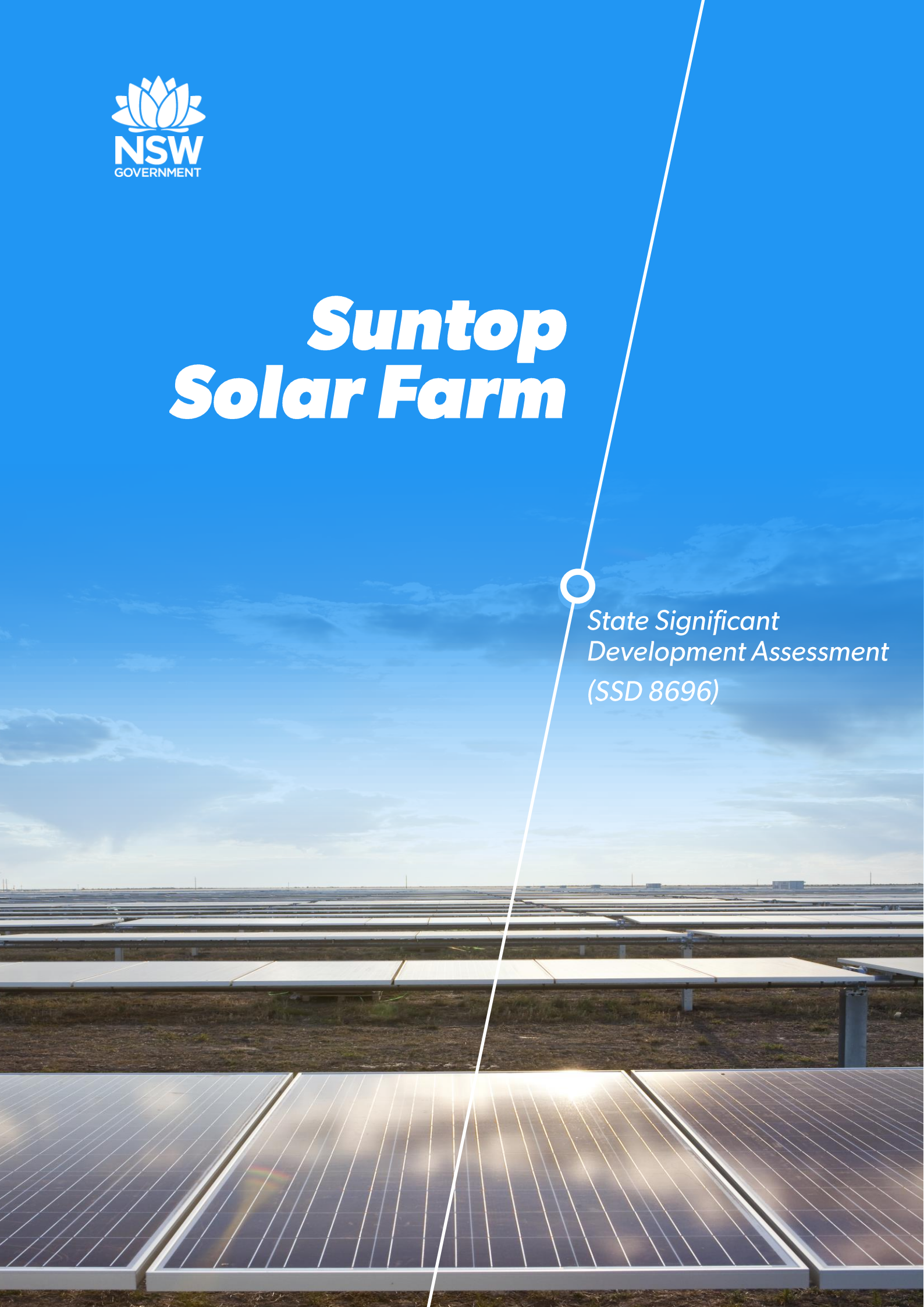
NSW GOVERNMENT

Suntop Solar Farm

State Significant Development Assessment

(SSD 8696)



December 2018

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Executive Summary

Suntop Solar Farm Pty Ltd (the Applicant) proposes to develop a new 170 megawatt (MW) solar farm and associated infrastructure near Wellington in central NSW.

Engagement

The Department exhibited the Environmental Impact Statement for the project from 6 June 2018 to 6 July 2018 and received advice from eight Government agencies and one submission from the general public, which was an objection.

Dubbo Regional Council supports the project and none of the other Government agencies objected to the project. The one public objection received was from a member of the public residing locally.

Assessment

The three key issues considered in the Department's assessment include the use of prime agricultural land, the potential impacts on amenity (visual, traffic and noise) and biodiversity.

The Department notes that the development footprint is 472 hectare (ha). The project would not significantly reduce the overall agricultural productivity of the region and the site could be returned to agricultural uses in the future.

The proposed solar development is relatively low-lying in nature, and the level of potential visual impacts would be relatively minor due to intervening vegetation, topography and/or distance. The implementation of vegetation screening would ensure that there are no significant visual impacts on surrounding residences.

The potential noise and traffic impacts would be short-term, relatively minor in nature and can be managed in accordance with Government policy. Nevertheless, the Department has recommended strict conditions requiring restricted construction hours, relevant road upgrades and a comprehensive Traffic Management Plan.

The project has been designed to minimise impacts on vegetation and riparian zones in the locality and all unavoidable impacts would be offset in accordance with Government policy.

Summary

Overall, the Department considers the site to be appropriate for the project as it has good solar resources and is close to the existing electricity network.

The project is consistent with both the Commonwealth's *Renewable Energy Target* and NSW's *Climate Change Policy Framework* and *Renewable Energy Action Plan* as it would contribute 170 MW of renewable energy to the National Electricity Market. The project would also provide flow-on benefits to the local community, including up to 250 full time construction jobs, with a capital investment of approximately $260 million.

As such, the Department considers that the project would result in benefits to the State of NSW and the local community, and is therefore in the public interest.

Contents

Executive Summary iii

1. Introduction 5

2. Project 6

3. Strategic Context 8

3.1 Site and Surrounds 8

3.2 Other Solar Farms 8

3.3 Energy Context 10

4. Statutory Context 10

4.1 State Significant Development 10

4.2 Permissibility 11

4.3 Integrated and Other Approvals 11

4.4 Mandatory Matters for Consideration 11

5. Engagement 11

5.1 Department's Engagement 11

5.2 Submissions and Response to Submissions 12

5.3 Key Issues – Government Agencies 12

5.4 Key Issues – Community 12

6. Assessment 13

6.1 Compatibility of Proposed Land Use 13

6.2 Amenity 14

6.3 Biodiversity 18

6.4 Other Issues 20

7. Evaluation 23

8. Recommendation 24

9. Determination 24

Appendices 25

Appendix A – List of Documents 26

Appendix B – Environmental Impact Statement 27

Appendix C – Additional Information 28

Appendix D – Statutory Considerations 29

Appendix E – Submissions 30

Appendix F – Response to Submissions 31

Appendix G – Recommended Conditions of Consent 32

1. Introduction

Suntop Solar Farm Pty Ltd (the Applicant) is a wholly owned subsidiary of Photon Energy NV, Canadian Solar Energy Holdings Singapore 4 Pte Ltd and Polpo Investments Ltd. The Applicant proposes to develop a new 170 megawatt (MW) solar farm (the project) at Suntop in central NSW, approximately 10 kilometres (km) west of Wellington, within the Dubbo Regional local government area (see **Figure 1**).

