring Neoen to undertake road dilapidation surveys and any repairs required to the satisfaction of Council.	
Noise	
• Public submissions expressed concern about the noise impacts of the project including cumulative impacts from several solar farms within the locality. • During construction two residences located within 1 km (R19 and R33) were predicted to experience noise levels above the 'noise management level' of 50 dB(A) in the *EPA's Interim Construction Noise Guideline* (ICNG) and would be 54 and 63 dB(A) respectively. These exceedances would be short-term (approximately two to three weeks), intermittent (two to three hours per day) and limited to standard daytime construction hours. • Noise generated during construction, upgrading and decommissioning activities would be below the 'highly noise affected' criterion of 75 dB(A) in the ICNG at all nearby residences. • Neoen has committed to implement the noise mitigation work practices set out in the ICNG, including scheduling activities to minimise noise, using quieter equipment and establishing a complaint handling procedure. • Neoen provided a revised operational noise assessment following project amendments, which concluded that under the normal operation of the project during day and night hours there would be no exceedances in operational noise levels (i.e. the noise level would not exceed 35 dB(A) $L_{Aeq,15min}$ for any non-associated residences). • However, under the worst-case scenario modelled during night-time hours assuming that the battery operates at full output (i.e. all plant and machinery, such as HVAC equipment (fans and pumps), power conversion units (inverter stations) and 33 kV step up transformers are operating continuously and concurrently), the BESS would potentially be audible at receiver R33 (noting that this residence is unoccupied – see above). • The exceedances would be 1 dB(A), is likely to be a conservative assessment and is unlikely to be perceptible however, the Department has recommended a condition requiring Neoen to comply with the project noise trigger level at any non-associated residences. Neoen would need to consider this in choosing final equipment and may need to implement noise mitigation measures (such as noise attenuation or enclosures) to achieve these levels. • Consideration of cumulative noise impacts found that no receivers would experience exceedances of the noise affected criterion in the event that both the Walla Walla Solar Farm and Culcairn Solar Farm are approved and constructed concurrently. • Road traffic noise during construction of the project would comply with the relevant criteria in the EPA's *Road Noise Policy*.	• 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, 7am – 6 pm and Saturday, 8 am – 1 pm.

Findings	Recommendations
• The Department has recommended conditions requiring Neoen to minimise noise during construction, upgrading or decommissioning by implementing best practice noise mitigation work practices set out in the ICNG and limits to operational noise.	
Water and Erosion	
• Three watercourses traverse the site (see **Figure 3**), including Back Creek (5th order), near the western boundary of the site, and two unnamed ephemeral tributaries of Back Creek that flow east-west through the centre (2nd order) and south (1st order) of the site. • The project has been designed to avoid these watercourses. • No riparian vegetation would be cleared and Neoen has committed to implement buffer zones consistent with the *Guidelines for Controlled Activities on Waterfront Land*. • There are 16 farm dams scattered across the site. • Any erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques. • The project is not expected to affect groundwater resources or groundwater dependent ecosystems. • The site is not identified as flood prone land under the Greater Hume LEP. The development site is outside of the critical flow distribution area detailed within the *Billabong Creek Floodplain Management Plan 2006* (DNR 2006). • The project would require around 62 megalitres (ML) of water during construction (primarily for dust suppression) and 2.5 ML of potable water. Around 1 ML per year of water would be required during operation (primarily for panel cleaning and plant watering). A static water supply (40,000 litres) would be established and maintained for fire protection. • It is proposed that the water would be sourced from the Greater Hume Shire Council standpipe and/or the nearby Quarry which has been agreed in principle with Council and the Quarry, and stored on-site in a tank. • Subject to the recommended conditions, the Department and DPIE Water consider that the project would not result in significant impacts on water resources.	• Ensure that the development does not cause any water pollution, as defined under Section 120 of the *Protection of the Environment Operations Act 1997* (POEO Act). • Minimise the siting of solar panels and ancillary infrastructure (including security fencing) within watercourses. • Design, construct and maintain the project to reduce impacts on surface water and flooding at the site. • Minimise soil erosion in accordance with *OEH's Managing Stormwater: Soils and Construction manual* (Landcom, 2004) and ensure that 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).
Heritage	
<u>Aboriginal Cultural Heritage</u> • Surveys identified 52 Aboriginal heritage sites, including 26 isolated finds, 16 artefact scatters, five cultural tree sites, three modified trees, one cultural stone site and one potential archaeological deposit (PAD) predominantly of low significance on the site. • Neoen has committed to avoiding 21 items, including those identified to be of higher significance (i.e. low to moderate) and salvaging and relocating the remaining 31 items prior to the commencement of construction. • Consultation with Registered Aboriginal Parties (RAPs) informed the project design and management measures. • 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.	• 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. • Cease works and notify the NSW Police and Heritage NSW if human remains are identified

