



25 July 2019

Orange Grove Solar Farm (SSD 8882)

1. INTRODUCTION

1. On 14 April 2019, the Independent Planning Commission NSW (the **Commission**) received from the NSW Department of Planning and Environment (the **Department**) a State Significant Development (SSD 8882) application (the **Application**) from Orange Grove Sun Farm Pty Ltd (the **Applicant**) to develop a new 110 megawatt (**MW**) solar farm (the **Project**), within Gunnedah Shire Council (**Council**) Local Government Area.
2. The Commission is the consent authority in respect of the Application under Section 4.5(a) of the *Environmental Planning and Assessment Act 1979* (the **EP&A Act**) and Clause 8A of the *State Environmental Planning Policy (State and Regional Development) 2011* (the **SEPP SRD**). This is because:
 - the Application constitutes State Significant Development under Section 4.36 of the EP&A Act because it triggers the criteria in Clause 20 of Schedule 1 of the SEPP SRD; and
 - the Department received more than 25 submissions from the public objecting to the Application.
3. Professor Mary O’Kane AC, Chair of the Commission, nominated Chris Wilson (Chair), Andrew Hutton and Annelise Tuor to constitute the Commission determining the Application.

1.1 Site and locality

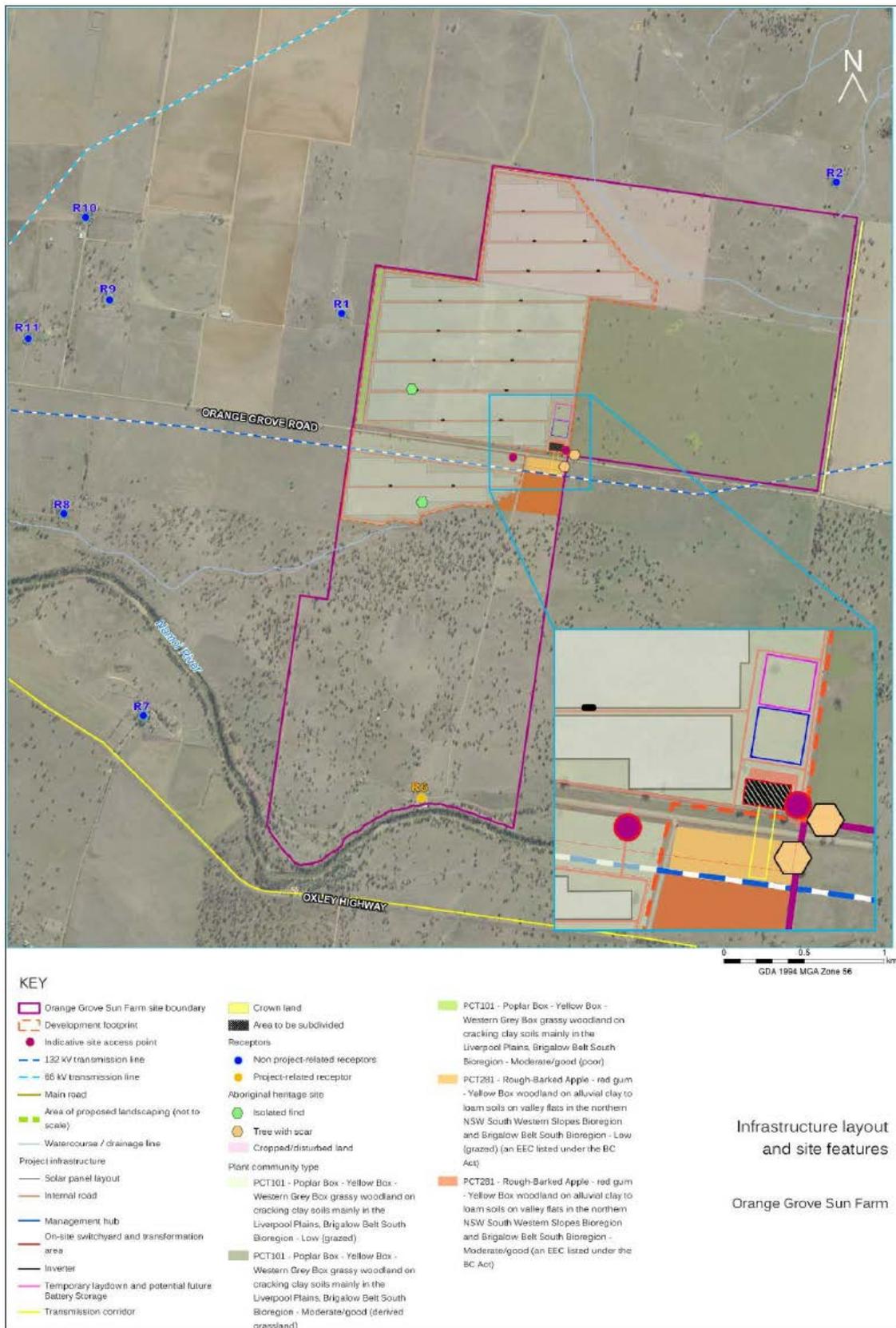
4. According to the Department’s Assessment Report (the **Department’s AR**) dated 12 April 2019, the Project is located within an 817 hectare (**ha**) site (the **Site**) divided by Orange Grove Road into two portions, northern and southern. The proposed development footprint is 248 ha.
5. The Department’s AR stated that the median elevation across the Site is approximately 9m above the Namoi River channel. The Site is zoned RU1 – Primary Production under the *Gunnedah Local Environmental Plan 2012* (GLEP2012). The land surrounding the Site is also zoned RU1 and is predominantly used for agricultural purposes.
6. The Department’s AR stated that the Site is located within the Namoi River Catchment. The Namoi River flows adjacent to the southern boundary of the Site, approximately 2 kilometres (**km**) south of the development footprint, and the Keepit Dam is about 40 km northeast. There is a first order natural watercourse and a network of constructed irrigation and drainage channels located throughout the Site. The location of the Site and surrounding land uses are illustrated in Figure 1 and Figure 2.
7. The Department’s AR stated that there are “*six non-associated residences within 2km of the site, with the two closest dwellings located approximately 200m west and 1.3 km north-east of the development footprint respectively. The Namoi Pistol Club is approximately 1.8 km from the north-eastern corner of the development footprint.*”

Figure 1 – Regional Context Map



Source: Department of Planning and Environment's Assessment Report

Figure 2 – Project Layout



Source: Department of Planning and Environment's Assessment Report

1.2 Background to the Application

8. The Applicant's Environmental Impact Statement (**EIS**) dated 15 May 2018 stated that the Site was identified as a potential solar development in 2016 because it "provides an efficient electrical connection to TransGrid's 132 kV transmission line and minimises the potential for vegetation removal thereby minimising environmental impacts".
9. The Applicant's EIS stated that the Site location, capacity of the Project, design and layout of infrastructure and connection to the electricity grid has been selected through consideration of key factors including:
 - availability of high solar radiation;
 - proximity to, and capacity of, the electricity grid;
 - compatibility with the landholders' future agricultural and commercial objectives for the land;
 - identification and avoidance of environmental constraints;
 - availability of sufficient land area with suitable characteristics. The development footprint is predominantly cleared of native vegetation and requires limited Site preparation and civil works. The proximity of the regional road network enables delivery of the infrastructure required for the project; and
 - placement of infrastructure to minimise land use conflicts with other local projects and to facilitate the landholders' ongoing use of their land parcels outside of the development footprint.

1.3 Summary of the Application

10. The Department's AR stated that in response to issues raised during the exhibition of the Application, the Applicant revised the Project layout in its Response to Submissions (**RtS**). The Department's AR stated that the Project involves the construction of a new solar farm with a generating capacity of 110 MW. The key components of the Project currently before the Commission for determination are summarised in Table 1.

