EPBC Act referral



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Title of proposal

2021/8994 - Wallaroo Solar Farm

Section 1

Summary of your proposed action

1.1 Project industry type

Energy Generation and Supply (renewable)

1.2 Provide a detailed description of the proposed action, including all proposed activities

The proposed action is the construction operation and decommissioning of the Wallaroo Solar Farm. The solar farm would have a total installed capacity of up to 100 MW (DC), 120 MW (DC) plus 28 MWh BESS enough to power approximately 48,000 NSW and ACT homes.

The Proposal involves the construction of ground-mounted solar arrays and associated infrastructure required for the operation of the solar farm. Infrastructure includes:

- Approximately 260,936 PV solar panels mounted on Eastwest horizontal single access tracking systems.
- Approximately 18 PCU composed of two inverters, a transformer and associated control equipment to convert DC energy generated by the solar panels to 33kV AC energy.
 - Steel mounting frames with driven or screwed pile foundations.
- An onsite 132 kV substation containing up to two transformers and associated switchgear to facilitate a dual connection to the national electricity grid via the two existing 132 kV transmission lines onsite.
 - Underground power cabling to connect solar panels, DC/DC converters, combiner boxes and PCUs.
 - Underground auxiliary cabling for power supplies, data services and communications.
- Buildings to accommodate a site office, 33kV switchgear, protection and control facilities, maintenance facilities and staff amenities.
 - Site access point, located at the southern end of Southwell Rd, Wallaroo.
 - Internal access tracks for construction, operation and maintenance activities.
- Eight Energy storage containers with a combined capacity of up to 28.67 MWh (i.e. 14.34 MW power output for two hours) and comprising of lithium ion batteries located next to specific inverters.
 - Perimeter security fencing up to 2.3m high.
 - Native vegetation planting to provide visual screening for specific receivers.

During the construction phase, temporary ancillary facilities would be established on the site and may include:

- Laydown areas.
- Construction site offices and amenities.
- Car and bus parking areas for construction staff.

The Wallaroo Solar Farm will be located within a Project Area of 393.3 hectares (ha). This referral utilises the following project area terminology:

- 1. The construction disturbance footprint, which is the upper most area of land that will be directly impacted by the proposal during both construction and operation (including all temporary and permanent impacts including environmental controls); and,
- 2. The operational development footprint, which is the area in which all operational infrastructure associated with the Proposal would be located during the operational period.

The areas for each of these are outlined in section 1.6. of this EPBC referral.

The construction, operation and decommissioning of the Proposal – encompassing the permanent and temporary infrastructure and facilities described above – would incur potential direct and indirect impacts on the environment. Broadly, these potential impacts would incur through, but are not limited to:

- Upgrades to existing access tracks and a section of Southwell Road
- Vegetation clearing for permanent and temporary infrastructure siting
- Removal of abiotic habitat features and loss of habitat extent
- Displacement of resident fauna
- Soil disturbance from construction activities
- Generation of dust, noise and vibration during construction
- Changes to local landscape character
- Visual impacts to nearby sensitive receivers and residents

Disturbance of Aboriginal heritage items or places.

The extent and magnitude of the Proposal's potential direct and indirect impacts are currently being characterised and assessed as part of an Environment Impact Statement prepared in accordance with Part 4 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) and in response to the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Industry & Environment on 2 October 2020.

In total, the construction phase of the proposal is expected to take 12 months and will commence Q1 2022. Wallaroo Solar Farm would be expected to operate for up to 30 years. After the operating phase the development footprint, with the exception of the substation, would be returned to its pre-works state. All above ground infrastructure would be removed to a depth of 500 mm. The site would be rehabilitated consistent with land use requirements.

1.3 What is the extent and location of your proposed action?

See Appendix B

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)

The Wallaroo Solar Farm proposal is located in the rural locality of Wallaroo in NSW. It is situated adjacent to the NSW/ACT border, and is within 1km of the ACT suburbs of Dunlop and MacGregor. Two established farms and associated residences are located within the Project Area (Glenmore and Yarramlee).

The site, located on Lot 1 DP544209 and Lot 2 DP602262, is zoned RUI Primary Production under the Yass Valley Local Environmental Plan 2013. Much of the Project Area has been extensively cleared of woody vegetation and has been highly modified by farming practices, including cultivation of land and pasture improvement. Two named watercourses traverse the Project Area (Gooromon Ponds and Ginninderra Creek).

There are Crown waterways along stretches of the eastern and southern boundaries. Two existing TransGrid 132 kV transmission lines and one 330 kV transmission lines traverse the south eastern portion of the Project Area.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The total Wallaroo Solar Farm Project Area would be 393.3ha in size. The Proposal would require an indicative construction disturbance footprint of approximately 181.8ha. This includes all solar farm infrastructure, the temporary construction laydown area, upgrades to Southwell Road, sealing to existing internal access roads, indicative tree planting areas and localised landscaping.