Findings	Recommendations
• 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. • The Heritage Council was consulted regarding the project but raised no concerns. • The Department is satisfied that the project would not have any adverse impacts on local or State heritage items in the local area.	over the life of the project. • Prepare and implement a Heritage Management Plan, including procedures for unexpected finds, in consultation with RAPs.
Dust	
• Public submissions raised concern that the project would result in unacceptable dust impacts in the local area. Some submissions expressed concern about the project's potential to generate dust during construction, whilst others were concerned with potential dust impacts during operation of the project, in the event that groundcover on site could not be sufficiently established due to overshadowing by solar panels. • Construction of the project involves earthworks for site preparation, trenching for cables, construction of access tracks and construction of footings for on-site infrastructure. Other sources of dust would include vehicles travelling on unsealed roads. • The Department is satisfied that dust generated during construction of the project would be managed through standard mitigation measures such as use of water trucks and covering loads. Neoen has also committed to daily visual monitoring of dust during construction of the project. • In addition, the Department notes that measures implemented to minimise soil erosion in accordance with *OEH's Managing Stormwater: Soils and Construction manual* (Landcom, 2004), and ensure that the project is constructed and maintained to avoid causing erosion on site and establishing groundcover on site, would also reduce the generation of dust during construction.	• Minimise dust generated by the development. • Manage the development in accordance with the relevant requirements in the *Managing Urban Stormwater: Soils and Construction Manual* (Landcom, 2004). • Establish and maintain groundcover with appropriate perennial species as soon as practicable following construction.
Hazards	
• Riparian vegetation along Back Creek is classified as bushfire prone land under the Greater Hume Shire LEP and NSW RFS mapping. • Neoen would be required to maintain 10 m of defendable space around all project infrastructure and manage the defendable space and solar array areas as an Asset Protection Zone. Neoen 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. • Neoen 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 the battery storage facility) would not exceed the relevant risk screening thresholds and the project is not considered to be 'potentially hazardous'. • Neoen prepared a preliminary hazard analysis (PHA) in accordance with *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'* (HIPAP 6) and *Multi-level Risk Assessment*. The PHA study concluded that the main hazards associated with BESS storage and operations would be localised and unlikely to impact residences located over 1 km away. The nearest residence (R33) is located about 1.3 km away from BESS.	• Ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bushfire Protection 2019 and Standards for Asset Protection Zones*. • Prepare a Fire Safety Study and an Emergency Plan in consultation with RFS and Fire and Rescue NSW. • 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*