Table 1 – Main Components of the Project

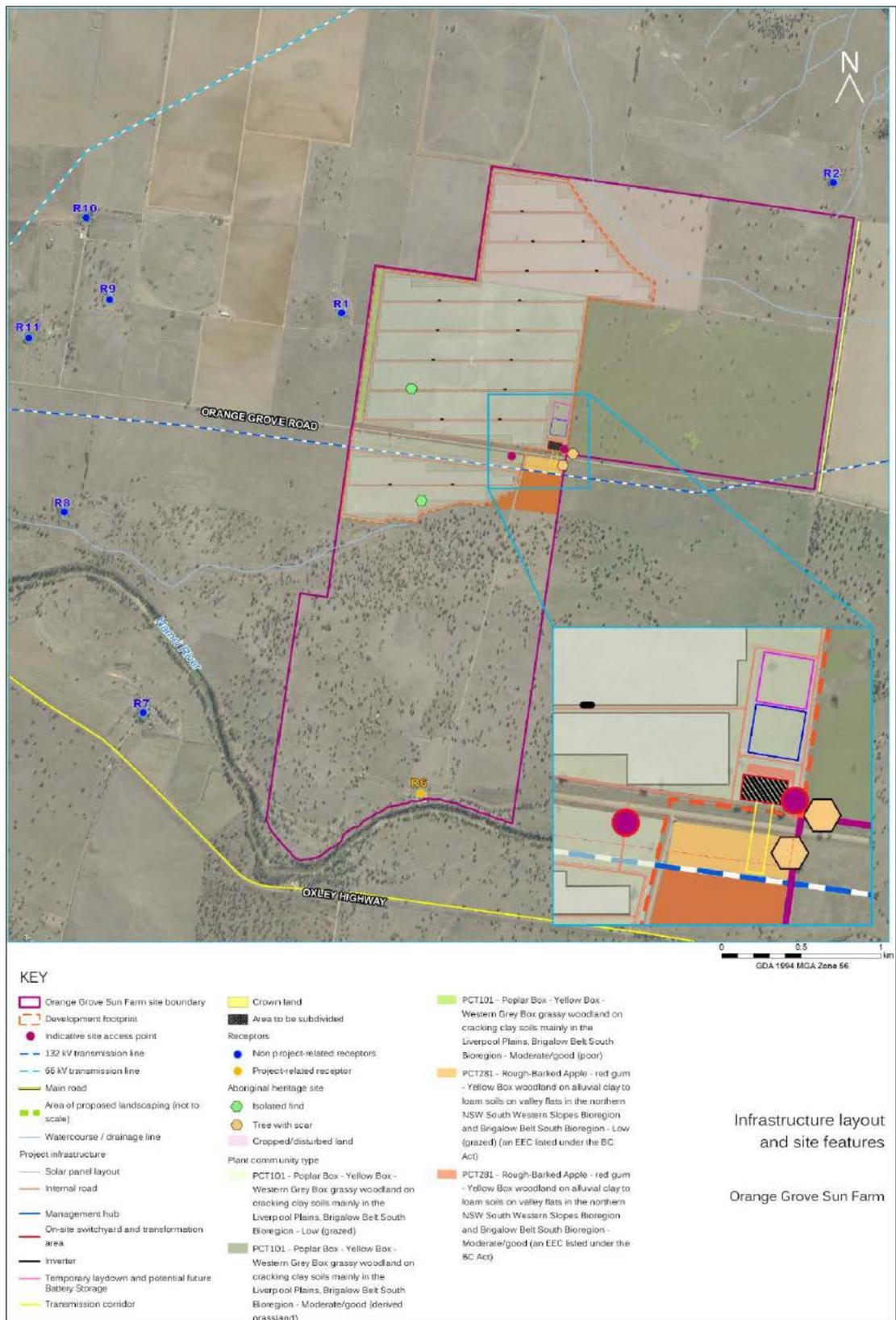
Aspect	Description
Project summary	<p>The project includes:</p> <ul style="list-style-type: none"> • approximately 330,000 single-axis tracking solar panels (up to 2.4 m high) and up to 40 inverters (up to 2.6 m high); • an on-site 132 kilovolt (kV) substation and connection to Transgrid's 132 kV transmission line which transects the site adjacent to Orange Grove Road; • internal access tracks, staff amenities, maintenance buildings (up to 3 m high), offices, laydown areas, an onsite car park, vegetation screening and security fencing; • an area for potential future battery storage, however no battery storage is currently proposed; and • subdivision of the project site for the substation (about 1 ha).
Project area	817ha (with a 248ha development footprint)
Designated haulage route	Over-dimensional and heavy vehicles would access the site via the Kamilaroi Highway, Blue Vale Road, Old Blue Vale Road, Kelvin Road and Orange Grove Road.
Site entry and road upgrades	<p>The site would be accessed via two new access points on Orange Grove Road, including:</p> <ul style="list-style-type: none"> • eastern access point to access the northern portion of the site and substation; and • western access point to access the southern portion of the site.

	<p>Key roadworks include:</p> <ul style="list-style-type: none"> • upgrading Old Blue Vale Road a minimum of 100 m from its intersections with both Kelvin Road and Blue Vale Road to a standard that allows two-way heavy vehicle movements; • removing loose gravel material at the Kelvin Road and Old Blue Vale Road intersection; and • constructing access points off Orange Grove Road.
Operational life	<ul style="list-style-type: none"> • 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 infrastructure.
Construction	<ul style="list-style-type: none"> • The construction period would last for up to nine months. • Construction hours would be limited to Monday to Friday 7am to 6pm, and Saturday 8am to 1pm
Hours of operation	<ul style="list-style-type: none"> • The project would operate during daylight hours. • Daily operations and maintenance would be undertaken Monday to Friday 7am to 6 pm.
Employment	Up to 100 construction jobs and 3 operational jobs.
Capital investment value	\$94 million.

Source: Department of Planning and Environment's Assessment Report

11. The Department's AR also stated that the Project involves the upgrading and decommissioning of infrastructure and equipment in the future. The Department stated that *"while the capacity of the project may increase over time as technology improves, the footprint of the development would not increase"*.
12. Figure 3 illustrates the general layout of the Site and the development footprint, including indicative solar panel locations and the management hub.

Figure 3 – Infrastructure layout and site features



Source: Department of Planning and Environment's Assessment Report

1.4 Stated need for the Application

13. In relation to the need for the Project, the Applicant's EIS states that:

"Under the guidance of the NSW Renewable Energy Action Plan (REAP), renewable energy is predicted to grow and make important contributions to the NSW economy. An important benefit of the project is its contribution to cleaner electricity generation in Australia and subsequent reductions in greenhouse gas emissions. The project is consistent with the objectives of the REAP. It will also contribute to achieving the Commonwealth Government's National Renewable Energy Target, which specifies targets for energy generated by renewable sources by 2020."

"The project will also contribute to continued growth in the total installed capacity of solar PV in both NSW and Australia. The NSW Department of Planning and Environment – Division of Resources and Energy has identified potential for large-scale solar energy developments in the central, northern and western regions of NSW. DPE-DRE identifies ideal characteristics for large-scale solar energy as: low population densities; large, flat open spaces; and high average global solar exposure. The development footprint for the project is characterised by all of these features, which will allow the project to maximise the efficiency of electricity production, while minimising and avoiding disturbance of identified environmental constraints."

2. THE DEPARTMENT'S CONSIDERATION OF THE APPLICATION

2.1 Key steps in Department's consideration of the Application

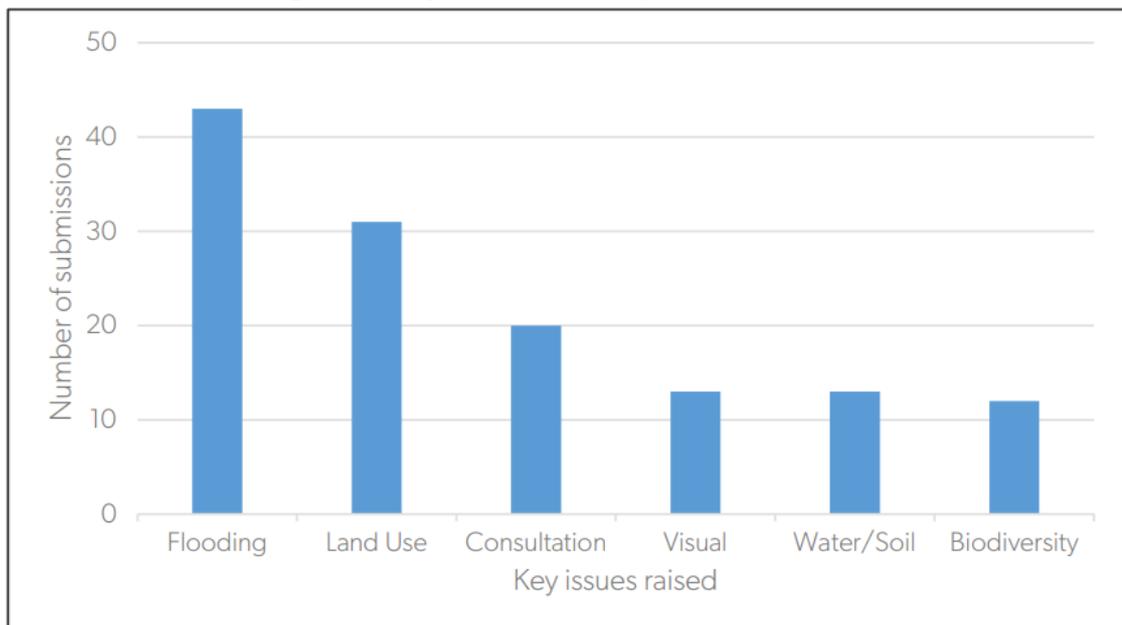
14. The Applicant submitted a request for Secretary's Environmental Assessment Requirements (SEARs) to the Department in November 2017. The Department issued a SEARs on 20 December 2017.
15. The Department received the Application in March 2018 and it was placed, along with the EIS, on exhibition from 6 June 2018 until 5 July 2018.
16. The Department inspected the Site on 25 July 2018 and visited three adjoining landowners and the Namoi Pistol Club shooting range areas.
17. According to the Department's AR, the Department received 86 submissions during the exhibition period. This comprised:
- 9 submissions from government agencies;
 - 1 submission from a special interest group; and
 - 76 submissions from the public, of which 86% objected to the Project.