Once constructed, the indicative operational development footprint would be reduced to approximately 154.8ha. This development footprint would occupy 39.39% of the 393.3ha Project Area.

211.5ha of the Project Area would remain undisturbed by the development (the 'avoidance area'). The Proposal has been designed to retain the majority of existing viable native vegetation remnants that occur on the site.

The Proposal has undergone continual refinement in response to environment constraints and stakeholder consultation. Hence, these areas are different to the preliminary figures in the Scoping Report.

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1.7 Proposed action location			
Lot - Lot 1/DP544209, Lot 2/DP602262 and Southwell road south of Gooromon Ponds Road.			
1.8 Primary jurisdiction	New South Wales		
1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?			
☐ Yes ☑ No			
1.10 Is the proposed action subject to local gove	rnment planning approval?		
☐ Yes ☑ No			

1.11 Provide an estimated start and estimated end date for the	Start Date	01/01/2022
proposed action	End Date	01/01/2053

1.12 Provide details of the context, planning framework and state and/or local Government requirements

Commonwealth

An EPBC protected matters report was undertaken on the 19th November 2020 with 10 km buffer of the Project Area to identify Matters of National Environmental Significance (MNES) that have the potential to occur within the Project Area. Relevant to Biodiversity these include:

- Wetlands of International Importance 4.
- Threatened Ecological Communities 2.
- Threatened fauna species 21.
- Threatened flora species 9.
- Migratory species 13.

The potential for these MNES to occur at the site were assessed.

Based on a habitat assessment, six federally listed threatened species have potential to occur in the Project Area. These are:

- Superb Parrot (Polytelis swainsonii) Vulnerable.
- Koala (Phascolarctos cinereus) Vulnerable.
- Southern Bell Frog (Litoria raniformis) Vulnerable.
- Green and Golden Bell Frog (Litoria aurea) Vulnerable.
- Pink-tailed Worm Lizard (Apraisa parapulchella) -Vulnerable.
- Striped Legless Lizard (Delma impar) Vulnerable.

Only two are considered to have potential habitat within the development footprint. These are:

- Pink-tailed Worm Lizard (Apraisa parapulchella)-Vulnerable.
- Striped Legless Lizard (Delma impar)- Vulnerable.

Assessments of significance under the EPBC Act were completed for Pink-tail Worm-lizard and Striped Legless Lizard species. It was concluded that a significant impact on both of these threatened species was very unlikely. These assessments will be included in the BDAR and are amended to this referral in Att D_WallarooSF_AssessofSignif_20210702.

As such, the proposal is considered unlikely to affect MNES and unlikely to required an EPBC referral.

State (New South Wales)

The Wallaroo Solar Farm is being assessed under the NSW Biodiversity Conservation Act 2016 (BC Act) as it triggers the Biodiversity Offset Scheme. The proposed Wallaroo Solar Farm is classified as State Significant Development (SSD) under the State and Regional Development State Environmental Planning Policy (SEPP) and therefore a 'major project'. A Biodiversity Development Assessment Report (BDAR) is under preparation for the site, which assesses the impacts of the proposed Wallaroo Solar Farm according to the NSW Biodiversity Assessment Methodology (BAM) as required by the Secretary's Environmental Assessment Requirements (SEARs).

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders

A Community and Stakeholder Engagement Strategy (CSES) has been developed for the proposed Wallaroo Solar Farm. The aim of the plan is to:

- 1. Identify effective methods to inform the community about the WSF proposal.
- 2. Facilitate engagement with the community. This includes allowing meaningful contributions from the community into the environmental assessment and project development.
- 3. Obtain social license to operate from the local community. This will allow for good long-term relationships with community stakeholders.

The CSES identifies:

- Community stakeholders for the project.
- Issues / risks related to the engagement of each stakeholder group.
- A consultation strategy for each issue / risk.
- A set of appropriate consultation activities against the project development time line.

Effective engagement requires an understanding of community stakeholders and prioritisation of perceived issues. It also relies on the community understanding the proposal in order for the community to contribute effectively. The focus of the consultation plan will be on providing this understanding and engagement.

The plan was developed to coincide with the early planning and assessment stages of the Wallaroo Solar Farm proposal and continue throughout the assessment stage. If the proposal is approved, consultation will also be required to continue into the assessment, construction and operational phases of the project.

Agency Consultation

In seeking the SEARs, feedback and additional assessment requirements have been supplied by the following agencies to inform the EIS currently being prepared:

- NSW BCD
- NSW DPIE
- Heritage NSW
- NSW MEG
- Fire & Rescue NSW
- Water NSW
- Transport for NSW
- ACT EPSDD
- DPI Fisheries
- DPI Agriculture
- NSW EPA
- Yass Valley Council

Broader Community Consultation

A range of community engagement efforts have been implemented so far. These include:

• Development of a project website to provide information, updates and feedback forms https://wallaroosolarfarm.com.