Findings	Recommendations
• Neoen would implement a range of hazard prevention and mitigation measures to manage potential risks associated with the battery storage facility, including (but not limited to): – a 10 m Asset Protection Zone (APZ) around the battery storage facility; – automated monitoring and control systems, with alarm and shutdown capability; and – appropriate separation between battery containers. • Subject to the recommended conditions, the Department is satisfied that risks associated with the facility would be negligible.	*Protection – Participants Handbook*.
Workforce Accommodation & Local Employment	
• Up to 500 workers would be required during the construction period. • Neoen has committed to source workers from the local and regional community where possible and the Department is satisfied that there is sufficient accommodation in nearby towns, such as Culcairn, Walla Walla, Jindera, Albury, Wagga Wagga and Holbrook. • There is potential for construction of the project to overlap with the construction of the proposed Walla Walla Solar Farm and Jindera Solar Farm. Should this occur, up to 950 construction personnel may be required in the region. • The Department notes that this number of construction workers is higher than proposed for other similar size solar projects. Neoen has advised that this is the maximum number that is anticipated during peak construction period only. • Council did not raise any issues about workforce accommodation. • While the Department considers that there is sufficient workers accommodation for this project, to manage cumulative impacts associated with multiple projects in the region and to encourage the employment of locally sourced workers, Neoen would be required to develop an Accommodation and Employment Strategy, in consultation with Council. The Strategy would require Neoen to: – consider the 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.	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the employment of local workers and consideration of the cumulative impacts associated with other State significant development projects in the area.
Socio-economic Impacts	
• Concerns were raised in community submissions that the project would have negligible benefits to the local community following construction. Submissions noted that there would be a lack of local employment opportunities providing benefits to the local community and potential negative impacts to agricultural related business and employment in the long term. • While, 67 community objections raised economic impacts issues, the Department notes that 28 community submissions supporting the project noted positive socio-economic impact and benefits to the local economy as a result of the project creating jobs and supporting local business. • The project would generate direct and indirect benefits to the local community, including: – up to 500 jobs during the 18 months construction period and up to 10 ongoing full-time jobs during operation of the project; – expenditure on accommodation and businesses in the local economy by workers who would reside in Greater Hume LGA or the adjoining Albury and Wagga Wagga LGAs; and – the procurement of goods and services by Neoen and associated contractors. • Neoen has committed to a local participation and procurement approach, via a local participation plan. • While Neoen has advised that the project would utilise accommodation within the Greater Hume LGA and has committed to sourcing workers from the local region where possible, the Department has recommended a condition requiring Neoen	• 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
to prepare an Accommodation and Employment Strategy (discussed above) to prioritise these matters. • As discussed in **section 5.1**, managed grazing would continue on the site while the solar farm is in operation. In any event, as previously discussed, the project site represents less than 0.01% of the land currently used for agriculture within the Riverina Murray region. • In addition, Neoen has offered a VPA with Council, totalling $5 million including: – a one-off payment of $150,000 at the commencement of construction; – an annual contribution of $150,000 per annum during operation, to be adjusted for inflation. • In addition, Neoen has committed to pay approximately $4.8 million to a community benefit fund which would be administered by a non-profit community foundation with Council having representation on the committee. Council has agreed to this approach. • The funding would be administered via a VPA established under Section 7.4 of the EP&A Act and the money would be used to fund projects in the locality. • 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.	
Subdivision	
• Neoen proposes to subdivide and then amalgamate two lots (Lots 70 and 71 DP 753764) located in the south-western portion of the project site. The newly created northern lot would be used for project infrastructure and the southern lot (approximately 32 ha) would continue to be used for agricultural practices. • The proposed subdivision of Lot 54 DP 573735 in the middle of the site for the internal substation is required to enable the proposed substation to be transferred to TransGrid (approximately 4 ha). • As the subdivided lots would be below the minimum lot size of 100 ha, the subdivision would be prohibited under a strict reading of the Greater Hume 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 or DPI Agriculture raised no concerns in relation to the proposed subdivision.	• Subdivide the proposed lots in accordance with requirements of section 157 of the *Environmental Planning and Assessment Regulation* 2000.
Land values	
• Public submissions raised concerns that the project would have an adverse impact on neighbouring land values, particularly as a result of the proximity of the project and other proposed solar farms. • 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;	• No specific conditions required.

Findings	Recommendations
– a detailed assessment of the merits of the project has found that the project is unlikely to generate 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, such as vegetation screening, to be implemented; and – the Department considers that 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 that would affect the determination of the project.	
Decommissioning and rehabilitation	
• Public submissions raised concerns about decommissioning, rehabilitation and use of 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 objectives such as 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 would be appropriately rehabilitated.	• Include rehabilitation objectives requiring the site to be rehabilitated within 18 months of cessation of operations.

6 Recommended Conditions

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

6.1.2 The Department consulted with Neoen and relevant agencies, including Council, on the conditions for the project.

6.1.3 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.

6.1.4 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.

6.1.5 In line with this approach, the Department has recommended operating conditions to minimise biodiversity, amenity, traffic, water, flooding, heritage and bushfire impacts, and required the following management plans be prepared and implemented:

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

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

6.1.7 Other key recommended conditions include:

- *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;
- *visual* – minimising the off-site visual and lighting impacts of the project, including the potential for any glare or reflection, and ensuring the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape;
- *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;
- *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*;
- *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; and
- *community enhancement* – requiring Neoen to enter into a VPA with Council, which would provide funding for community projects for the operational life of the development.

7 Evaluation

7.1.1 The Department has assessed the development application, EIS, submissions, Submissions Report, amended development application and additional information provided by Neoen 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.

7.1.2 The project site is located in a rural area, with five non-associated residences located within 1 km of the development footprint.

7.1.3 The site is in proximity to the Olympic Highway and has direct access to the electricity network via the TransGrid transmission line, which traverses the site.

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

7.1.5 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.

7.1.6 The Department acknowledges that Neoen amended the project to further reduce impacts by removing a portion of the project site north of Cummings Road (approximately 23% of the project

site), reached an agreement with the most significantly visually affected receiver, amended the project layout to reduce the clearing of native vegetation and incorporated additional vegetation screening along sensitive sections of the project boundary.

7.1.7 Following amendments to the project, the Department considers that with the additional setbacks from the nearest sensitive receivers, intervening existing vegetation and proposed additional landscape planting, the project is not likely to have significant visual impacts on surrounding residences.