A breakdown of the key issues raised, and the number of submissions attributed to these matters is provided in Figure 4 below.

18. The Applicant provided a RtS, dated 14 November 2018, seeking to address issues raised during the exhibition period. In response to submissions, the Applicant revised the project infrastructure layout and development footprint as presented in Figure 4. The key changes made to the Project in the RtS were:
- removal of all infrastructure from the first order watercourse;
 - increased the distance between receptor R1's immediate boundary and the

- nearest project related infrastructure by 50m, making the total separation approximately 200m;
 - established a 20m setback for project infrastructure along the balance of the common boundary between the project and receptor R1's property; and
 - reduced the total area of the development footprint by approximately 5 ha.
19. The RtS was made publicly available on the Department's website and was provided to key government agencies for comment.
 20. Further information was also submitted by the Applicant to the Department on 11 December 2018, 24 January 2019 and 1 February 2019 in relation to:
 - the assessment of traffic impacts;
 - Site access;
 - transmission infrastructure;
 - biodiversity; and
 - Aboriginal cultural heritage.

Figure 4 – Key issues raised in public submissions



Source: Department of Planning and Environment's Assessment Report

2.2 The Department's Assessment Report

21. The Department's AR stated that it had identified several key issues associated with the Project, including compatibility of proposed land use (including potential impacts on agricultural lands and agricultural activities), amenity (visual, traffic and noise), water and flooding, and biodiversity. The Department also considered the potential cumulative impacts of the Project together with the approved Gunnedah Solar Farm, 3km west of the Project, which will generate 150MW and cover 304 ha.
22. In the Department's AR, the Department stated that it considers the Site to be appropriate for a solar farm "as it has good solar resources and there is available capacity on the

existing electricity network.” The Department also noted that 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.”

3. THE COMMISSION'S MEETINGS AND SITE INSPECTION

23. As part of its determination, the Commission met with the Department, the Applicant and Council. The Commission also held a public meeting and conducted a site inspection and locality tour.

3.1. Meeting with the Department

24. On 3 May 2019, the Commission met with the Department to discuss the Department's AR, the Project, the key issues identified by the Department, and the draft conditions of consent. A copy of the transcript was made available on the Commission's website on 9 May 2019.

3.2. Meeting with the Applicant

25. On 3 May 2019, the Commission met with the Applicant to discuss the Project. A copy of the transcript was made available on the Commission's website on 9 May 2019. A copy of the Applicant's presentation from the day was made available on the Commission's website on 13 June 2019.

3.3. Public meeting

26. The Commission held a public meeting at the Smithurst Theatre, Gunnedah Civic Centre, 83 Chandos Street, Gunnedah NSW 2380 on 4 June 2019. The Commission received requests to speak from four people, all of whom elected to speak at the public meeting. A list of speakers was made available on the Commission's website on 29 May 2019. Written comments from speakers who presented at the public meeting were published on the Commission's website on 13 June 2019.

27. Speakers at the public meeting raised concerns about potential environmental and social impacts and the proposed management and/or mitigation measures for those potential impacts. Concerns raised by speakers at the meeting related to:
- perceived lack of community consultation by the Applicant in relation to the Project;
 - the proposed use of prime agricultural land for industrial-scale solar farming;
 - the Project's proximity to neighbouring properties;
 - the accuracy of the flood plain assessment and flood modelling, and the potential for flood impacts;
 - noise and visual amenity impacts, including glint and glare; and
 - traffic impacts

28. One speaker (Speaker 2) at the public meeting spoke in support of the Project highlighting the environmental and economic benefits associated with solar farms and renewable energy production. Speaker 2 noted that solar power improves grid security which has a direct benefit for the farming industry in the region.

3.4. Meeting with Gunnedah Shire Council

29. On 3 June 2019, the Commission met with Council to discuss its views in relation to the Project and the draft conditions of consent. A copy of the transcript of the meeting was

made available on the Commission's website on 13 June 2019.

30. After its meeting with the Commission, Council wrote to the Department confirming that it had reviewed the draft conditions of consent and suggested that an additional draft condition be imposed under section 7.12 (formerly section 94A) of the EP&A Act requiring a contribution by way of a fixed levy, should the Commission find that such a condition should be included in its determination in accordance with Gunnedah Shire Council Contributions Plan 2013. That letter, dated 11 June 2019, was made available on the Commission's website on 27 June 2019.

3.5. Site inspection and locality tour

31. On 3 June 2019, the Commission met the Applicant and inspected the Site and surrounding locality. In the interest of openness and transparency, the Commission contacted individual surrounding property owners and invited them to attend the site inspection and locality tour as independent observers. The invitees that accepted and were available to attend were:
 - 2 representatives from Residence 1 (**R1**);
 - 1 representative from Residence 2 (**R2**) and the Namoi Pistol Club.
32. The Applicant identified the location of key aspects of the Project and key physical attributes of the Site and locality as well as the location of private properties of site inspection attendees.
33. The following stops were made as part of the site inspection and locality tour (see Figure 5):
 - 1) Management Hub
 - 2) Development Setback
 - 3) Namoi Pistol Club
 - 4) R1 Dwelling
 - 5) R2 property boundary
 - 6) R2 Dwelling
 - 7) Entrance to Residence 8 (**R8**) – Project viewed from Orange Grove Road

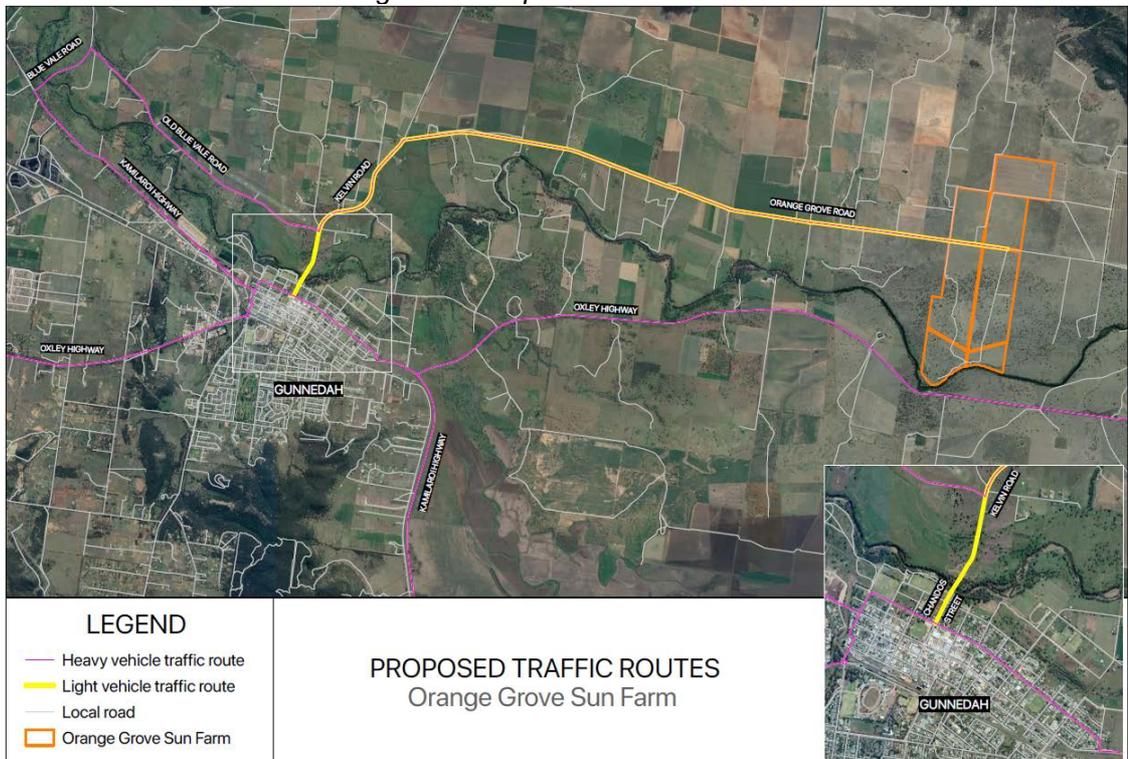
Figure 5 - Site inspection and locality tour – points of interest



Source: Independent Planning Commission NSW

34. The Commission also undertook an independent inspection of the proposed light vehicle traffic route as well as the section of the heavy vehicle traffic route that passes through the Gunnedah town centre, out along the Kamilaroi Highway and along a short section of Blue Vale road and then along the Old Blue Vale Road as depicted in Figure 6.