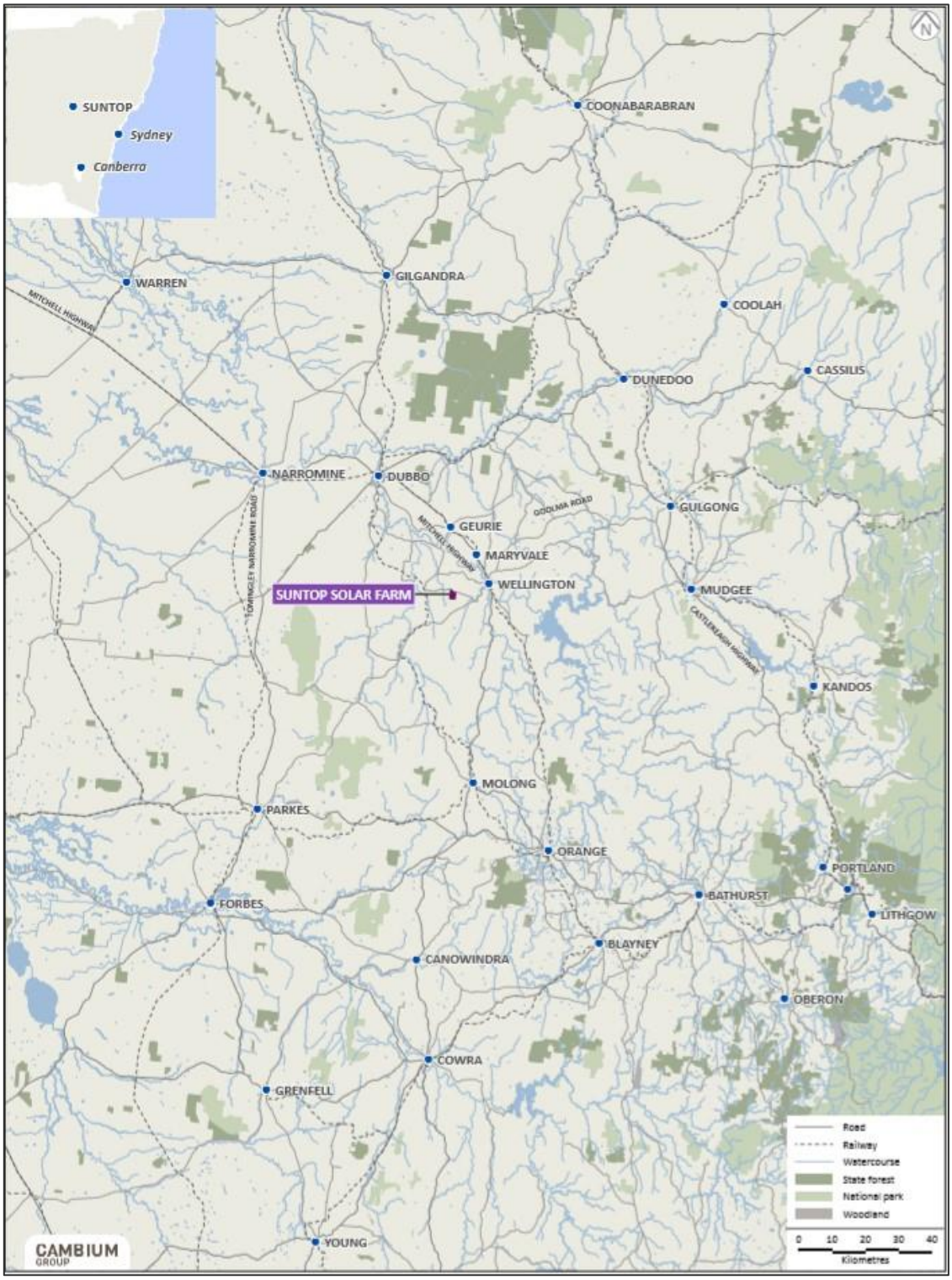

Figure 1 | Regional Context

2. Project

The project involves the construction of a new solar farm with a generating capacity of approximately 170 MW. It also involves any upgrading or decommissioning of infrastructure and equipment in the future. While the capacity of the proposed solar farm may increase over time as technology improves, the footprint of the development would not increase.

The key components of the project are summarised in **Table 1**, depicted in **Figure 2** and described in the environmental impact statement (EIS) (see **Appendix B**) and additional information provided during the Department's assessment of the project (see **Appendix C**).

Table 1 | Main Components of the Project

Aspect	Description
Project summary	The project includes: • approximately 550,000 solar panels (up to 4 meters (m) in height) on a single-axis tracking system and up to 60 inverter stations (up to 2.9 m in height), each containing 2-3 inverters and a transformer; • an on-site 132kV substation and connection to Transgrid's 132 kV transmission line which transects the site; • internal access tracks, staff amenities, maintenance and equipment buildings, offices, laydown areas, onsite car parking, security fencing; • vegetation screening along the boundaries of the site; and • consolidation and subdivision of the project site to facilitate purchase of the land.
Project area	513 ha (with a 472 ha development footprint)
Designated haulage route	Over-dimensional and heavy vehicles would access the site via the Mitchell Highway, Showground Road, Renshaw McGirr Way and Suntop Road.
Site entry and road upgrades	The site would be accessed utilising two new access points on Suntop Road, including: • a permanent site access point located along the western site boundary, for access to the site and substation during operation; and • a temporary site access point located at the north east corner of the site for access to the site during construction. Key roadworks include upgrading the existing intersection of Renshaw McGirr Way and Suntop Road to a standard that allows two-way heavy vehicle movements.
Operational life	• The expected operational life of the infrastructure is approximately 30 years. However, the project may involve infrastructure upgrades that could extend the operational life. • The project also includes decommissioning at the end of the project life, which would involve removing all above and below ground infrastructure.
Construction	• The construction period would last for up to 12 months. • Construction hours would be limited to Monday to Friday 7am to 6pm, and Saturday 8am to 1pm.
Hours of operation	• The project would operate during daylight hours. • Daily operations and maintenance would be undertaken Monday to Friday 7am to 6 pm.
Employment	• Up to 250 full time equivalent construction jobs, and 10 full time equivalent operational jobs.
Capital investment value	$262 million