7.1.8 The project would not result in any significant reduction in the overall agricultural productivity of the region. Through the amended application, approximately 345 ha of land would be retained for continued agricultural practices. Additionally, Neoen would manage ground cover within the site through sheep grazing. 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.

7.1.9 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 772,600 MWh of clean electricity annually, which is enough to power over 131,000 homes and save over 741,700 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*.

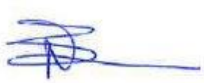
7.1.10 To address the residual impacts of the project, the Department has recommended a range of detailed conditions, developed in conjunction with agencies and Council, to ensure these impacts are effectively minimised, managed and/or offset. Neoen has reviewed the conditions and does not object to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

7.1.11 Whilst Council maintains its objection to the project on the grounds of potential impacts to micro-climate, loss of agricultural land and amenity impacts to neighbours, it confirmed that amendments to the project addressed several of its concerns, it did not object to the proposed conditions of consent, and has agreed terms with Neoen for a Voluntary Planning Agreement, with a significant proportion of the funds proposed to be used on local projects within Culcairn, Walla Walla and other nearby townships.

7.1.12 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.

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

7.1.14 This assessment report is hereby presented to the Independent Planning Commission for determination.



27/1/2021

Nicole Brewer
Director
Energy Assessments

27/1/2021

Mike Young
Executive Director
Energy, Industry and Compliance

Appendices

Appendix A – List of referenced documents

Culcairn Solar Farm Environmental Impact Statement, NGH Environmental, January 2020

Culcairn Solar Farm Submissions Report, NGH Environmental, June 2020

Culcairn Solar Farm Amendment Report, NGH Environmental, June 2020

Culcairn Solar Farm Amendment Letter, Neoen, 9 October 2020

Culcairn Solar Farm Additional Information Package, Neoen, 2 December 2020

Appendix B – Environmental Impact Statement

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916

Appendix C – Submissions

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916

Appendix D – Submissions Report

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916

Appendix E – Amendment Report and Amendment Letter

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916

Appendix F – Additional Information

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916

Appendix G – Consideration of Community Views

The Department exhibited the Environmental Impact Statement (EIS) for the project from 30 January 2020 until 27 February 2020 and received 228 submissions from the community (146 objections, 81 supporting and one comment), and two from special interest groups (1 objecting and 1 providing comment).

The key issues raised by the community (including in submissions) and considered in the Department's Assessment Report include land use compatibility (including the loss of agricultural land), visual impacts on surrounding residences and road users, and economic impacts (including lack of benefit to the local community, and potential for property devaluation).

Most of public submissions supporting the project noted that the project would contribute renewable energy to NSW's future energy demands and would benefit the local economy by creating jobs and supporting local businesses.

Other issues are addressed in detail in the Department's Assessment Report.

Issue	Consideration
Compatibility of the proposed land use • Use of agricultural land • Impacts on neighbouring agricultural activities (weeds, pests, erosion, noise, photovoltaic heat island effect and dust) • Impacts on local agribusiness	Assessment • The majority of land within the development footprint site is Class 4 land capability. This class of land typically requires active management to sustain cultivation on a rotational basis. • The cumulative loss of agricultural land associated with the project and other approved solar projects in the region represents a very small fraction of the 9.1 million ha of land being used for agricultural output in the Riverina Murray region, therefore resulting in a negligible reduction in the overall productivity of the region. • The site would be returned to agricultural use following decommissioning. • The agricultural operations of neighbouring landholders would not be impacted as weeds would be controlled through strict land management measures, erosion and sediment risks can be effectively managed using best practice construction techniques, water pollution is not permitted, and noise and dust would not be significant and would be minimised. • The panels would not result in any significant impact to microclimate which might affect neighbouring land uses. Any changes to the ambient air temperature would be small and, in any event, would not be noticeable 30 m from the solar array. The effects would be further reduced by the established and proposed vegetation buffers surrounding the project. • Amendments to the project resulted in retention of approximately 345 ha of higher quality agricultural that would continue to be used. • The site would also support local agriculture by permitting managed grazing, and as a result, the Department is satisfied that the project would not result in any significant reduction in agricultural productivity of the region or of local agribusiness. • The project site is located on land zoned RU1 – Primary Production under the Greater Hume LEP and the project is permitted with consent within this zone.