- Establishment of contact details for feedback.
- A meeting with representatives of Yass Valley Council on the 25/06/2020 was held.
- Direct engagement with neighbours through phone calls, letters, emails, face to face meeting and community open day events.
 - Mailout of newsletters to potential sensitive receivers, particularly near neighbours.
 - Special interest groups, including Riverview (on 15/06/2020) and Ginnindery Conservation Trust (16/06/2020).
 - Public open houses, held on the 12/02/2021 and 15/5/2021.

Aboriginal Community Consultation

Consultation with Aboriginal stakeholders was undertaken in accordance with clause 80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010 following the consultation steps outlined in the Aboriginal cultural heritage consultation requirements for proponents 2018 (ACHCRP) guide provided by OEH.

Consultation with Representative Aboriginal Parties (RAPs) is currently underway as part of the Aboriginal Cultural Heritage Assessment Report (ACHAR) that is being prepared as part of the EIS.

Broadly, the consultation is implementing the following process:

Stage 1. Letters outlining the development proposal and ACHA sent to the RAPs and other relevant organisations identified by Heritage - NSW.

Stage 2. An Assessment Methodology will be sent to the RAPs with invitation for comment and feedback.

Stage 3. A written request to RAPs to provide any information relevant to the cultural heritage assessment. Survey fieldwork would be carried out with local Aboriginal representatives.

Stage 4 A draft version of the ACHAR would be sent to RAPs inviting comments.

Community and stakeholder engagement is currently underway. Consultation undertaken during the Proposal's scoping stage is described in the Wallaroo Solar Farm Scoping report and request for SEARs lodged on the NSW major portals website (https://www.planningportal.nsw.gov.au/major-projects/project/40066), and provided in E_WallarooSF_ScopingReport_final v1.1.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project

SEARs have been issued for the Proposed Wallaroo SF (refer Att F_WallarooSF_SEARs). An EIS is being prepared in accordance with Part 4 of the NSW EP&A Act to support a Development Application DA to be lodged with NSW DPIE. As part of the EIS a BDAR is also being prepared under the BC Act and will address MNES specifically.

At this stage there were no Ecosystem Credits generated by the Project. Regarding species credits, due the cost of surveys, seasonal timing requirements and prescriptive format of the NSW Biodiversity Assessment Methodology (BAM), it may be preferrable to assume two federally listed species occur and offset accordingly. Assessments of significance cannot be used to demonstrate the species impacts are unlikely under the NSW BAM. If assumed to occur for the purpose of the BAM, 17 Species credits are estimated to be required:

- o Pink-tailed Worm Lizard (Apraisa parapulchella)-4 Credits.
- o Stripped Legless Lizard (Delma impar)- 13 credits.



1.15	Is this a	ction part of a stag	ed development (or a component of a larger project)?	
	Yes	☑ No		
1.16	Is the pr	oposed action rela	ted to other actions or proposals in the region?	
	Yes	✓ No		



Section 2			
Matters of national environmental significance			
2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?			
☐ Yes ☑ No			
2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?			
☐ Yes ☑ No			
2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?			
☐ Yes ☑ No			
2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?			
✓ Yes			
Species or threatened ecological community			
Striped Legless Lizard (SLL) (Vulnerable)			
Impact			

Rocky habitat is present for Striped Legless Lizard in the development site. Surveys were not undertaken for this species as it was too late in the year to conduct tile surveys and the habitat is too large to warrant the impacts and expense of a large pitfall survey. Additionally, pitfall surveys at the time would have continued into February of which is not an ideal time for surveys.

The proposal will remove 3.3 ha of rock outcrop in the development footprint that could provide potential habitat for SLL. This area has been buffered by 50m to account for their home range increasing the habitat impact to 14.1ha. For SLL 4.7 ha of similar habitat or better-quality habitat would remain in the development site. Additionally, some vegetation will be retained under the solar panels and therefore will be subject to less intensive management, such as cropping, within the development footprint.

While rock habitat provides potential habitat for this species, it is not expected that the species is present on site as the land is highly modified due to the cultivation of crops. As a precaution an Assessment of Significance (AoS) was conducted for SLL assuming it does occur onsite. See Att D_WallarooSF_AssessofSignif_20210702, sc. 1.3.1, p. 3. The conclusion was that due to the degraded habitat and poor connectivity, significant impacts due to the development of the solar farm would be highly unlikely for this species.

Species or threatened ecological community

Pink-tailed Legless Lizard (PTLL) (Vulnerable)

Impact

Rocky habitat is present for Pink-tailed Legless-lizard in the development site. Surveys were not undertaken for this species as the vegetation was too dense and tall to locate the rocks of the desired size that are partially imbedded in the ground. The proposal will remove 3.3 ha of rock outcrop in the development site that could provide potential habitat for PTLL. For PTLL 4.7 ha of similar habitat or better-quality habitat would remain in the development site.