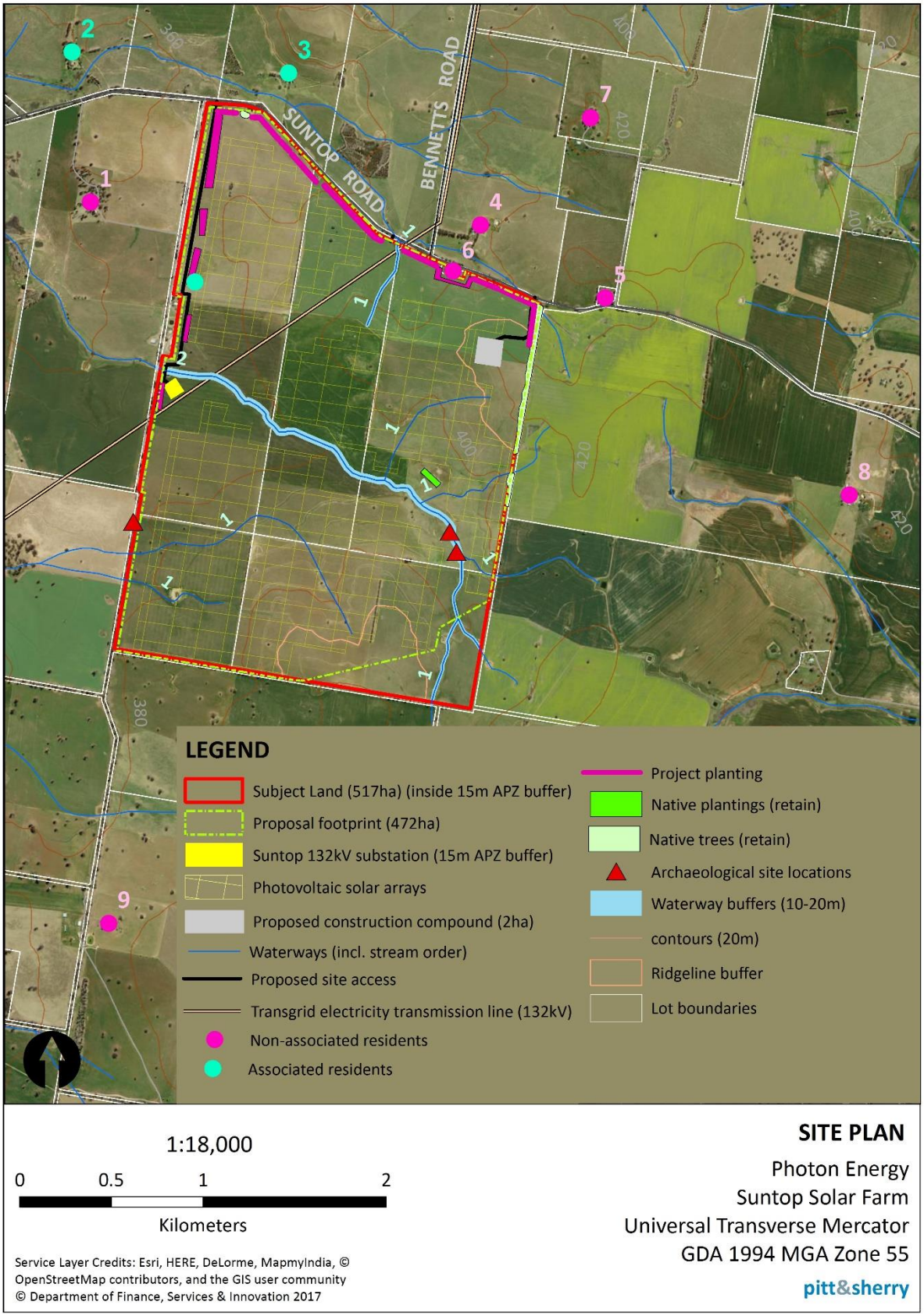

Figure 2| Project Layout

3. Strategic Context

3.1 Site and Surrounds

The project is located on a 517 hectare (ha) site at 909 Suntop Road, Suntop, within the Central West Region of NSW. The proposed development footprint within the site is 472 ha and has been designed to largely avoid site constraints including remnant native vegetation, riparian zones and Aboriginal heritage items. There are three small farm dams, two first order streams, multiple ephemeral drainage lines and one unnamed second order stream.

The site has historically been cleared for grazing and cropping purposes. It is currently used for grazing and cropping, including wheat under-sown with alfalfa. An existing 132 kV overhead transmission line traverses the site and connects to Transgrid's Wellington substation.

The area surrounding the site is gently undulating in nature and the site generally slopes downwards to the west with slightly elevated rises located along the eastern and south-eastern project site boundaries.

The nearest residence is located approximately 200 m north of the project and there are five residences located within 1 km of the project.

3.2 Other Solar Farms

The Dubbo Regional local government area has attracted considerable interest from solar developers given the proximity of major transmission lines and existing electricity substations. The Department recently approved the 174 MW Wellington Solar Farm and there are an additional four projects at various stages in the State significant assessment process, including Wellington North Solar, Maryvale Solar, Mumbil Solar and Suntop 2 Solar (see **Figure 3**). Wellington Solar, Wellington North Solar and Maryvale Solar are all located within 10 km to the north of Wellington, and would be accessed via the Mitchell Highway, Goolma Road and Cobbora Road. Mumbil Solar is located approximately 15 km south-east of Wellington and would be accessed via the Mitchell Highway and Burrendong Way.

Of these projects, the Suntop 2 Solar Farm is the only one project that has the potential to have cumulative construction related and visual impacts with the project, as it is located adjacent to the project site (see **Figure 3**).

The proposed Suntop 2 Solar Farm would be a 230 MW capacity project with a 425 ha development footprint and is owned by the Applicant. The Department understands that if it is approved, the Applicant does not propose to construct both projects concurrently. As such, the Department has assessed the potential cumulative impacts of both projects on the basis that their construction would occur subsequent to each other, but both projects would be operational at the same time. The cumulative construction related and visual impacts are discussed further in **section 6.2** and **6.4**, respectively.

While the key potential cumulative impacts would be associated with the Suntop 2 Solar Farm, there are also potential cumulative impacts on agricultural land and workforce accommodation associated with the other four solar projects in the area. These cumulative impacts are discussed further in **sections 6.1** and **6.4**.