Figure 6 – Proposed Traffic Routes



Source: Department of Planning and Environment Assessment Report

3.6. Public comments

35. The Commission provided the public with eight days after the public meeting to submit additional written comments. The Commission received a total of five written comments, which were made available on the Commission's website on 13 June 2019. The following points were raised in the written submissions:
- cumulative impacts of Gunnedah Solar Farm and the Project;
 - increased flood risk;
 - impacts on soil and agriculture;
 - visual impact;
 - road traffic impacts;
 - non-compliant with the Local Environment Plan (**LEP**) objectives; and
 - the Project's compliance with the relevant development requirements.

4. ADDITIONAL INFORMATION

36. On 20 May 2019, the Applicant wrote to the Commission (**Applicant's comments**) to clarify comments made at its meeting with the Panel on 3 May 2019, particularly in relation to biodiversity and site positioning and decommissioning and rehabilitation. The Applicant's letter was published on the Commission's website on 31 May 2019.
37. On 12 June 2019, the Applicant wrote to the Commission (**Applicant's additional comments**) to provide a response to the issues raised at the public meeting as well as clarify issues raised during the site inspection and locality tour in relation to flood assessments, fencing and setbacks. The Applicant's letter was published on the Commission's website on 13 June 2019.
38. On 14 June 2019, the Applicant wrote to the Commission (**Applicant's further comments**) to provide further response on an image of the 1998 flood provided as part of Speaker 4's presentation at the public meeting. The Applicant's letter was published on the Commission's website on 28 June 2019.
39. On 23 May 2019, the Commission wrote to the Department seeking further information in relation to site rehabilitation. The Department responded to the Commission on 17 June 2019 (**Response to the Commission**) and provided further information on the Department's approach to the rehabilitation of solar projects in general and how it had been incorporated into the recommended conditions for the Project.

5. THE COMMISSION'S CONSIDERATION

5.1 Material considered by the Commission

40. In determining this Application, the Commission has carefully considered the following material (the **Material**), including:
- the Applicant's EIS dated 15 May 2018 and all associated documents;
 - all submissions made to the Department in respect of the proposed Application during public exhibition, 6 June 2018 – 5 July 2018;
 - the Applicant's RtS and associated documentation dated 14 November 2018;
 - the Department's AR dated 12 April 2019;
 - the Department's draft Development Consent dated 12 April 2019;

- information provided by the Applicant in the meeting with the Commission dated 3 May 2019;
- the Applicant's comments to the Commission dated 20 May 2019;
- information provided by the Applicant at the site inspection, dated 3 June 2019;
- all oral and written comments made to the Commission at the public meeting held on 4 June 2019 and all written comments received by the Commission up until 12 June 2019;
- Council's letter to the Department dated 11 June 2019;
- the Applicant's additional comments to the Commission dated 12 June 2019;
- the Applicant's further comments to the Commission dated 14 June 2019;
- the Department's response to the Commission dated 17 June 2019; and
- the Department's additional response to the Commission dated 24 July 2019.

5.2 Permissibility

41. The Department's AR stated that the Site is located wholly within the RU1 Primary Production zone under the GLEP2012. According to the Department, a solar farm is a permissible land use with consent under the LEP zoning table.
42. One member of the public raised concern about the potential conflict of the Project with the RU1 zone objectives stating that:
 - the Project is an industrial activity rather than a primary industry;
 - the Project will degrade the productive capacity of the land; and
 - the Project encourages the fragmentation and alienation of resource lands;
43. The Department's AR stated that the Project is consistent with the objectives of the RU1 zone under the Gunnedah LEP, having regard to:
 - minimising conflict between land uses;
 - minimising fragmentation and alienation of resource lands; and
 - encouraging diversity in primary industry enterprises.
44. The Department's AR stated that under the *State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP)*, "electricity generating works are permissible on any land in a prescribed rural, industrial or special use zone. Consequently, the project is permissible as it is located wholly within land zoned RU1, which is a prescribed rural zone."
45. The Commission acknowledges the concerns raised by a member of the public in paragraph 42. However, the Commission agrees with the Department in paragraph 43 and 44 in that the Project is generally consistent with the RU1 Primary Production objectives of the GLEP2012 and is permissible in accordance with the Infrastructure SEPP.

5.3 Key issues considered by the Commission

5.3.1 Flooding, Groundwater and Surface Water

Public comments

46. The Commission heard from speakers at the public meeting and received written comments raising concerns regarding the potential flood impacts including:
- inaccuracies in the flood plain assessment and flood modelling;
 - impacts as a result of a breakout from the Namoi River;
 - the absence of flood fencing in the Project design; and
 - a perceived lack of consideration given to potential run-off from the Project Site onto adjoining properties.

Council & Agency comments

47. During exhibition, Council made a submission to the Department dated 4 July 2018 seeking clarification in relation to the Flood Impact Assessment (**FIA**). Council stated that the FIA noted a flood event in 1998 and Council sought clarification as to which flood event the assessment had been based on. Council also stated that the assumptions in the FIA have been based on approximate flood levels, without any site-specific flood modelling. Council stated that specific flood modelling should be provided to confirm these assumptions.
48. Council in its meeting with the Commission reiterated its concerns in relation to flooding considerations but was unaware of the changes to the Project proposed in the RtS. Upon reviewing the changes, no further concerns were raised by Council.
49. During exhibition, NSW Department of Industry – Land and Water (**DoI L&W**) made a submission to the Department dated 4 July 2018 identifying the need for a flood assessment to be undertaken for the 1st order watercourse, situated in the north-eastern corner of the original development footprint. **DoI L&W** stated:

“The EIS indicates that using the highest historical flood level monitoring, the modelled level of the nearby Namoi River (272.3 m) would not reach the lowest surveyed level of the development (272.5m). However, the assessment also indicates that a mapped 1st order watercourse may be a breakout channel for the Namoi River that has flowed in the relevant large design flood. Additional flood assessment is recommended to confirm this and hence to determine its relevance under the Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain.”

Applicant’s consideration

50. The Applicant’s EIS included a Surface Water Assessment, dated 23 May 2018 (**SWA**) prepared by Hydro Engineering & Consulting Pty Ltd (**HEC**). The SWA included an assessment of the potential impacts of the Project on flooding, groundwater and surface water resources.
51. According to the SWA, the flooding characteristics of the development footprint have been described based on the findings presented as part of the ‘Carroll to Boggabri Flood Study and Compendium of Data’, prepared by SMEC (2003) and with reference to the *Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain 2016* and in

consideration of the topographical survey and cross-section information commissioned by the Applicant for this Project.

52. The Applicant's EIS, stated that *"the assessment has identified that the land on which project infrastructure will be placed within the development footprint is situated above the level of the relevant large design flood considered in the Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain (DPI Water 2016) and therefore should not affect flood levels"*.
53. In relation to the potential impacts of run-off from the Project Site, the Applicant's EIS stated that *"no interception of runoff is planned by project infrastructure and therefore there should be no net reduction in runoff from the development footprint"*.
54. In response to the DoI L&W's comments during exhibition, the Applicant commissioned GHD Pty Ltd (**GHD**) to undertake an assessment (**Flood Assessment**) of the 1st order watercourse located within the Project Site. According to the Flood Assessment, a 2D model simulating the 1998, 1984 and 1955 floods using flood hydrographs from the Gunnedah and Carroll Floodplain Management Study was undertaken.
55. The Flood Assessment stated that the results of the 1984 model simulations identified under the *Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain 2016* showed that the mapped 1st order watercourse would likely be a breakout channel for the Namoi River. The Flood Assessment concluded that it is expected that this breakout channel would have conveyed flood flows in the 1984 flood.
56. In response to the findings of the Flood Assessment, the Applicant in its RtS stated that they it *"revised the layout and development footprint of the project to exclude all proposed project infrastructure, including perimeter fencing, as to remove all potential impacts to the 1st order watercourse"*.
57. In the Applicant's additional comments to the Commission, the Applicant provided a response to the concerns raised by the public in relation to the consideration of historical flood events. The Applicant stated that HEC assessed the Project Site by considering historical events such as the 1955 and 1984 flood events, modifications to the catchment behaviour that occurred after 1955 including the influence of dam construction within the catchment, and the information and requirements of the then *Draft Floodplain Management Plan for the Upper Namoi Valley Floodplain 2016* subsequently released on 6 June 2019 as the Minister's Plan being the *Floodplain Management Plan for the Upper Namoi Valley Floodplain 2019*.
58. The Applicant, in its further comments to the Commission noted that material submitted as part of Speaker 4's presentation included an image labelled as '1998 flood – view from Carrol inclusive of solar site'. The Applicant stated that this image *"has not been taken from Carroll, nor does it contain any of the land which comprises the Orange Grove Sun Farm"*. The Applicant's statement was provided with supporting maps which depict the photographs field of view and its approximate location in relation to the Orange Grove Sun Farm.