While rock habitat provides potential habitat for this species, it is not expected that the species is present on site as the land is highly modified due to the cultivation of crops and is currently overgrown with exotic species providing substandard habitat conditions for PTLL. As a precaution an AoS was conducted for PTLL in which species presence was assumed. See Att D_WallarooSF_AssessofSignif_20210702, sc. 1.3.2., p. 8. The conclusion was that due to the degraded habitat and poor



connectivity, significant impacts due to the development of the solar farm would be highly unlikely for this species.	
2.4.2 Do you consider this impact to be significant?	
☐ Yes ☑ No	
2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or t habitat?	neir
☐ Yes ☑ No	
2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?	
☐ Yes ☑ No	
2.7 Is the proposed action likely to be taken on or near Commonwealth land?	
☐ Yes ☑ No	
2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?	
☐ Yes ☑ No	
2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large comining development?	al
☐ Yes ☑ No	
2.10 Is the proposed action a nuclear action?	
☐ Yes ☑ No	
2.11 Is the proposed action to be taken by a Commonwealth agency?	
☐ Yes ☑ No	
2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?	
☐ Yes ☑ No	
2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwea marine area?	ith
☐ Yes ☑ No	

Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

Flora

The site is zoned RU1 Primary Production under the Yass Valley LEP. Much of the Project Area has been extensively cleared of woody vegetation and has been highly modified by farming practices, including cultivation of land and pasture improvement.

Targeted flora surveys were not warranted in areas classified as Category 1- Exempt Land. This land dominated by exotic species as indicated by the lands history of farming practices established through the preparation of a Land Category Assessment. The Land Category Assessment is provided in Att G_WallarooSF_LandCatAssess_20210702 to demonstrate historic disturbance.

The woodland located to the north west of the development footprint, outside of the disturbance footprint site, but within the Project Area is dominated by Blakely's Red Gum (Eucalyptus blakelyi) and Red Stringybark (Eucalyptus macrorhyncha), which represents PCT 277 Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion. The BAM plot indicated that the understory is dominated by exotic species made up of predominantly Patterson's Curse, Clustered Clover and Perennial Ryegrass This patch of PCT277 would not be impacted by the Proposal.

Fauna

The EPBC Protected matters search identified 30 threatened fauna and flora species with the potential to occur. A habitat assessment for these species was undertaken to determine the likelihood of these species being present on the site. Four species were considered to have potential habitat present within the Project Area. Including:

- Superb Parrot (Polytelis swainsonii) Vulnerable
- Koala (Phascolarctos cinereus) Vulnerable
- Striped Legless Lizard (Delma impar) Vulnerable
- Pink-tailed Worm-lizard (Aprasia parapulchella) Vulnerable

Superb Parrot and Koala did not have habitat within the development site and, as the site will be fenced, no impacts direct or indirect are considered likely.

Two species are considered to have potential habitat within the development site. These are:

- Striped Legless Lizard (Delma impar)- Vulnerable
- Pink-tailed Worm-lizard (Aprasia parapulchella)- Vulnerable

Rocky outcrops were mapped and flora plots were carried out to characterise this habitat. The areas were overgrown with exotic vegetation within a highly modified cultivated area. The conditions to conduct surveys for these species were not practical given the thick vegetation covering the rocky habitat to be surveyed and inconsideration of survey timing requirements.

- For the purpose of the EPBC Act, Assessments of significance were undertaken (refer Att
- D_WallarooSF_AssessofSignif_20210702), assuming the species occur onsite. The likelihood of significant impact was found to be very low given the degraded habitat and poor connectivity, if species were assumed to inhabit these areas.
- For the purpose of the NSW BC Act, due the cost of surveys, seasonal timing requirements and prescriptive format of the NSW Biodiversity Assessment Methodology (BAM), it was preferrable to assume these species occur and offset accordingly. Assessments of significance cannot be used to demonstrate the species impacts are unlikely under the NSW BAM. The NSW assessment is currently being finalised.

3.2 Describe the hydrology relevant to the project area (including water flows)

Two named watercourses traverse the site and flow to the Murrumbidgee River which is located 3.1 to 4km west of the Project Area:

- Ginninderra Creek 6th order (Strahler Stream Classification) flows along the south western boundary of the Project Area and flows in westerly direction before meeting the Murrumbidgee River.
- Gooromon Ponds 5th order (Strahler Stream Classification) flows along the eastern boundary of the Project Area and is a tributary of Ginninderra Creek.

Several smaller tributaries also traverse the site and run into Ginninderra Creek or Gooromon Ponds:

- Two 1st order tributaries and one 2nd order tributary of Ginninderra Creek.
- Four 1st order tributaries and one 2nd order tributary of Gooromon Ponds.