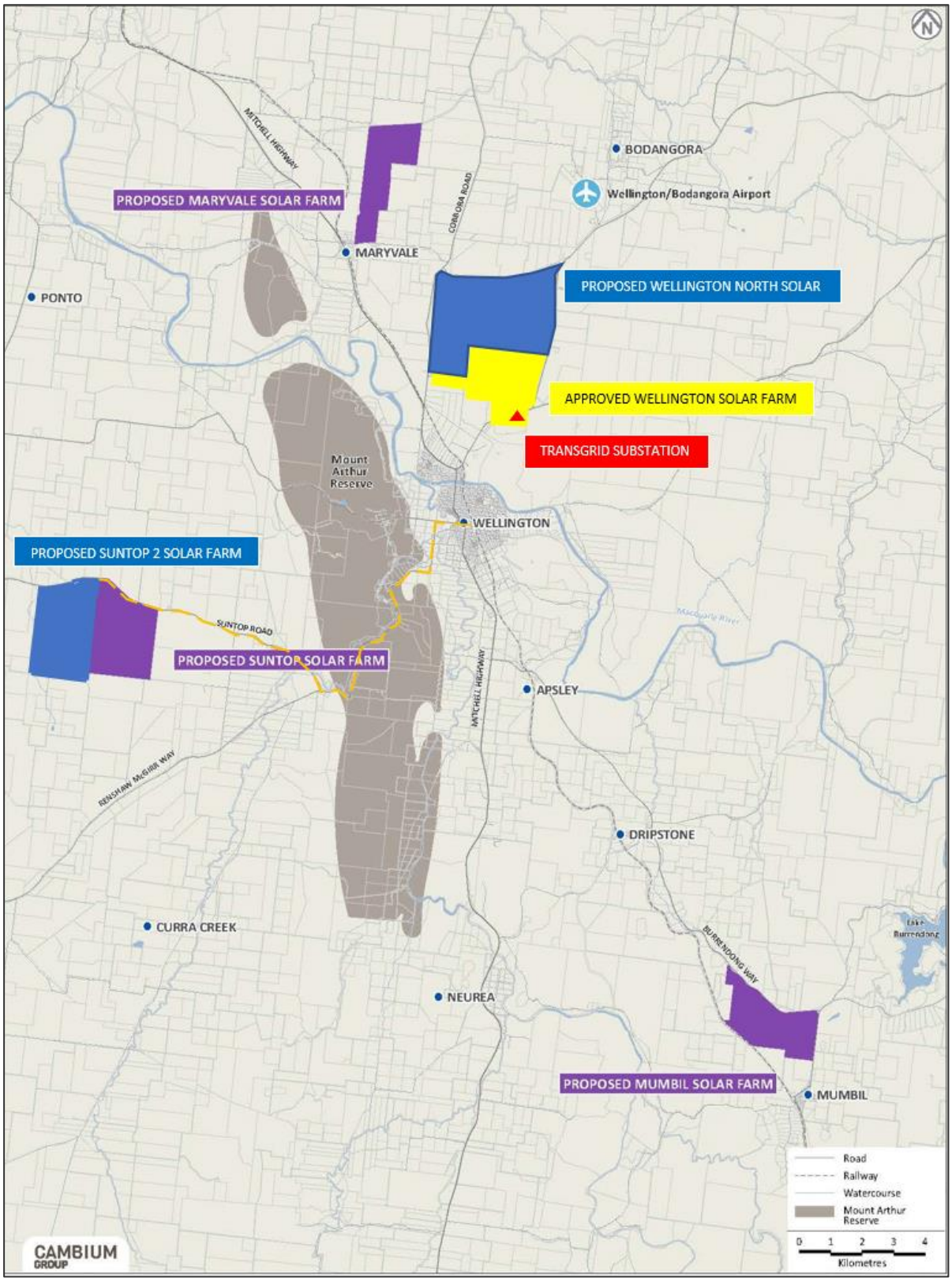

Figure 3 | Solar farms in Dubbo Regional local government area

3.3 Energy Context

The *United Nations Framework Convention on Climate Change* has adopted the Paris Agreement, which aims to limit global warming to well below 2°C, 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.

One of the key initiatives to deliver on this commitment is the Commonwealth Government's *Renewable Energy Target*. Under this target, more than 20% of Australia's electricity would come from renewable energy by 2020. It is estimated that an additional 5,400 MW of new renewable energy capacity will need to be built by 2020 to achieve the *Renewable Energy Target*.

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 Government also has a *Renewable Energy Action Plan*, which promotes the development of renewable energy in NSW.

NSW is currently leading Australia in large-scale solar, with seven major operational projects, including the largest solar farm in Australia, and an additional five under construction.

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

The project would be located within the proposed Central West Energy Zone, which currently includes:

- the under construction Beryl Solar Farm (87 MW);
- the approved but not yet constructed Wellington Solar Farm (174 MW) and Gilgandra Solar Farm (40MW); and
- the proposed Dunedoo Solar Farm (66 MW), Maryvale Solar Farm (115 MW), Mumbil Solar Farm (138 MW), Wellington North Solar Farm (300 MW) and Suntop 2 Solar Farm (230 MW).

With a capacity of 170 MW, the project would generate enough electricity to power up to 65,000 homes and is therefore consistent with both the Commonwealth's *Renewable Energy Target* and NSW's *Renewable Energy Action Plan*.

4. Statutory Context

4.1 State Significant Development

The project is classified as State Significant Development (SSD) under Section 4.38 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*, as it is development for the purpose of electricity generating works with a capital investment value (CIV) of more than $30 million.

Consequently, the Minister for Planning is the consent authority for the development. However, under the Minister's delegation of 11 October 2017, the Executive Director, Resource Assessments and Business Systems, may determine the development application as Council did not object, there were less than 25 objections from the general public and a political donations disclosure statement has not been made.

4.2 Permissibility

The site is located in the Dubbo Regional local government area on land zoned RU1 – Primary Production under the *Wellington Local Environment Plan 2012* (Wellington LEP). As a solar farm is not expressly listed as permitted with or without consent on land zoned RU1, it is a prohibited land use under a strict reading of the Wellington LEP, as discussed further in **section 6.1**.

However, under the *SEPP (Infrastructure) 2007* (Infrastructure SEPP) electricity generating works are permissible on any land in a prescribed rural, industrial or special use zone, including RU1. Consequently, the project is permissible with development consent.

4.3 Integrated and Other Approvals

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

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

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

4.4 Mandatory Matters for Consideration

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

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

The Department has considered these matters in its assessment of the project, as well as the Applicant's consideration of environmental planning instruments in its EIS, as summarised in **section 6** of this report. The Department has also considered relevant provisions of the environmental planning instruments in **Appendix D**.

5. Engagement

5.1 Department's Engagement

The Department publicly exhibited the EIS from 6 June 2018 until 6 July 2018 (30 days) and advertised the exhibition in the Wellington Times, Dubbo Mailbox Shopper and Dubbo Daily Liberal. The Department also notified Dubbo Regional Council, relevant government agencies and landowners adjoining the project boundary.

The Department inspected the site on 22 November 2017 and has consulted with the relevant Government agencies, including Dubbo Regional Council, throughout the assessment process.

5.2 Submissions and Response to Submissions

During the exhibition period of the EIS, the Department received a total of nine submissions, including:

- advice from eight government agencies; and
- one objection from the general public.

Full copies of the submissions are attached in **Appendix E**.

The Applicant provided a response to all matters raised in submissions on the project (see **Appendix F**), as well as additional information during the Department's assessment (see **Appendix C**). The additional information provided clarification on the proposed subdivision and access to the TransGrid substation.

5.3 Key Issues – Government Agencies

Dubbo Regional Council supports the development of the project. However, Council initially raised concerns on aspects of the project including subdivision of land, traffic and the cumulative impacts of the proposed large-scale solar energy developments within the Wellington area. These matters have been addressed by the Applicant in the Response to Submissions (RTS), are discussed in **sections 6.1**, **6.2**, **6.3** and have been incorporated into the recommended conditions of consent.

Council has also asked for development contributions of 1% of the capital investment value to be applied to the project. The Department has met with Council officers to discuss this request in more detail, and gave Council a detailed explanation of why it does not consider this request to be reasonable in this instance (see **section 6.4** for a summary of these reasons).

Roads and Maritime Services (RMS) did not object to the proposal, provided the Applicant was required to prepare a comprehensive Traffic Management Plan and undertake the relevant road upgrades prior to the commencement of construction. These recommendations are discussed in **section 6.2** and have been incorporated into the recommended conditions of consent.

The **Office of Environment and Heritage** (OEH) initially raised concerns regarding the Aboriginal Cultural Heritage Consultation and the Applicant's use of streamlined models for the biodiversity assessment and calculation of biodiversity requirements. However, following receipt of additional information and further discussions with the Applicant, OEH advised that it has no objection to the project subject to recommended conditions of consent. These recommendations are discussed in **sections 6.3** and **6.4**.

The **Department of Industry – Lands and Water** (DoI - L&W) requested further information on potential effects to on-site water storage and agricultural land. These matters have been addressed by the Applicant in the RTS and additional information provided during the Department's assessment and are discussed in **section 6.1** and **6.4**.

The **Division of Resources and Geoscience** (DRG) confirmed that the project will not sterilize any significant mineral resources, and that the Applicant has provided sufficient evidence of consultation with the titleholder of Exploration Licence EL8463 (which is located over a small portion of the project site).

The **Rural Fire Service** (RFS) and **Fire & Rescue NSW** recommended the Applicant be required to develop a Fire and Emergency Response Plan, which has been incorporated into the recommended conditions of consent.