Department's assessment

59. The Department's AR stated:

"The development footprint slopes gently from north-east to south-west, with its lowest elevation being 272.5 m Australian Height Datum (AHD). The modelled flood level for the development footprint using the highest historical flood event is 272.3 m AHD, which is below the lowest point of the development footprint. As such, the project should not be affected by the large design flood level."

60. In relation to the breakout channel, the Department's AR stated that:

"A first order stream is located in the north-east of project site. A flood study identified that this stream would likely be a breakout channel for the Namoi River in the event of flooding. The development footprint was amended to exclude all project infrastructure, including perimeter fencing, from the first order stream area which removes potential impacts to this watercourse and ensures its existing function as a breakout channel continues."

61. The Department also stated that DoI L&W and the Department consider that *"the project would not result in any significant impacts on adjacent properties and high value infrastructure in the event of a flood. Notwithstanding, the Department has recommended conditions requiring the Applicant to implement appropriate flood management practices to ensure the development is consistent with the Draft Floodplain Management Plan for the Upper Namoi Floodplain 2016."*

62. The Department's AR concluded that, subject to its recommended conditions, the Project *"would not result in significant impacts in the event of flooding"*.

Commission's findings

63. The Commission agrees that the initial flood assessment submitted as part of the EIS was deficient, as identified by DoI L&W, due to a lack of site-specific flood modelling, as set out in paragraph 49. The Commission acknowledges that in response the Applicant commissioned more detailed flood modelling, including modelling for the 1st order watercourse, which revealed it would likely be a breakout channel for the Namoi River in the event of flooding, as set out in paragraph 54 and 55.

64. The Commission acknowledges that the Applicant, as a result of this study, amended the development footprint, as set out in paragraph 56, to exclude all Project infrastructure, including perimeter fencing, from the 1st order stream area, thus removing all potential impacts to this watercourse.

65. As such, the Commission accepts the Department's findings in paragraphs 60 and 62, in that the flood modelling and assessment is consistent with the Floodplain Management Plan for the Upper Namoi Floodplain 2019 and the Project would not result in any significant impact on adjacent properties and high value infrastructure in a flood event.

5.3.2 Visual and landscape

Public comments

66. The Commission considered submissions made to the Department during the public exhibition of the Application. The Commission also heard concerns from speakers at the public meeting and received written comments regarding potential visual amenity impacts, including:
- potential visual amenity impacts for surrounding properties;
 - potential for the solar panel infrastructure to produce glare or reflectivity; and
 - the potential for any glint or glare to impact safety of recreational users at nearby pistol club.

67. The Namoi Pistol Club raised the following concerns in its submission to the Department:

“The Members Of The Namoi Pistol Club Inc. have concerns with the possible Sun reflection from the proposed Orange Grove Road Overland Sun Farm Project.”

“We are lodging an objection to that part of the proposed project that may impact Competitors on the 900 Metre Firearms Range Firing Line.”

“The Namoi Pistol Club's other Firearms Range on "Marlow" is a 900 Metre Range situated to the North East of the Proposed Overland Sun Farm Project , High up on the side of a hill in comparison to the location of the Sun Farm Solar Panels. From the elevated position of the 900 Metre Range Firing Line an estimated 35 to 40 + hectares of solar panels will be visible from the left of the firing line area.”

“The planting of vegetation around the p[er]imeter of the Overland Sun Farm Project will not reduce the impact that reflected Sunlight from the solar panels and associated framework may have on competitors shooting from the Firing Line on this ranges elevated firing area.”

Council comments:

68. Council in its submission to the Department during exhibition stated that in order to address the visual impacts of the proposed development, landscaping should be undertaken prior to the commencement of construction works.

Applicant's consideration

69. A Visual Impact Assessment (**VIA**), prepared by EMM Consulting, dated 11 May 2018, was submitted with the Application. The VIA investigated the potential visual impacts associated with the Project. The Applicant's EIS stated that *“a visual impact assessment was conducted from six viewpoints surrounding the development footprint. Representative views close to private residential properties (including six receptors within approximately 2 km of the development footprint) and Orange Grove Road were assessed”*.
70. The VIA concluded that of the six viewpoints assessed, infrastructure may be visible to varying degrees from five viewpoints. The VIA stated that:

“As a result of its close proximity to the western boundary of the development footprint, without the implementation of appropriate mitigation measures, R1 will be exposed to views of project infrastructure. Although a significant level of vegetation was observed

along the eastern boundary of this property, this vegetation is unlikely to provide a sufficient level of mitigation to reduce the visual impacts experienced from this viewpoint during the operation of the project. The proponent will provide landscape screening to mitigate the visual impacts from R1.”

71. The VIA concluded that *“the implementation of additional mitigation measures, namely landscaping at R1 and R2, will ensure that the project will not have any significant adverse visual impacts on the locality”.*

72. In relation to cumulative visual impacts of solar farms within Gunnedah Shire Local Government Area (**LGA**), the VIA provided the following conclusion:

“Based on the relatively low height of the dominant project infrastructure, namely the PV solar panels, and separation distances between the development footprint for the project and the Gunnedah Solar Farm, it is anticipated that there is limited potential for significant combined views of the project and the Gunnedah Solar Farm”.

73. In response to concern’s raised during exhibition by Namoi Pistol Club in relation to glint and glare, the Applicant commissioned a Glint & Glare Risk Assessment (**GGRA**) prepared by SMEC, dated 14 November 2018. The GGRA investigated the potential glare and glint impacts upon receptors in near vicinity of the Project. The GGRA concluded that:

“Based upon the glare analysis, preliminary risk assessment, and with consideration of the assumptions outlined herein, the risk of glint and glare related impacts being experienced by either residential receptors, gun club patrons or motorists travelling along Orange Grove Road in close proximity to the project is considered nil”.

74. According to the RtS, the Applicant undertook a further viewshed analysis. In addition to the landscaping proposed in the VIA, the Applicant incorporated an additional 50m setback for Project infrastructure from the Project boundary along the western edge into the revised infrastructure layout in order to mitigate visual impacts.

Department’s assessment

75. The Department’s AR noted that concerns about visual impacts as well as glint and glare were raised in a number of public submissions as well as in the Namoi Pistol Club submission. The Department noted that the Applicant amended the design of the Project layout to mitigate visual impacts by:

- *“setting back the project infrastructure in front of residence R1 by 50 m for a length of approximately 1 km, allowing a total separation distance of about 200 m between the dwelling and the nearest project infrastructure;*
- *committing to installing a vegetation buffer along a portion of the site’s western boundary to screen views towards residence R1;*
- *increasing the distance between residence R2 and the nearest project infrastructure by approximately 500 m, allowing a total separation distance of about 1.3 km (representing the removal of 41 ha of the development footprint); and*
- *increasing the distance between the Namoi Pistol Club shooting ranges and the development footprint by approximately 550 m, allowing a total separation distance of 1.8km.”*

76. To further mitigate the visual impacts on R1, the Department has required the Applicant

to: “establish and maintain a mature vegetation buffer, rather than seedlings, which must also consist of species that facilitate the best possible outcome in terms of screening views from residence R1. This vegetation screening would extend the length of the far western boundary of the site, including the entire length of the driveway to R1.”

77. In relation to visual impacts on R2 and the Namoi Pistol Club, the Department’s AR concluded that these locations would experience “*minor visual impacts due to the increased separation distance to about 1.3 km and 1.8 km respectively. The visual impacts to the remaining viewpoints would be negligible.*”
78. The Department’s AR also considered the potential cumulative visual impacts to four residences (R8, R9, R10 and R11) located between the project and the approved Gunnedah Solar Farm. The Department concluded that “*due to the distance between the projects (3 km) and the relatively low-lying nature of the developments, the Department considers the potential cumulative impacts would be negligible.*”
79. The Department’s AR stated that the project is located approximately 130 km from the Siding Spring Observatory and therefore falls inside the Dark Sky Region covered by the NSW Government’s *Dark Sky Planning Guideline* and therefore considered whether the Project is likely to impact the night sky. The Department concluded that “*there would be some night security lighting, however there would be negligible light spill beyond the horizontal plane. Consequently, the Department is satisfied that the project would not affect the observing conditions at the Observatory.*”
80. The Department’s AR concluded that “*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.*”

Commission’s findings

81. The Commission acknowledges that the Applicant has taken steps to address visual impacts as referenced in paragraph 71 and has amended the design of the Project layout to further mitigate visual impacts as referenced in paragraph 74. The Commission accepts the Department’s assessment as referenced paragraph 75, that the design of the Project has been amended to mitigate visual impact on surrounding residents through increased setbacks and landscaping. The Commission does find however that additional landscaping along the northern and southern sides of Orange Grove Road within the Project Site would assist in maintaining the rural character of the area, particularly when viewed from Orange Grove Road. Subsequently, the Commission has imposed a condition of consent to ensure that the Applicant provides and maintains landscaping adjacent to the roadway.
82. The Commission accepts the additional conditions recommended by the Department as referenced in paragraph 76, requiring the Applicant to establish and maintain a mature vegetation buffer along part of the site’s western boundary, as this will assist in the ongoing effectiveness of the visual screening.
83. The Commission accepts the Department’s assessment, as referenced in paragraph 78, that any potential cumulative impacts on local properties (specifically R8, R9, R10 and R11) from this Project and the Gunnedah Solar Farm would be negligible due to the distance between projects and relatively low-lying nature of these developments.