The major and minor watercourses show signs of degradation and are especially altered in terms of native species. Most contained exotic species albeit some native reeds in Gooromon Ponds. There is major gully erosion and sheet erosion with little groundcover in within most of the first order watercourses over the property. Existing trees along watercourses are Willows (Salix spp). Watercourses and dams can currently be accessed by stock (sheep and horses) and would receive runoff from surrounding cultivated land.

Fifteen dams occur on the Project Area but not all contain water at present. The dams can currently be accessed by stock and would also receive runoff from surrounding land.

Groundwater dependant ecosystems (GDEs) are mapped nearby, but none are located on the Project Area.

An investigation of the water NSW online resource for the Snowy River Basin indicates no bores occur within the Project Area, but two bores exist adjacent to the northern boundary:

- GW403264, currently licenced for domestic stock irrigation, 54m deep, standing water depth 18m, at Lat/Long coordinates 35o10'44.4"S, 149o00'22.5"E. Licence 40CA407420.
- GW402150, currently licenced for domestic stock irrigation, 1.54m deep; a hole with a casing & lining; no licence applicable.

The Project Area is not located near any WaterNSW land, assets or infrastructure. However, the drainage pathways flow into Murrumbidgee River, which in turn flows to the Burrinjuck Dam Reservoir north of the Project Area. This reservoir is owned and managed by WaterNSW.

3.3 Describe the soil and vegetation characteristics relevant to the project area

Vegetation

The disturbance footprint is Category 1- Exempt Land and has not been assigned a PCT due to the lack of native vegetation throughout the site as a product of agricultural practices. The vegetation is densely dominated by Philaris, Patterson's Curse and other exotic species. There are some scattered trees on site most of which are Pinus radiata. There are also a few native scattered trees on site that appear to be planted. A Land Category Assessment (LCA) has been prepared for the Project area, and is provided in Att G_WallarooSF_LandCatAssess_20210702.

A nature reserve (offset area) provides a buffer between the Project Area and the ACT urban areas. The Bicentennial National Trail passes south of the Project Area.

Crown land in the form of waterways borders the southern and eastern boundaries of the site (Ginninderra Creek and Gooromon Ponds Creek).

Topography

A search of the NSW eSPADE database indicated that the Project Area is located within the Williamsdale soil landscape. This soil landscape is characteristic for its undulating rises, fans, valley flats and depressions on the Silurian Volcanics of the Canberra Lowlands. Slopes are gently inclined by <10%, with the local relief of 5-50m. The elevation of the Project Area is located between 550-650m above sea level.

Seasonal waterlogging and localised flood hazards are common within the Williamsdale soil landscape. Especially in runon and dieback areas. Minor gully erosion is common and widespread.

The urban capability within the Williamsdale soil landscape is generally high limitations due to imposed waterlogging and subsequent problems of septic effluent disposal. Sustainable land use recommendations are to avoid activities that expose or bring the dispersive subsoils to the surface.

Geology

The Project Area is located within the Silurian volcanics including the Colinton volcanics and the Cappanana Formation. Various tuffs with minor siltstone, shale, sandstone and limestone, alluvial material is common within this landscape and the bedrock is generally highly weathered.

Soils

The soils on upper rises and fan elements within the Williamsdale soil landscape are mapped as moderately deep, moderately well-drained Yellow Chromosols (Yellow Podzolic Soils) on Red and Brown Kandosols (Red and Yellow Earths). The soils on lower rises and fan elements are moderately to very deep to poor imperfectly drained Sodosols (Solodic Soils

and Solodized Solonetz Soils).

Soils onsite during the site inspection were identified as having gully and sheet erosion, particularly in the vicinity of major watercourses. Sedimentation and movement of topsoils was observed, likely because of clearing and land management practices that do not match the limitations of the land. No evidence of salinity was observed within the Project Area.

Soil constraints are considered manageable provided appropriate safeguards to control erosion during construction and operation and soil remediation treatments are considered during assessment and detailed design. Designs will need to consider works that may require cut and fill such as access tracks and how this will impact natural water flow paths and management.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area

Not applicable as the development footprint is predominantly cropped vegetation.

3.5 Describe the status of native vegetation relevant to the project area

There is no remnant native vegetation inside the development footprint or disturbance footprint. Approximately 24.8 ha of remnant native vegetation occurs within the Project Area. This includes:

- 15 ha of Blakely's Red Gum Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion (PCT 277)
 - 6 ha of Blakely's Red Gum White Box Yellow Box Black Cypress Pine box grass/shrub woodland on clay loam

soils on undulating hills of central NSW South Western Slopes Bioregion (PCT 282)

3.8 ha of planted native vegetation.

These PCT's do not occur within the disturbance footprint. Rather, the disturbance footprint is comprised of exotic species that resulted from farming practices including cultivation of land and pasture improvement.