Issue	Consideration
	• The project is consistent with the *Greater Hume Local Strategic Planning Statement 2018* and *Riverina Murray Regional Plan 2036.* Recommended Conditions include: • Restore land capability to pre-existing use. • Restore the groundcover of the site following construction or upgrading, maintain the groundcover with appropriate perennial species and manage weeds within the groundcover • Minimise any soil erosion associated with the construction, upgrading or decommissioning of the development. • Ensure that the development does not cause any water pollution, as defined under Section 120 of the POEO Act. • Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in with the surrounding landscape, where reasonable and feasible. • Ensure that noise associated with the construction, operation, upgrading and decommissioning of the project complies with the relevant noise criteria. • Minimise dust generated by the development.
Visual Impacts	Assessment • The closest non-associated residence (R33) is located about 250 m from the development footprint at its closest point, however views of the project would be limited due to existing intervening vegetation at the residence and proposed screening. A further four non-associated residences are located within 1 km of the development footprint. • The project has been designed to minimise potential impacts on the surrounding receivers, including retention of native vegetation on site, additional vegetation screening and amending the project to include setback of solar panels from the nearest receivers. • The solar panels would be relatively low lying (up to 4.2 m high) and the maintenance buildings, inverters and substations would also be a similar size to agricultural sheds commonly used in the area. • While the photovoltaic panels are designed to absorb rather than reflect sunlight, some project components have the potential to generate glare or reflection, including the galvanised steel used for the solar panel mounting framework, however this diminishes over time. • The setback distances from nearby residents, existing well-established intervening vegetation and the proposed vegetation screening would shield or minimise views of the development from surrounding residences, including views of infrastructure with the potential to create glare or reflection. In addition, any glint or glare experienced by nearby receivers would be temporary, depending on the time of day and receiver location. Recommended Conditions include: • Establish and maintain a vegetation buffer to minimise views from nearby receivers within 3 years of operation. • Ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding

Issue	Consideration
	landscape, and not mount any advertising signs or logos on site, except where this is required for identification and safety purposes. • Minimise the off-site visual impacts of the development, including the potential for any glare or reflection. • 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.*
<u>Economic Impacts</u> • Lack of local benefits • Property devaluation	<u>Assessment</u> • The project would generate direct and indirect benefits to the local community, including: o up to 500 jobs during the 18 month construction period and 10 jobs during operation of the project; o expenditure on accommodation and business in the local economy by workers who would reside in Greater Hume Shire LGA, or the adjoining Albury City LGA; and o the procurement of goods and services by Neoen and any associated contractors. • Neoen has committed to a Voluntary Planning Agreement (VPA) with Council, which would consist of an initial payment of $150,000 at the commencement of construction, followed by a further $150,000 annually paid over the duration of the project's operation. • Under the Greater Hume LEP and Infrastructure SEPP, the project is permissible with consent, and the Department's assessment demonstrates the project would not result in any long-term amenity or environmental impacts. Accordingly, the Department considers the project would not result in any significant or widespread reduction in land values in the areas surrounding the project. <u>Recommended Conditions include:</u> • Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration to prioritising the use of local accommodation and the employment of local workers. • Prior to commencing construction, the Applicant must enter into a VPA with Council.

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 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 Consent Authority'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 5(c)), particularly 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 *NSW 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 socio-economic 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. Neoen 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 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.

Aspect	Summary
	Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in **section 5.3** 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 the project is considered a State significant development. Under Section 4.5(a) of the EP&A Act and clause 8A of the SRD SEPP, the Independent Planning Commission (the Commission) is the consent authority for the development as the project received more than 50 unique public submissions by way of objection, and Council has also objected to the project.
Environmental Planning Instruments	The *Greater Hume Local Environment Plan 2012* applies and is discussed in **sections 2.1, 3.3, 5.1** and **5.3** of this report, particularly regarding permissibility, land use zoning, bushfire and contributions. The Department considers the project is generally consistent with the provisions of the Greater Hume LEP. The project is permissible under the Infrastructure SEPP. In accordance with the Infrastructure SEPP, the Department has given written notice of the project to TransGrid and TfNSW. Neoen completed a preliminary risk screening and preliminary hazard analysis in accordance with *SEPP No. 33 – Hazardous and Offensive Development* and the PHA in accordance with *Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis'* and *Multi-level Risk Assessment*. The Department's consideration of this analysis is discussed in **section 5.3**. 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 5.1** 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. Greater Hume Shire Council is listed under *SEPP No.44 – Koala Habitat Protection.* Neoen's assessment concluded that the vegetation within the site is not considered potential Koala habitat, the Department has considered this in **section 5.3** of this report.

Appendix I – Recommended Conditions of Consent

See the Department's website at:
https://www.planningportal.nsw.gov.au/major-projects/project/10916