84. Given the Project's proximity to the Siding Spring Observatory, the Commission has considered the NSW Government's *Dark Sky Planning Guideline* and accepts the Department's assessment, referenced in paragraph 79, that any light spill caused by night-time security lighting at the Site would be negligible and, thus, not impact observing conditions at the Observatory.
85. The Commission agrees with the Departments conclusion referenced in paragraph 80 in that subject to the implementation of the additional measures recommended by the Department, there would be no significant visual impacts on surrounding residences, and the rural character and visual quality of the area.

5.3.3 Loss of agricultural land, decommissioning and rehabilitation

Public comments

86. The Commission considered submissions made to the Department during the public exhibition of the Application. The Commission also heard concerns from speakers at the public meeting and received written comments regarding the loss of agricultural land, the decommissioning of the Project Site and the rehabilitation of the land.

Applicant's consideration

87. The Applicant's EIS stated that the Project has been developed to avoid and minimise land disturbance and overall impacts on agricultural land. In relation to biophysical strategic agricultural land (BSAL) properties of the Project Site, the Applicant stated that:

"The development footprint is defined as the land area within the site where project infrastructure will be constructed and operate for the project life, which encompasses an area of 253 ha, representing approximately 0.009% of the total land area mapped as BSAL within NSW, and 0.1% of the total land area mapped as BSAL within Gunnedah Shire LGA. The development footprint will be removed from agricultural production for the life of the project, which will be in the order of 30 years."

"Soil resources will be managed with consideration of the future viability of the site for agricultural production. Land management protocols and measures will be incorporated into an environmental management plan (EMP) that will be implemented to mitigate the potential impacts of the project on soil resources and land use."

88. A Soil Erosion Assessment (**SEA**), prepared by EMM Consulting, dated 11 May 2018, was submitted with the Application. The SEA concluded that:

"Soil erodibility was found to be low to moderate overall. It is recommended to minimise disturbance where ever possible. Where disturbance occurs, the installation of ESC measures is recommended to minimise the risk of dispersion. Should disturbance or stripping of soil be required, an ameliorant, such as lime, could be applied to manage erosion and the slight acidity of the topsoil, and provide for more effective future use."

89. In relation to the decommissioning process, the Applicant's comments to the Commission stated that the process is expected to take less than the nine months required for construction. The Applicant stated that *"Decommissioning will result in the previously installed infrastructure, both above and below the natural surface of the ground, being removed so that the land can continue to be used by the landowners in accordance to*

their previously accustomed agricultural practices”.

90. The Applicant stated in its comments to the Commission that its commitments to decommission the Project and restore the land were assessed and accepted by all relevant authorities under the EIS and RtS process. The Applicant noted that the Department formalised these commitments through the inclusions of associated conditions within the recommended Development Consent.

Department’s assessment

91. The Department’s AR’s stated that *“the whole of the project site is mapped as BSAL and historically it has been used for livestock grazing and cropping. The land is mapped as capability Class 2 under the Land and Soil Capability Mapping in NSW (OEH, 2017), which means that the land is not suited to continuous cultivation”.*

92. The Department’s AR noted that:

“The development footprint was designed to avoid fragmentation of the landowners’ residual agricultural land, allowing the landowners to continue using the residual land for agricultural purposes. The revised development footprint would occupy 248 ha of the total 817 ha of the site, which leaves about 569 ha of BSAL available for agricultural production throughout the project life. As such, the agricultural output of the site would not be significantly reduced by the project throughout its operation.”

93. In relation to decommissioning and rehabilitation, the Department’s AR stated that:

“The Applicant proposes 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.”

94. The Department’s AR concluded that:

“The Department is satisfied that the proposed solar farm represents an effective and compatible use of the land within the Gunnedah region. In addition, the Department has recommended suitable conditions to maintain the productivity of the agricultural land during the construction and operation of the project to reinstate the agricultural capability of the land following the decommissioning of the project.”

95. In the Department’s response to the Commission relating to the standard decommissioning and rehabilitation conditions, the Department stated that:

“the standard conditions assume the solar project could operate for a very long time, with regular refurbishment of the solar panels over time, and consequently may never need to be decommissioned. If operations cease, however, the applicant is required to:

- *decommission the project and rehabilitate the site to the satisfaction of the Secretary within 18 months of the cessation of operations;*
- *comply with clear rehabilitation objectives; and*
- *comply with all the other requirements of the conditions of consent while undertaking the decommissioning and rehabilitation works.”*

96. In the Department's response to the Commission, the Department stated that the current standard conditions for solar farms *"do not require the applicant to prepare and implement a Rehabilitation Management Plan for the project, primarily because this is normally straightforward and involves removing all the infrastructure from the site and restoring the land to its former use"*.
97. The Department concluded in its response to the Commission that *"these conditions provide a robust framework for ensuring the site used for the Orange Grove Solar Project will be appropriately rehabilitated and returned to its current agricultural use"*.

Commission's findings

98. The Commission acknowledges the concerns raised by the public referenced in paragraph 86. However, the Commission accepts the commitments of the Applicant in paragraphs 89 and 90 and the conclusion of the Department in paragraph 94 in that the decommissioning will result in the removal of all above and below ground infrastructure so that the land can continue to be used by the landowners in accordance to their previous agricultural practices and that this has been formalised through conditions.
99. The Commission notes that the whole of the Project Site is mapped as BSAL and that the Project will occupy 248 ha of the total 817 ha of the Site as stated by the Department in paragraphs 91 and 92. The Commission agrees with the Department in paragraph 92 in that the agricultural output of the Site would not be significantly reduced by the Project throughout its operation.
100. The Commission acknowledges that the Department considers that the proposed conditions provide a robust framework and that a Rehabilitation Management Plan is not required as referenced in paragraphs 96 and 97. However, given it is difficult to know with certainty the specific details of how decommissioning activities will ultimately be carried out, the Commission finds that the preparation of a Decommissioning and Rehabilitation Management Plan will provide greater certainty that the agricultural capabilities of the land will be restored once operations have ceased. In this respect, the Commission finds that the plan is important for demonstrating to all stakeholders that the Applicant has carefully considered how decommissioning will be done to minimise negative environmental effects that may result and to ensure that the agricultural capability of the land can be returned.
101. The Plan would describe how the Applicant proposes to undertake decommissioning, ensure a clean and safe Site and restore it to its original agricultural capabilities. The Plan would provide an overview of all anticipated activities during the decommissioning phase of the Project (including the offsite impacts such as traffic) and outline mitigation measures to address potential negative environmental effects as a result of these activities. It would also need to address the management of excess materials and waste and demonstrate how priority will be given to the reuse and recycling of the materials contained within the panels ahead of disposal and landfill.
102. On review of the draft conditions of consent, the Commission has determined to impose Condition 32, Schedule 3 to require the Applicant to prepare a Decommissioning and Rehabilitation Management Plan within three years of commencement of operations to the satisfaction of the Secretary. The Decommissioning and Rehabilitation Plan is to include detailed completion criteria for evaluating compliance with the rehabilitation objectives set out in Table 2 of Condition 29. The Decommissioning and Rehabilitation Plan must describe the measures that would be implemented to minimise the waste

generated during decommission, in accordance with the NSW Environmental Protection Authority (EPA) waste hierarchy objectives of avoidance, resource recovery and disposal, and include a program to monitor and report on the implementation of these measures against the detailed completion criteria.

5.3.4 Traffic

Public comments

103. The Commission considered submissions made to the Department during the public exhibition of the Application. The Commission also heard concerns from speakers at the public meeting and received written comments regarding the traffic impacts from the Project and the cumulative traffic impacts from the Gunnedah Solar Farm.

Council comments

104. Council in its submission to the Department during exhibition noted that a Traffic Impact Assessment (**TIA**) and Management Plan was submitted as part of the Application. The following key issues were noted by Council:

- a dilapidation assessment should be undertaken for the full vehicle route;
- the unsealed section of Orange Grove Road and Site access should be sealed;
- a Traffic Management Plan (**TMP**) should be prepared to the satisfaction of Council and the Roads and Maritime Services (**RMS**);
- the TIA has not been reviewed independently;
- a new access should be provided at the Project Site;
- working hours during construction should consider the existing school bus route and timetable;
- variable message signage should be maintained on Kelvin Rd during constructions; and
- a road opening permit (Section 138) will be required;

105. Council in its meeting with the Commission reiterated its concerns in relation to the impacts of traffic, however upon reviewing the changes proposed in the RtS and the proposed conditions after the meeting on 3 June 2019, no further concerns were raised by Council.