10 Paddock trees are located within the development footprint and will be impacted by the development and are comprised of Ribbon Gum (Eucalyptus Viminalis), Yellow Box (Eucalyptus melliodora), Brittle Gum (Eucalyptus mannifera), Argyle Apple (Eucalyptus cinerea), Monterey Pine (Pinus radiata), Weeping Willow (Salix babylonica). The majority of these species appear to be planted along dams and roadsides and are not indicative of a PCT.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area

540 - 670 metres above sea level.

3.7 Describe the current condition of the environment relevant to the project area

The Project Area is located in an agricultural area within NSW. Almost the entire development site is cleared of woody vegetation and is highly modified by historical farming practices, including cultivation of land and pasture improvement. Sheep grazing occurs on the northern portion of the site, while horses, sheep and cattle graze the southern portion of the land. The southern portion is also used for cropping (oats).

Other land uses include broadscale agriculture and urban land. The urban areas are:

- Smaller RU1 land parcels (possibly a historical subdivision, more likened to R5 large lot residential or RU5 Rural village) located directly to the north of the site, in the locality of Wallaroo.
- Across the border within the ACT suburbs of MacGregor and Dunlop, located approximately 550m to 900m south east from the Project Area.

The large area immediately south of the site within the ACT is zoned "hills, ridges and buffer areas". The next largest area, as close as 520 m, to the Project Area, is residential. Also nearby are suburban core, urban open space, and urban residential (ACT 2019).

A nature reserve (offset area) provides a buffer between the Project Area and the ACT urban areas. The Bicentennial National Trail passes south of the Project Area.

Crown land in the form of waterways borders the southern and eastern boundaries of the site (Ginninderra Creek and Gooromon Ponds Creek).

3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project

A desktop study was undertaken to identify any listed historic heritage (non-indigenous) items or places in proximity to the study area, with a focus on the Project Area and surrounding landscape. Research was limited to secondary sources with some primary research undertaken through the investigation of historical maps and plans. No additional primary research was undertaken as it was assessed that no likely historic heritage would be impacted by the proposed works.

Heritage databases searched as part of this assessment were:

- The Australian Heritage Database, this includes items on the National and Commonwealth Heritage Lists, to identify any items that are currently listed within or adjacent to the Project Area.
- The NSW State Heritage Inventory (SHI), this includes items on the State Heritage Register and items listed by state agencies and local Government, to identify any items currently listed within or adjacent to the Project Area.
 - The ACT Heritage Register to identify any items currently listed adjacent to the Project Area in the ACT.
- Heritage schedule of the Yass Valley LEP 2013, for locally listed heritage items, that are within or adjacent to the Project Area.

Searches revealed that within or in the immediate vicinity of the proposed Wallaroo Solar Farm area:

- There are no listed World, National and Commonwealth heritage sites or places.
- There are no listed NSW SHI or NSW State Agency Heritage Register (sc. 170) items.
- There are no locally listed heritage items under the Yass Valley LEP 2013 (the closest is a slab house 3.3km north of the Project Area).
- There are an unconfirmed number of heritage objects or place listed on the ACT Heritage Register in the rural block between Dunlop and MacGregor, and where the Project Area bounds the NSW/ACT border. None of these are within the Project Area.

3.9 Describe any Indigenous heritage values relevant to the project area

A search of the Aboriginal Heritage Information Management System (AHIMS) identified 67 Aboriginal sites and no Aboriginal places between -35.2116, 148.9606 and -35.1718, 149.0236 with a 50 m buffer. There have been two items recorded to date within the Project Area.

Historical farming practices, including ploughing and land forming, may damage Aboriginal heritage sites of significance in these areas but they may also make more sites visible, bringing them to the surface. Areas near waterways within the Project Area, such as along Gooromon Ponds Creek and Ginninderra Creek and their tributaries, are likely to have a higher potential

for significance. An Aboriginal Cultural Heritage Assessment (ACHA) is currently being undertaken, including field assessment and consultation with RAPs to confirm the significance levels. Any Aboriginal heritage sites, objects and places identified would be a moderate to high constraint, requiring mitigation to manage impacts.

If any Aboriginal Heritage sites are identified that may be potentially affected by the proposal, mitigation measures would be determined in accordance with the Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) which includes requirements to consult with RAPs in the development of mitigation strategies.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area

The Project Area is primarily freehold land. Crown waterways border the Project Area along the eastern and southern boundaries. Southwell Road is local road, managed by Yass Valley Council.

3.11 Describe any existing or any proposed uses relevant to the project area

Currently used for agricultural purposes. Almost the entire Project Area is cleared of woody vegetation and is highly modified by historical farming practices, including cultivation of land and pasture improvement. Sheep grazing occurs on the northern portion of the Project Area, while horses, sheep and cattle graze the southern portion of the land. The southern portion is also used for cropping (oats).