TransGrid raised no concerns about the project and made no recommendations.

5.4 Key Issues – Community

One anonymous submission was received from a member of the general public residing in the Wellington area objecting to the project. The key issues raised in this submission related to land use compatibility, water use and bushfire risks. **Section 6.1** and **6.4** provide a summary of the Department's consideration of these matters and recommended conditions.

6. Assessment

The Department has undertaken a comprehensive assessment of the merits of the project. This report provides a detailed discussion of the three key issues, namely the compatibility of the proposed land use, and the potential impacts on amenity (traffic, visual and noise) and biodiversity.

The Department has also considered the full range of potential impacts associated with the project, including the potential cumulative impacts of the proposed Suntop 2 Solar Farm, and has included a summary of the conclusions relating to these in **section 6.4**.

The key constraints for the project are depicted in **Figure 2** and a list of the key documents that informed the Department's assessment is provided in **Appendix A**.

6.1 Compatibility of Proposed Land Use

Provisions of the Wellington LEP

The site is located wholly within the RU1 Primary Production zone under the Wellington LEP. As a solar farm is not expressly listed as permitted with or without consent on land zoned RU1, it is a prohibited land use under a strict reading of the Wellington LEP.

However, based on a broader reading of the Wellington LEP, and consideration of the objectives of the RU1 zone and other Council strategic documents, the Department considers that there is no clear intention to prevent the development of a solar farm on the project site.

Firstly, the Wellington 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.

Secondly, the project is consistent with the objectives of the RU1 zone under the Wellington LEP, including in regard to:

- encouraging diversity in primary industry enterprises;
- minimising fragmentation and alienation of resource lands; and
- minimising conflict between land uses.

The proposed development would not fragment or alienate any resource lands during its operation as it has generally low impacts and it could easily be returned to agricultural land, with the potential for mining and exploration, following decommissioning. In addition, Council supports the development of the project, subject to the implementation of appropriate environmental mitigation measures.

Additionally, while the Dubbo Regional local government area 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. The proposed solar farm would encourage a new element of agricultural enterprise in renewable energy development which is part of the vision of Council's *Dubbo Economic Development Strategy (2011)*.

Further, one of the key actions in the Council's *2016/17 LGA Economic Development Action Plan* is the promotion of alternative energy sources and infrastructure to support initiatives that attract low carbon investment in the local government area.

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

Potential Impacts on Agricultural Land

The project site is located within the Central West Region of NSW, which has a strong and diverse agricultural sector. While the project site is not mapped as Biophysical Strategic Agricultural Land (BSAL), the soils on the site are classified as having Class 3 Rural Land Capability under the Land and Soil Capability Mapping in NSW (OEH, 2017), which gives them a general rating of being suitable for cropping. The site has historically been used for agricultural purposes of grazing and dryland cropping of wheat, oats, canola and alfalfa.

The site covers an area of 513 ha and the development footprint of the project infrastructure is 472 ha. The agricultural output from the site would be reduced by the development of the solar farm while the project remains operational, however managed grazing is likely to occur during the operation of the project to maintain the height of the ground cover.

The development footprint of the project combined with the approved Wellington Solar Farm would be 963 ha.

The loss of 963 ha of agricultural cropping land represents a very small fraction (~0.0001 %)[1] of the agricultural output of the Central West Region and would result in a negligible reduction in the overall productivity of the region.

Furthermore, the inherent agricultural capability of the land would not be affected by the projects due to the relatively low disturbance associated with the development.

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 economic benefits of solar energy in an area with good solar resources and available capacity on the existing electricity network.

Based on these considerations, the Department considers that the proposed solar farm represents an effective and compatible use of the land within the Wellington region. In addition, the Department has recommended suitable conditions to ensure the agricultural capability of the land is reinstated following the decommissioning of the project.

6.2 Amenity

Traffic

Transport Route and Site Access

Site access would be via the Mitchell Highway, Showground Road, Renshaw McGirr Way and Suntop Road. The Suntop 2 Solar Farm, if approved, would also use this transport route.

The site would be accessed via two new access points on Suntop Road, including:

- a temporary site access point located at the north east corner of the site, for access to the site during construction; and
- a permanent site access point located at the north west corner of the site, for access to the site and substation during operation.

[1] Based on 8,900,000 ha of land being used for agricultural output, as specified in the Central West & Orana Agricultural Industries Final Report, Department of Planning and Environment, January 2016

RMS and Council have raised no objection to the proposed site access points From the permanent site access point a new access track would be constructed along the project site's western boundary and parallel to the existing unsealed farm road, to facilitate access to the project and substation (see **Figure 2**). The existing unsealed farm road would be retained to continue to provide access for the neighbouring property.

Traffic Volumes

There would be minimal traffic to and from the project site during the operation of the development (no more than 5 heavy vehicle movements per day). Consequently, the only material traffic impacts would occur during construction, decommissioning and major infrastructure upgrades.

Traffic volumes would vary during the 12 month construction period but the daily vehicle movements during construction would not exceed 115 vehicle movements per day, comprising 70 light vehicles and 45 heavy vehicle movements. Additionally, one over-dimensional vehicle would be required to deliver the substation components.

As construction activities would be restricted to daytime hours, construction related vehicles would only be using the local road network during the day. Projected traffic during decommissioning and major infrastructure upgrades would be similar to construction traffic levels, however for shorter durations.

Road Upgrades and Maintenance

Both RMS and Council support the proposed site access, provided the required road upgrades are undertaken to support the increased traffic volume. These include:

- upgrading the intersection of Renshaw McGirr Way and Suntop Road with a Basic Right Turn (BAR) and Basic Left Turn (BAL) treatment;
- upgrading the intersections of Suntop Road and the site access points with Rural Property Access type treatments to cater for the largest vehicle accessing the site; and
- sealing the onsite access tracks for 30 m from the site access points, in order to meet RMS Typical Rural Property Access Standards.

Additionally, the Applicant has committed to preparing road dilapidation surveys and repairing any damage resulting from the construction traffic as part of the Traffic Management Plan in consultation with RMS and Council.

Recommended Conditions

The Department has recommended conditions of consent requiring the Applicant to:

- undertake the relevant road upgrades and maintenance requirements prior to the commencement of construction;
- ensure the number of vehicles does not exceed:
  - 45 heavy vehicle movements a day during construction, upgrading or decommissioning;
  - 1 over-dimensional vehicle movements during construction, upgrading or decommissioning; and
  - 5 heavy vehicle movements a day during operations;
- ensure the length of the vehicles accessing the site (excluding over-dimensional vehicles) do not exceed 19 m; and
- prepare and implement a Traffic Management Plan in consultation with RMS and Council.

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

Visual

While there are no listed scenic or significant vistas in proximity to the project site, there are 20 non-associated residences located within 5 km, five of which are located within 1 km of the project site. Concerns about visual impacts were raised in the only public submission.

The EIS includes a comprehensive visual impact assessment that is based on 27 viewpoints and includes photomontages showing the visual extent of the project at 3 of the residences residing within 5 km.

The Applicant has designed the project to be set back from the northern property boundary to mitigate visual impacts on the surrounding residences and public viewpoints on Suntop Road. Furthermore, the Applicant is not proposing to locate project infrastructure on the elevated portions of the project site.

Additionally, the Applicant has proposed vegetation screening along portions of the eastern, northern and western boundaries of the site to augment the existing native vegetation that is to be retained, which would further reduce visual impacts on a number of the surrounding residences (see **Figure 2**).