Applicant's consideration

106. A TIA, prepared by EMM Consulting, dated 11 May 2018, was submitted with the Application. According to the Applicant's EIS, the TIA predicted "*additional daily traffic usage of the surrounding roads during the peak stage of project construction will be approximately 116 daily vehicle trips, reducing to approximately 80 daily vehicle trips during the earlier and later (average) stages of project construction, and an average of 10 daily vehicle trips during operation.*"

107. The Applicant stated in its EIS that to maintain the safety and serviceability of the road for all road users the unsealed portion of Orange Grove Road will be subject to a road maintenance program. In order to minimise dust generation by project-related traffic during the construction period, the Applicant committed to treating the road surface of the unsealed section of Orange Grove.

108. In relation to the access and carparking, the Applicant's EIS stated that:

"Two new intersections are proposed for access into the development footprint, both of which will be located on Orange Grove Road, serving the southern and northern portions of the development footprint, respectively. The designs of the new intersections will be developed in consultation with NSW Roads and Maritime Services and Gunnedah Shire Council and in accordance with the intersection design standards defined by the Austroads Guide to Road Design (Austroads 2010)."

"Internal access roads and car parking will be constructed to serve the project's access and car parking needs during construction and operation".

Department's assessment

109. The Department's AR stated that *"there would be minimal traffic to and from the project site during the operation of the development (no more than 4 heavy and 6 light vehicle movements per day). Consequently, the only material traffic impacts would occur during construction, decommissioning and major upgrades."*
110. The Department's AR considered cumulative traffic impacts and stated that if the Gunnedah Solar Farm is constructed concurrently *"the cumulative worst-case traffic volumes for the two projects would peak at 106 heavy vehicle movements and 135 light vehicle movements per day during construction"*
111. In relation to projected traffic during decommissioning and major upgrades the Department's AR stated that it would be similar to construction traffic levels, but over shorter durations.
112. The Department's AR stated that *"any potential traffic impacts on local road users would be minimised and managed through stringent measures developed as part of the Traffic Management Plan (TMP), including scheduling construction activities and deliveries to minimise peak road transport movements and avoid conflict with school buses. RMS and Council have agreed to this approach, and the Department has included this requirement in the recommended conditions."*
113. The Department's AR stated that in order to ensure that local roads at the time of any future upgrading or decommissioning are upgraded to support such works *"the Department has included a condition requiring the Applicant to undertake a dilapidation survey of the condition of the heavy vehicle transport route prior to commencing construction, upgrading and/or decommissioning, and within one month of the completion of these stages in order to ensure that local roads at the time of any future upgrading or decommissioning are upgraded to support such works"*. The Department also imposed conditions requiring the Applicant to repair any damage to local roads following these activities.
114. The Department's AR concluded that *"Subject to the recommended conditions, the Department, RMS and Council are satisfied that the project would not result in significant impacts on road network capacity, efficiency or safety"*.

Commission's findings

115. The Commission acknowledged the concerns raised by the public in paragraph 103 relating to the cumulative traffic impacts from the Gunnedah Solar Farm. However, the Commission finds that the Department's assessment of traffic volumes referenced in paragraph 110 is acceptable as it considered the cumulative worst-case traffic volumes for both the Project and the Gunnedah Solar Farm.
116. The Commission accepts the Department's assessment referenced in paragraph 111 in that the projected traffic during decommissioning and major upgrades would be similar to construction traffic levels, but over shorter duration. The Commission agrees that the Department's recommended condition which requires the Applicant to undertake dilapidation survey's and repair as appropriate will assist in ensuring that local roads are maintained to appropriate standards.
117. The Commission accepts the Department's conclusion referenced in paragraph 113 in that the Project would not result in significant impacts on the capacity, efficiency or safety of the road network subject to complying with strict conditions.

5.3.5 Fencing & Setbacks

118. The Commission heard concerns from speakers at the public meeting and received written comments regarding the uncertainty regarding the proposed fencing design and the need for flood fencing.
119. The Applicant, in its further comments to the Commission, stated that the perimeter of the land encompassing the development footprint will comprise of cattle fences that are typical of the local area. The Applicant clarified that it is not proposing to remove any of the existing fencing that bounds the outer most perimeters of the Project Site.
120. In relation to security fencing, the Applicant stated in its further comments to the Commission that:

"To secure the OGSF, fencing around the perimeter of the PV infrastructure areas and HV Substation will be installed. The perimeter fencing will be 1.8 metres in height and constructed of chainmesh and strand cables. Internal security fencing around high voltage electrical infrastructure at the substation will include additional protective strands above the 1.8m top of fence, given the protection required around such equipment."

"The type and configuration of the proposed external perimeter security fencing is consistent with industry standard"
121. In relation to the need for flood fencing, the Applicant stated in its further comments to the Commission that *"given the detailed flood assessment of the site that identified that the amended development footprint is above the level of the FMP large flood design event, OGSF does not consider that perimeter fencing will be subject to flood inundation or the loading of flood debris."*
122. In relation to setbacks, the Applicant stated in its further comments to the Commission that a 50m setback of the Project perimeter security fence from the existing western boundary cattle fence that separates Lot 2/DP945590 of the Project Site from the land owned by receptor R1 has been proposed in order to facilitate the vegetation buffer. Furthermore, the Applicant stated that it proposes a 20m setback from the land owned by

R1 and the northern boundary of the site (Lot 2/DP945590) and the western boundary of the site (Lot 1/DP1068520) as well as a setback from Orange Grove Road. The fence locations are shown in the plan and cross section drawings in the Applicant's further comments to the Commission.

123. The Department's AR noted that "*the development footprint was amended to exclude all project infrastructure, including perimeter fencing, from the first order stream area which removes potential impacts to this watercourse and ensures its existing function as a breakout channel continues*".
124. The Commission acknowledges the concerns raised by the public in paragraph 118. However, the Commission agrees with the Applicant and Department as referenced in paragraphs 120, 121 and 122 in that the amended development footprint has avoided the first order stream and that the perimeter fencing will not be subject to flood inundation. The Commission finds that the proposed fencing design is suitable for the reasons set out above.
125. The setback of the security fence from the boundaries of the Site will reduce its visual impact and enable planting to be provided to screen the security fence and the Project from R1.
126. The Commission has imposed an additional condition to ensure that the security fencing is designed and built in accordance with the information provided by the Applicant in its further comments to the Commission.

5.3.6 Biodiversity

127. The Commission heard concerns from speakers at the public meeting and received written comments regarding the loss of biodiversity as a result of the Project.
128. Council in its meeting with the Commission noted that the *State Environmental Planning Policy No 44 – Koala Habitat Protection (SEPP No 44)* relates to the entire Project Site and although it may be outside the development footprint, the provisions of SEPP No 44 still need to be considered.
129. The Applicant in its further comments to the Commission stated that the development footprint was selected to avoid impacts on the significant biodiversity features and resulted in a Project design that only impacts upon native vegetation of low quality.
130. The Department's AR stated that the Site comprises of agricultural land that has been heavily modified and includes 202 ha of native vegetation. The Department stated that "*the vegetation to be cleared is of low quality and the vegetation integrity score of both vegetation zones was identified to be below 15. OEH has confirmed that no offsets are required*".
131. The Department's AR stated that one koala feed tree species as defined in Schedule 1 of SEPP No 44 was identified within the Project Site. However, according to the AR the OEH has confirmed that the Site is not classified as prime koala habitat.
132. The Department concluded that "*the Department and OEH consider that the project is unlikely to result in any significant impacts on the biodiversity values of the locality*".

133. The Commission acknowledges Council's comment's in paragraph 128. The Commission accepts that Applicant's statement referenced in paragraph 127 in that the Project has been designed to minimise biodiversity impacts. The Commission agrees with the Departments conclusion that the Project is unlikely to result in any significant impacts on biodiversity values as referenced in paragraph 132.

5.3.7 Heritage

134. An Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared by EMM Consulting, dated 11 May 2018, was submitted with the Application. The report identified four previously unrecorded Aboriginal sites within the Site boundary. The Applicant's EIS stated that the Project design has avoided impact on the three of the four sites. The Applicant stated that:

"One identified site is located within the development footprint, comprising an isolated artefact of low archaeological significance given its highly disturbed context, common material, and artefact type. As the artefact is of low archaeological significance and has been sufficiently recorded, salvage in the form of collection is not considered warranted."