Proposed to be used as a solar farm, the proposal would capture and utilise a natural resource (solar energy) for the life of the solar farm (anticipated to be 30-year lease). Although cultivation and cropping would no longer be possible throughout the construction, operation and decommissioning of the solar farm, the current land use would be diversified to include electricity generation.

Section 4

Measures to avoid or reduce impacts

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

The EIS and BDAR are currently being prepared. They will describe avoidance and minimisation actions for the proposed solar farm.

These include but are not limited to:

- Altering the Development Footprint to reduce impacts to potential rocky habitat. The impacts of the development to rocky outcrops have been reduced from 8 ha to 3.3 ha.
 - SLL habitat was reduced from 21 ha to 14.1ha (including 50m rocky outcrop buffer).
- Concentration of infrastructure in areas delineated as low environmental constraint land (predominantly cleared and cropped), as identified as part of the environmental assessment process.
- The Solar Farm layout was adjusted to avoid native vegetation clearing where possible. Including avoidance of Boxgum woodland with the presence of HBT's and avoiding impacts to waterways running through the site.
- Commitment to offset biodiversity impacts in accordance with the Biodiversity Assessment Methodology, pursuant to the NSW Biodiversity Conservation Act 2016.
- Implement clearing protocols during rocky outcrop clearing works, including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological or wildlife handler.
- Retention of habitat connectivity, through staging works to enable fauna movement towards the protected areas east of the development site.
- Relocate habitat features (rocks, fallen timber, hollow logs) into adjacent areas outside of the development footprint within 50 meters of the retained habitat.
- Site management to enforce and reduce site speed limits would minimise impacts of fauna vehicle strikes within the Project Area.
 - Adaptive dust monitoring programs to control air quality.
- Temporary fencing and signage to protect significant environmental features such as riparian zones and rocky outcrops that will be retained.
 - Installation of sediment controls to prevent sediment runoff into creeks.
 - Hygiene protocols to prevent the spread of weeds or pathogens between infested areas and un-infested areas.
- Staff training and site briefing to communicate environmental features to be protected and measures to be implemented.
 - Appropriate landscape plantings of local indigenous species to replace loss of planted vegetation.
- Sediment barriers and spill management protocols to control the quality of water runoff from the site into the receiving environment.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

It is intended that with the avoidance and minimisation actions proposed for biodiversity and threatened species affected by the proposed solar farm, retention of long-term viability of biodiversity and threatened species would be achieved. This is in large part due to the avoidance of higher quality habitat and retention of local connectivity.

Under the NSW BC Act, the following ecosystem credits are estimated to be generated:

- 4 credit were generated for Aprasia parapulchella (Pink-tailed Legless Lizard).
- 13 credit were generated for Delma impar (Striped Legless Lizard).

The purchase of credits or set up of an offsite site to meet this credit requirement will protect land representative of these communities as well as foraging habitat predicted to be used by Pink-tailed Legless Lizard and Striped Legless Lizard.



Section 5			
Conclusion on the likelihood of significant impacts			
5.1 Y	ou indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled		
actio	on		
	World Heritage properties		
	National Heritage places		
	Wetlands of international importance (declared Ramsar wetlands)		
	Listed threatened species or any threatened ecological community		
	Listed migratory species		
	Marine environment outside Commonwealth marine areas		
	Protection of the environment from actions involving Commonwealth land		
	Great Barrier Reef Marine Park		
	A water resource, in relation to coal seam gas development and large coal mining development		
	Protection of the environment from nuclear actions		
	Protection of the environment from Commonwealth actions		
	Commonwealth Heritage places overseas		

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action

An assessment of significant impact for EPBC listed species likely to be adversely impacted by the Wallaroo Solar Farm has been provided in Att D_WallarooSF_AssessofSignif_20210702. NGH consider that all species have been assessed under EPBC for their potential to be significantly impacted. NGH believe that the Wallaroo Solar Farm development footprint would not result in potential for a significant impact for any listed Commonwealth entity and thereby should not be declared a controlled action.

Specifically, EPBC Assessments of significance were completed for Pink-tailed Worm Lizard (Apraisa parapulchella) and Stripped Legless Lizard (Delma impar) (PTWL and SLL). With reference to EPBC policy criteria, and under the assumption that the species were inhabiting potential habitat onsite, these concluded that a significant impact was unlikely, on the basis that the proposal would not:

- Lead to a reduction of the size or area of occupancy of a population, or fragment or disrupt the breeding cycle of a population.
 - Affect habitat critical to the survival of these species.
 - Affect habitat or introduce disease such that these species would decline.
 - Introduce invasive species harmful to the species.
 - Interfere with the recovery of these species.

Commonwealth marine areas

Habitat within the study area is not considered to be critical to the survival of SLL and PTLL.