With the provision of the proposed vegetation screening, the nearest residence that would have views of the project is Residence 1. Residence 1 is located 550 m west of the project and is associated with the proposed Suntop 2 Solar Farm. None of the remaining four residences within 1 km of the project would have views of the Suntop 2 Solar Farm due to topography, existing vegetation and distance.

Figure 4 provides an example of the predicted view looking east towards the project from Residence 1. As the project is relatively low-lying (i.e. with a maximum solar panel height up to 4 m), and the proposed vegetation screening, the views of the project from Residence 1 would be largely screened.

Notwithstanding, the Applicant's visual impact assessment concluded that this residence would experience 'moderate' residual visual impacts. However, the Department notes that the classification of these impacts is a relative term and is in the context of minor impacts overall, particularly in comparison to other renewable energy projects like wind farms.

The project is also located approximately 150 km from the Siding Spring Observatory and therefore falls within the Dark Sky Region covered by the NSW Government's Dark Sky Planning Guideline. A consent authority must consider this guideline when it considers whether a project is likely to affect the night sky and are within 200 km of the Siding Spring Observatory.

There would be some night security lighting, however there would be negligible light spill beyond the horizontal plane and any lighting would be similar to that associated with a rural residence. Consequently, the Department considers that the project would not affect either the observing conditions at the Observatory or the surrounding residences. Additionally, as the photovoltaic panels are designed to absorb rather than reflect sunlight, the project would not cause noticeable glint or glare compared to other building surfaces.

As such, with the implementation of the proposed vegetation screening, the Department considers there would be no significant visual impacts from the project on the landscape and surrounding residences.

The Department has recommended a range of stringent conditions requiring the Applicant to establish and maintain a mature vegetation buffer along part of the site's eastern, northern and western boundaries. This buffer must:

- be established prior to the commencement of operations;
- consist of species that facilitate the best possible outcome in terms of visual screening (i.e. the buffer does not have to consist only of native vegetation);
- be effective at screening views of the solar panels and ancillary infrastructure from the relevant surrounding residences within 3 years of the commencement of construction; and
- be properly maintained with appropriate weed management.

Furthermore, the Applicant must prepare a detailed Landscaping Plan for the site, in consultation with Council and surrounding landowners, which must include a description of measures that would be implemented to ensure the effectiveness of the vegetation buffer. This plan must also include a program to monitor and report on the effectiveness of these measures.

The Department has also required that external lighting is minimised and complies with the relevant Australian Standards, and prohibits any signage or advertising on the development, unless it is required for safety purposes.

Subject to the implementation of these measures, the Department considers that there would be no significant visual impacts on surrounding residences, and the rural character and visual quality of the area would be preserved.

Figure 4 | Residence 1 photomontage looking east towards the project

Noise

The EIS includes a noise impact assessment of both operational and construction noise, including an assessment of the noise impacts associated with construction traffic.

The noise impact assessment concluded that the noise associated with the proposed construction, upgrading and decommissioning activities would be well below the 'highly noise affected' criterion of 75 dB(A) in the EPA's *Interim Construction Noise Guideline* (ICNG) for all residences.

However, up to 4 non-associated residences (i.e. Residences 1, 4, 5 and 6) may be subject to temporary noise up to 11 dB(A) above the 'noise affected' criterion of 45 dB(A) when piling, general assembly and trenching activities are being undertaken at the project boundary adjacent to these residences. This exceedance would be limited to standard operating hours and would occur for up to three weeks.

Construction noise would be minimised and managed by implementing the noise mitigation work practices set out in the ICNG, including scheduling activities to minimise noise, using quieter equipment, informing the immediately surrounding landowners and establishing a complaint handling procedure.

There would be negligible noise during operation.

The Department considers that any noise impacts would be limited to the construction period and would be short-term and minor, and has recommended conditions requiring the Applicant to:

- minimise the noise generated by any construction, upgrading or decommissioning activities on site in accordance with best practice requirements outlined in the ICNG, including consultation with nearby landowners; and
- restrict construction hours to Monday to Friday 7 am to 6 pm and Saturday 8 am to 1 pm, with no works on Sundays and NSW public holidays.

6.3 Biodiversity

The site comprises a series of large fenced paddocks that have been levelled and largely cleared for agricultural purposes. It is currently used for irrigation cropping and grazing. There are scattered patches of remnant native vegetation comprised of White Box – White Cypress Pine – Western Grey Box endangered ecological community (Box Gum Woodland EEC) remaining on the site (see **Figure 5**).

Additionally, there are remnant patches of roadside vegetation comprising Box Gum Woodland EEC located along the proposed transport route, most notably at the intersection of Suntop Road and Renshaw McGirr Way (see **Figure 6**).

The EIS included a biodiversity assessment prepared in accordance with the Biodiversity Assessment Method (BAM) under the *Biodiversity Conservation Act 2016* (BC Act). The Department and OEH consider that all threatened species and ecological communities have been correctly identified and assessed.

Vegetation Clearing

While the project has been designed to minimise the impacts on remnant vegetation, it would require the removal of some Box Gum Woodland EEC to both upgrade the intersection at Suntop Road and Renshaw-McGirr Way and to facilitate the installation of project infrastructure on the project site.

As summarised in **Table 2**, the project would result in the removal of up to:

- 1.25 ha of Box Gum Woodland EEC on the project site;
- 0.04 ha of Box-Gum Woodland EEC at the junction of Suntop Road and Renshaw McGirr Way; and
- an additional 41 isolated trees, including 25 remnant paddock trees and 6 planted paddock trees on the project site and 10 roadside trees, which represent Box Gum Woodland EEC.