135. The Department's AR stated that:

"no items of historic heritage significance have been identified on or in close proximity to the development footprint".

"Two potential Aboriginal scarred trees are located within the project site and the project was designed to avoid impacts on these two trees".

"Two isolates stone artifacts of low significance are located within the project site and would be impacted by the development but do not require mitigation".

136. The Department's AR concluded that "OEH and the Department consider that the project is unlikely to result in a significant impact on the heritage values of the locality".
137. The Commission accepts that the design of the Project has avoided impact on three of the four Aboriginal sites as referenced in paragraph 134. The Commission accepts that one Aboriginal site of low significance will be impacted by the Project, however does not require mitigation as stated by the Department in 135.
138. The Commission agrees with the Department's conclusion referenced in paragraph 137 in that the Project will not result in significant heritage impacts.

5.3.8 Contributions under section 7.12 of the EP&A Act (formerly section 94A)

139. Council in its submission to the Department during exhibition stated that "Council's Section 94A Contributions Plan applies to the development site. It is requested that any requirement for the payment of contributions be included on the notice of determination".
140. In Council's letter to the Department dated 11 June 2019, Council stated that:

"Council has previously been advised by the Department of Planning and Environment that, Council's S94A Contributions Plan does not apply to developments of this type"

“In the event that the Independent Planning Commission’s review of these conditions determines the inclusion of a contribution under the Gunnedah Shire Council Section 94A Contributions Plan 2013, Council provides the following suggested wording.

Prior to the issuing of a Construction Certificate the Developer shall pay to Council a levy as applicable at the time of payment, relative to the total project value, in accordance with the Gunnedah Shire Council Section 94A Contributions Plan 2013, under Section 7.12 of the Environmental Planning and Assessment Act 1979. The current levy payable is calculated at 1% of the development cost. Revised construction cost may incur a varied levy fee...

Reason: To make provision for public amenities and services within the community.”

141. In the Department’s additional response to the Commission dated 24 July 2019, the Department stated that it considered the need for developer contributions in its assessment of this project and whether it would create any additional demand on public services and infrastructure. The Department stated that *“the assessment found that the only material additional demand on services and infrastructure related to roads, and the Department recommended conditions requiring road and intersection upgrades and maintenance. These conditions have been agreed with the Applicant and Gunnedah Shire Council.”*
142. The Department in their additional response to the Commission concluded that:
- “While the Contributions Plan is a relevant matter for consideration by the consent authority, it is not binding on State Significant Developments. Further, as outlined above, the Department has considered the demand on public services and infrastructure and is satisfied that its recommended conditions address the only material impact of the project on these matters (i.e. roads). Consequently, the Department does not consider that a Section 7.12 levy is either necessary or warranted in this case.”*
143. The Commission acknowledges Council’s comments in paragraphs 139 and 140 relating to section 7.12 contributions. The Commission notes that the Department did not consider there was a need for the payment of contributions in the Department’s AR or recommend imposing a condition under section 7.12 of the EP&A Act in the recommended conditions of consent. The Commission accepts the Department’s conclusion in paragraph 142 and has determined not to impose a condition requiring contributions under section 7.12 of the EP&A Act because the only material demand on services and infrastructure is in relation to roads, which have been addressed through recommended conditions.

5.3.9 Objects of the EP&A Act and Public Interest

Applicant’s consideration

144. The Applicant’s EIS stated:

“A suite of design, mitigation and management measures are proposed in this EIS to avoid, minimise and manage impacts of the project. The project will enable the orderly and logical use of natural, physical and human resources existing in the area and region. There will be economic investment and employment benefits for the local region and a realised opportunity for renewable energy generation, while minimising potential environmental and social impacts. The overall benefits of the project are considered to be

in the public interest.”

Department’s assessment

145. The Department’s AR stated that the Department’s assessment of the Project has given detailed consideration to the objects of the EP&A Act. The Department stated:

“The objects of most relevance to the Minister’s decision on whether or not to approve the project are found in Section 1.3(a), (b), (c), (e) and (f) of the EP&A Act.

The Department is satisfied that the project encourages the proper development of natural resources (Object 1.3(a)) and the promotion of orderly and economic use of land (Object 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 mitigated;*
- 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 ESD [ecologically sustainable development] (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. 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 6.4 of this report. Following its consideration, the Department considers that the project is able to 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.

Consideration of the sustainable management of built and cultural heritage (Object 1.3(f)) is provided in section 6.5 of this report. Following its consideration, the Department considers the project would not significantly impact the built or cultural heritage of the locality.”

Commission’s consideration

146. In considering the public interest merits of the proposed Application, the Commission has had regard to the objects of the EP&A Act.
147. Under section 1.3 of the EP&A Act, the relevant objects applicable to the Project are:
- a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources,*
 - b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*

- c) *to promote the orderly and economic use and development of land,*
- e) *to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- f) *to promote the sustainable management of built and cultural heritage,*
- g) *promote good design and amenity of the built environment,*
- h) *promote the proper construction and maintenance of buildings, including the protection of health and safety of their occupants,*
- i) *to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, and*
- j) *to provide increased opportunity for community participation in environmental planning and assessment.*

148. A key relevant object of the EP&A Act to the Application, as outlined in paragraph 146, is the facilitation of ESD. The Commission notes that section 6(2) of the *Protection of the Environment Administration Act 1991* states that ESD requires the effective integration of social, economic and environmental considerations in its decision-making, and that ESD can be achieved through the implementation of:

- a) *the precautionary principle;*
- b) *inter-generational equity;*
- c) *conservation of biological diversity and ecological integrity; and*
- d) *improved valuation, pricing and incentive mechanisms.*

149. The Commission has considered representations, advice and comments provided by government agencies and the community. The Commission finds that the Application is generally consistent with the ESD principles, the Objects of the Act, and is in the public interest because it:

- will assist in reducing greenhouse gas emissions and climate change, see paragraphs 144 and 145;
- would not result in a significant reduction in the overall agricultural productivity of the land and can be appropriately rehabilitated following decommissioning, see paragraphs 98 and 100; and
- achieves a reasonable balance between maximising the use of the solar resource and managing potential impacts on the environment and on surrounding landowners, see section 5.

6. HOW THE COMMISSION TOOK COMMUNITY VIEWS INTO ACCOUNT IN MAKING ITS DECISION

150. The views of the community were expressed through public submissions and in written comments received (as part of exhibition and as part of the Commission's determination process) and from members of the public who spoke at the public meeting as discussed and summarised in paragraph 27 and as noted through **section 5**.

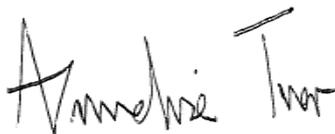
151. The Commission carefully considered all of these views as part of making its decision. The way in which these concerns were taken into account by the Commission is set out in **section 5** above.

7. CONCLUSION: THE COMMISSION'S FINDINGS AND DETERMINATION

152. After carefully considering all the Material before it, including the community's views, the Commission has determined to approve the Application, subject to conditions of consent.
153. The Commission is of the view that the Project has been designed giving consideration to the modelled flood impacts. As such, the Commission finds that the Project would not result in any significant impact on adjacent properties and high value infrastructure in a flood event (see paragraphs 64, 65 and 124).
154. The Commission is of the view that the Project has been designed in order to mitigate visual impacts on surrounding residents through an increased setback and landscaping. The Commission finds that any cumulative visual impacts from this Project and the Gunnedah Solar Farm would be negligible due to the distance between projects and relatively low-lying nature of these developments (see paragraphs 81, 82 and 83).
155. The Commission acknowledges that the Project Site represents an area of mapped BSAL however the Commission finds that the Site could be rehabilitated back to its pre-existing agricultural capabilities following decommission (see paragraphs 98 and 100).
156. The Commission finds that the Project would not result in significant impacts on the capacity, efficiency or safety of the road network. Appropriate conditions have imposed to safeguard the road network during the construction and operation of the Project. The Commission is of the view that traffic volumes are acceptable as the assessment has considered the cumulative worst-case traffic volumes for both the Project and the Gunnedah Solar Farm (see paragraphs 115, 116 and 117).
157. The Commission finds that the Project will assist in reducing greenhouse gas emissions and climate change and achieves a reasonable balance between maximising the use of the solar resource and managing potential impacts on the environment and on surrounding landowners (see paragraph 149). The Commission finds that the project is consistent with both the Commonwealth's Renewable Energy Target and NSW's Renewable Energy Action Plan as it would contribute 110 MW of renewable energy to the National Electricity Market (see paragraphs 13 and 145).
158. The Commission has imposed conditions of consent designed to prevent, minimise and/or offset adverse environmental impacts and impacts on the community.
159. The reasons for the Decision are given in this Statement of Reasons for Decision, dated 25 July 2019.



Chris Wilson (Chair)
Commission Member



Annelise Tuor
Commission Member



Andrew Hutton
Commission Member