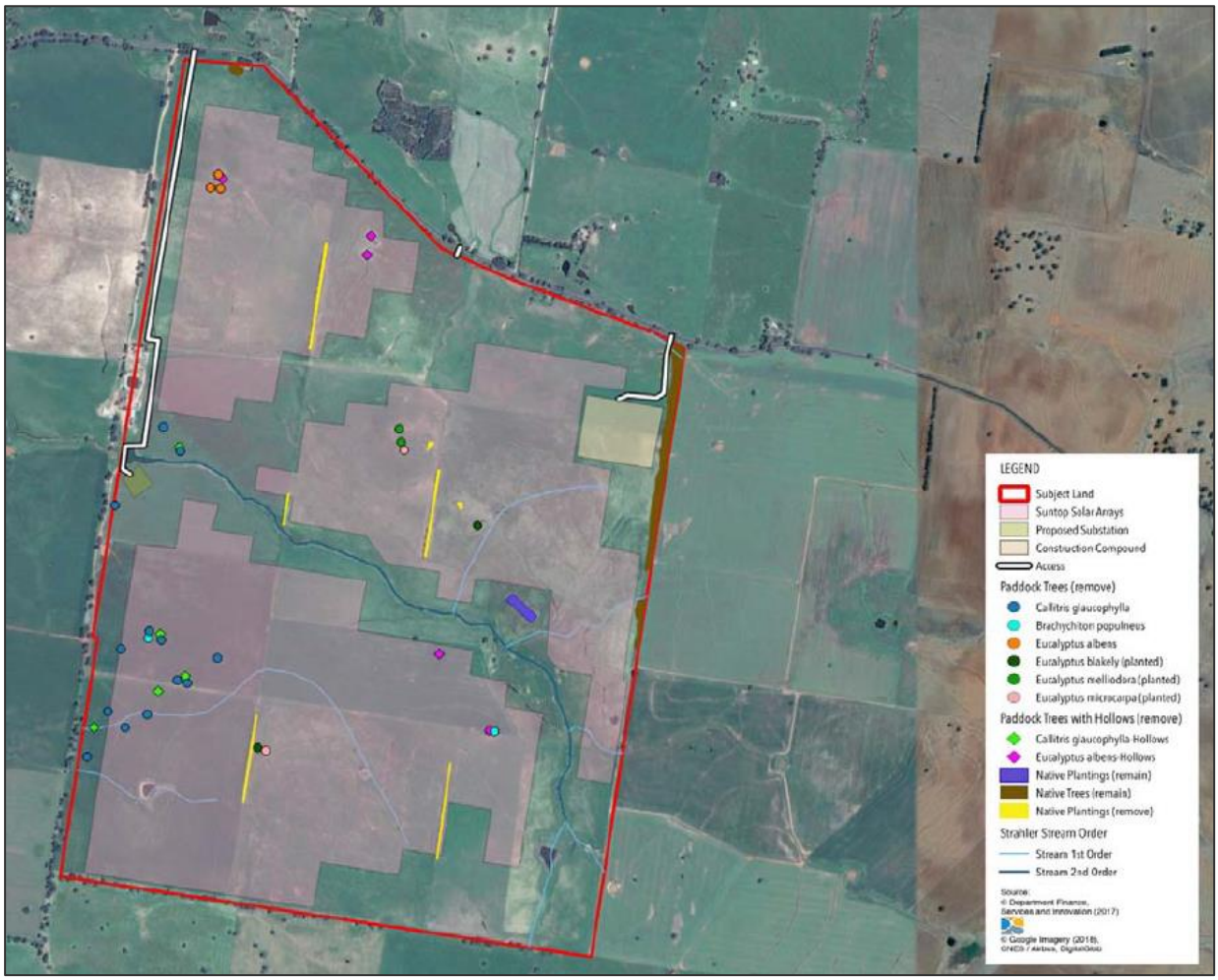

Figure 5 | Native vegetation on project site

Figure 6 | Vegetation clearing at intersection of Suntop Road and Renshaw McGirr Way

Table 2 | Vegetation Community Impacts

Native Vegetation Community	PCT ID	Type	Conservation significance	Impact	Credits required
White Box – White Cypress Pine - Western Grey Box shrub/grass/forb woodland in the NSW South Western Slopes Bioregion	267	Plantings/ Woodland	EEC	1.29 ha	20
		Isolated trees	EEC	41 trees	27.75
Total					**47.75**

The Department and OEH accept that the Box Gum Woodland EEC being cleared would not be significant. Notwithstanding, the impacts would need to be offset in accordance with the *NSW Biodiversity Offsets Scheme*, as outlined below.

Biodiversity Offsets

The offset requirements for the project's effect on Box Gum Woodland EEC, including paddock trees, is summarised in **Table 2**.

Both the Department and OEH consider that the offset credit requirements have been correctly calculated using the BAM.

The Department notes that the *NSW Biodiversity Offsets Scheme* allows for the retirement of biodiversity offset credits to be achieved by a number of mechanisms (not just through land-based offsets), namely:

- acquiring or retiring 'biodiversity credits';
- making a payment to the Biodiversity Conservation Fund; or
- providing supplementary measures.

The Applicant is proposing to retire the total liability of 47.75 ecosystems credits by making a lump sum payment of equivalent value to the Biodiversity Conservation Fund.

Recommended Conditions

The Department considers that while the project would result in some biodiversity impacts, these impacts are relatively minor and are able to be adequately managed, or at lease compensated for, through a range of mitigation and offsetting measures. In this regard, the Department has recommended conditions requiring the Applicant to:

- prepare and implement a detailed Biodiversity Management Plan; and
- retire the applicable biodiversity offset credits in accordance with the *NSW Biodiversity Offsets Scheme*.

Subject to the recommended conditions, the Department and OEH consider that the project could be undertaken in a manner that maintains or improves the biodiversity values of the locality over the medium to long term.

6.4 Other Issues

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

Table 3 | Summary of other issues raised

Issue	Findings	Recommended Condition
Heritage	• An Archaeological and Cultural Heritage Assessment was completed in accordance with the relevant guidelines, including consultation with the local Aboriginal community. • The site contains three known Aboriginal heritage items, including one culturally significant tree and two stone artefacts (i.e. Suntop IF 1, Suntop IF 2) (see **Figure 2**). The items were assessed as having low significance due to the highly disturbed nature of the site and surrounds.	• Ensure the development does not cause any direct or indirect impacts on the three Aboriginal heritage items located on the project site, outside the approved development footprint. • Cease works and notify the NSW Police and OEH if human remains are

Issue	Findings	Recommended Condition
	• Notwithstanding, the project's development footprint has been designed so that impacts to these items would be avoided. • Given the highly disturbed nature of the site, the likelihood of identifying unexpected items during construction is low. If Aboriginal artefacts or skeletal material are identified, all work would cease, and the Chance Finds Protocol would be implemented. • There are no known items of historic heritage value in the vicinity of the project site. • The Department and OEH consider the project is unlikely to result in a significant impact on the heritage values of the locality.	identified over the life of the project. • Prepare a Chance Finds Protocol.
Hazards	• The project would comply with the National Health and Medical Research Council standards for electric and magnetic fields. • The bushfire risks can be suitably controlled through the implementation of standard fire management procedures, including the establishment of a static water supply (20,000 litres) near the substation for fire protection. • The Applicant has committed to managing the entire site as an Asset Protection Zone and preparing a bushfire management plan to manage fire risk. • The Department considers that the bushfire risks can be suitably controlled through the implementation of standard fire management procedures.	• Ensure that the development complies with the relevant asset protection requirements in the RFS's *Planning for Bush Fire Protection 2006*. • Prepare and implement a Fire Management and Emergency Response Plan in consultation with RFS and Fire & Rescue NSW.
Soil and water	• The site includes one second order stream, two first order streams, and numerous first order ephemeral drainage lines that have been heavily modified. • The Applicant has designed the development footprint to incorporate the required buffer distances for the second order stream and the two first order streams that are still intact (see **Figure 2**). • The remaining first order drainage lines have been substantially altered from their natural condition and DoI – L&W advised they did not need to be avoided. • With the incorporated buffers of the relevant streams, the Department considers the project is unlikely to have significant effect on surface water behaviour. • The project would require around 10 megalitres (ML) of water during construction and decommissioning (mainly for dust suppression) and 1.5 ML of water annually during operation. • The Applicant is proposing to either source this water from rainwater collected via the on-site dams or via tankers. • The project is not expected to affect groundwater resources. • The Department considers any erosion and sedimentation risks associated with the project can be effectively managed using best practice construction techniques.	• Prohibit water pollution in accordance with Section 120 of the *Protection of the Environment Operations Act 1997*. • Undertake activities in accordance with OEH's *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) manual and *Guidelines for Controlled Activities on Waterfront Land* (DPI Water, 2012).
Community contributions	• Council requested a development contribution of 1% of the capital investment value of the project under Section 7.12 of the EP&A Act. This would equate to $2.62 million. • The Department has discussed this request with Council and examined its merits, paying particular attention to the project's demand on local infrastructure and services. • The Department has recommended strict conditions of consent that would require the Applicant to pay for all relevant road and intersection upgrades. Further, the Applicant would be required to pay for the repairs of any project-related impacts on the road network. • Apart from the road upgrades and maintenance, the Department does not consider that the project would create any other additional demand on local infrastructure or services. • However, the Department notes that there are a number of other solar projects proposed in the Dubbo local government area, and it has	• No specific conditions required.

Issue	Findings	Recommended Condition
	committed to working with Council to ensure that the economic benefits of these projects are realised within the local area.	
Workforce accommodation	• Up to 250 personnel would be required during the construction of the project. • The Applicant is proposing to source the workforce for the project from the local and wider region including the surrounding local government areas. • Within Dubbo Regional local government area there are another four proposed, and one approved but not yet constructed, large-scale solar energy developments, including Wellington North Solar Farm, Maryvale Solar Farm, Mumbil Solar Farm, Wellington Solar Farm and Suntop 2 Solar Farm. • Should all these projects be approved and their construction periods overlap, which is considered unlikely, there would be up to 1,000 construction personnel required at a time. • The Applicant undertook an assessment of accommodation availability in Wellington, as well as Dubbo, which is located within 100 km of site. • The assessment indicated there is likely to be sufficient accommodation available to house workers during the construction period, even if multiple solar farm projects are constructed concurrently. • Notwithstanding, to ensure there would be sufficient accommodation to house construction employees, the Department has required the Applicant to develop an Accommodation and Employment Strategy.	• Prepare an Accommodation and Employment Strategy for the project in consultation with Council, with consideration of the cumulative impacts associated with other State significant development projects in the area.

Subdivision	• The Applicant intends to purchase the project site from the current landowner, however the landowner wishes to maintain ownership of their existing farm buildings, located on the western boundary of the project site.
	• To facilitate this outcome, the Applicant is proposing to consolidate the five lots on which the development footprint is located (i.e. Lots 1, 2 and 3 DP506925, Lot 122 DP753238 and Lot 90 DP657805) while excising the landowner's existing farm buildings and access road. Additionally, the Applicant is proposing to create a new lot for the proposed substation to allow TransGrid to take ownership of it.
	• The proposed consolidation and subdivision would result in three lots, including one 0.48 ha lot for the substation, one 4 ha lot for the farm buildings and access road, and one 513 ha lot for the project.
	• The two smaller lots would be prohibited under the Wellington LEP as they would not meet the minimum lot size for RU1 land (400 ha).
	• 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.
	• Further, Council does not object to the proposed subdivision providing no dwelling entitlements are attached to any of the lots.
	• The Department considers the subdivision should be approved as:
	  • it would permit existing agricultural land uses to continue on land that is not required for the development;
	  • it would not result in the addition of any dwelling entitlements on the subdivided lots; and
	  • it is consistent with key objectives of the RU1 zone as it would encourage diversity in primary industry enterprises and minimise conflict between land uses.
		• Subdivide the proposed lots providing information is provided in accordance with requirements of Section 157 of the *Environmental Planning and Assessment Regulation 2000*.

7. Evaluation

The Department has assessed the development application, EIS, submissions, Response to Submissions and additional information provided by the Applicant and relevant government agencies. The Department has also considered the objectives and relevant considerations under Section 4.15 of the EP&A Act.

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.

The project has been designed to largely avoid key constraints, particularly in relation to amenity impacts, native vegetation and riparian zones. Any residual impacts would be minor and can be managed through the recommended conditions of consent.

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

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

Importantly, the project would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources. It would generate up to approximately 379 gigawatt hours (GWh) of clean electricity annually, which is enough to power up to 65,000 homes and save over 357,000 tonnes of greenhouse gas emissions per year. It is therefore consistent with the goals of the Commonwealth's *Renewable Energy Target* and NSW's *Climate Change Policy Framework* and *Renewable Energy Action Plan*.

The Department considers the project achieves a reasonable balance between maximising the efficiency of the solar resource development and minimising the potential impacts on surrounding land users and the environment. The project would also stimulate economic investment in renewable energy and provide flow-on benefits to the local community, including up to 250 full time construction jobs, with a capital investment of up to $262 million.

On balance, the Department recommends that the project should be approved, subject to the recommended conditions of consent.

8. Recommendation

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

- **considers** the findings and recommendations of this report; and
- **accepts** and **adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant consent to the application;
- **agrees** with the key reasons for approval listed in the notice of decision;
- **grants consent** for the application in respect of Suntop Solar Farm (SSD 8696); and
- **signs** the attached development consent and recommended conditions of consent (see **Appendix G**).

Recommended by:

30/11/18

Natasha Homsey

Environmental Assessment Officer

Resource and Energy Assessments

Recommended by:

30/11/18

Clay Preshaw

Director

Resource and Energy Assessments

9. Determination

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

4/12/18

David Kitto

Executive Director

Resource Assessments and Business Systems

Appendices

Appendix A – List of Documents

Suntop Solar Farm Environmental Impact Statement, pitt&sherry, 2018.

Suntop Solar Farm Response to Submissions Report, pitt&sherry, 2018.

Amended Regional Context Map, pitt&sherry, 20 September 2018.

Amended Project Layout Map, pitt&sherry, 21 November 2018.

Amended Concept Landscape Plan. Pitt&sherry, 21 November 2018.

Appendix B – Environmental Impact Statement

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8696

Appendix C – Additional Information

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8696

Appendix D – 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 Minister's decision on whether or not to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act. The Department considers 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; • located in a logical location for efficient solar energy development; • 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; and • consistent with the goals of the Renewable Energy Action Plan, and would assist in meeting Australia's renewable energy targets whilst reducing greenhouse gas emissions. The Department has considered the encouragement of Ecologically Sustainable Development (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. The Applicant has also considered the project against the principles of ESD, particularly the principle of *intergenerational equity*, concluding that the proposal would benefit future generations by reducing the reliance on energy sources derived from non-renewable resources, which produce greenhouse gas emissions. 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 6** of this report. The Applicant has applied both the *precautionary principle* and the *conservation of biological diversity and ecological integrity* having undertaken careful evaluation and assessment to avoid serious or irreversible damage to the environment wherever practicable. Following its consideration, the Department considers that the project can be undertaken in a manner that would improve or at least maintain the biodiversity values of the locality over the medium to long term, and would not significantly impact threatened species and ecological communities of the locality. The Department also considers any residual biodiversity impacts can be managed and/or mitigated by imposing appropriate conditions and retiring the required biodiversity offset credits. Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in **Section 6.4** of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality. The Department considers any residual impacts on heritage can be managed and/or mitigated by imposing appropriate conditions.
State Significant Development	Under Section 4.38 of the EP&A Act the project is considered a State Significant Development. The Minister for Planning is the consent authority for the development. Under the Minister's delegation of 11 October 2017, the Executive Director, Resource Assessments and Business Systems, may determine the project.
Environmental Planning Instruments	The *Wellington Local Environment Plan (LEP) 2012* applies and is discussed in Sections 4.2 and 6.1 of this report. 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 as the electricity supply authority for the area. The Department has considered the provisions of *SEPP (Rural Lands) 2008* and considers that the project is consistent with its objectives as the project would not compromise the long-term use of the land for agricultural purposes and would provide an additional source of income for the landowner of the associated property, whose land would be directly impacted by the project. 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.

Appendix E – Submissions

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8696

Appendix F – Response to Submissions

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8696

Appendix G – Recommended Conditions of Consent

See the Department's website at:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8696