An assessment of significance concluded that a significant impact was unlikely, on the basis that the proposal would not:

- Substantially modify, destroy or isolate an area of important habitat for these species.
- Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for these species.
 - Seriously disrupt the lifecycle of an ecologically significant proportion of the population of a migratory species.



Section 6			
Environmental record of the person proposing to take the action			
6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail			
Yes. Wallaroo Solar Farm Pty Ltd have sought environmental best practice and compliance in all actions they have undertaken.			
6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application None. Not applicable.			
6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?			
☐ Yes ☑ No			
6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?			
☐ Yes ☑ No			



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.
Section 7
Information sources

Threatened Species Scientific Committee, 2015. Conservation Advice- Aprasia parapulchella (pink-tailed Worm-lizard). Environmental Protection and Biodiversity Conservation Act 1999.

http://www.environment.gov.au/biodiversity/threatened/species/pubs/1665-conservation-advice-01102015.pdf

Reliability	
neliability	

Very reliable

Reference source

Uncertainties

None known

Reference source

Threatened Species Scientific Committee, 2016. Conservation Advice- Delma impar (Striped Legless Lizard). Environmental Protection and Biodiversity Conservation Act 1999.

Reliability

Very reliable

Uncertainties

None known



8.1 Select the relevant alternatives related to your proposed action

☐ Timeframes Locations Activities

ote: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.
ection 8
roposed alternatives
o you have any feasible alternatives to taking the proposed action? Yes No
0 Provide a description of the feasible alternative
The 'do nothing' option must always be considered in any evaluation of alternatives. It represents the status quo situation; voiding all development impacts but similarly not realising a proposal's potential benefits.
 The direct consequence of not proceeding with the proposal would be to forgo these benefits, including: Contributions to Climate Change mitigation. Electricity reliability and security benefits. Direct or indirect socio-economic benefits. Providing additional generation in close proximity to high voltage networks.
The potential benefits and contributions of the proposed solar farm are considered to outweigh those of the 'do nothing' ption. As such, the 'do nothing' option is not considered a feasible alternative.
Additionally, the Proponent reviewed other sites possible within NSW on which to build a solar farm before selecting the Vallaroo Solar Farm proposal site. The proposed sites were considered in accordance with DPIE's (2018) Large Scale Solar theoretical strength of the SSD 2018, which provides recommendations regarding selection of suitable proposal sites and areas of constraint that should be identified. This process allows the opportunity to avoid or minimise negative impacts at the outset. While it would have been possible to construct and operate the solar farm at some of the sites investigated, the Proponent considers the Wallaroo Solar Farm proposal site to be the most suitable for the construction of a solar farm. Key consideration during initial site suitability investigations included:
 Optimal solar resources The availability of suitable land Proximity to electricity market Access to grid connection with sufficient connection capacity Community support for renewable energy projects Existing land use quality and the capacity to rehabilitate post-decommissioning.



8.25 Do you have anot	her alternative?		
☐ Yes 🗹	No		



Section 9			
Person proposing the action			
9.1.1 Is the person proposing the action an organisation or business? ✓ Yes □ No			
Organisation			
Organisation name (as registered for ABN/ACN)	WALLAROO SOLAR FARM PTY LTD		
Business name	WALLEAU TOO GOLD WITH A LIB		
ABN	60635212501		
ACN	635212501		
Business address	Unit 1, 239 Beaconsfield St, Milperra, 2214, NSW, Australia		
Postal address	·		
Main Phone number	+61402557272		
Fax			
Primary email address	dan@newenergydevelopment.com		
Secondary email address	3, 1		
9.1.2 I qualify for exemption from fees under Regulation 5.23(1)(ii) of the	EPBC Regulations because I am:		
☑ Small business			
Not applicable			
9.1.2.1 You must provide the date/income year that you became a small 01/12/2019	business entity:		
9.1.2.2 I would like to apply for a waiver of full or partial fees under Regu	lation 5.21A of the EPBC Regulations		
☐ Yes ☑ No	•		
9.1.3 Contact (for an organisation - the contact details of the person	on authorised to sign on behalf of the organisation)		
First name	Daniel		
Last name	Flynn		
Job title	CEO		
Phone	+61402557272		
Mobile	+61402557272		
Fax			
Email	dan@newenergydevelopment.com		
Primary address	Unit 1, 239 Beaconsfield Street, Milperra, 2214, NSW, Australia		
Address			
Declaration: Person proposing the action (To be signed by the pe	rson at 9.1.3)		
I, Daniel Adin Flynn	, declare that		
to the best of my knowledge the information I have given on, or attached			
correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.			
Signature: Date: 23/07/2021			
Signature: J.J. Date:			
I. Daniel Adin Flynn	, the person		
proposing the action, consent to the designation of New Energy Development	Pty Ltd as the proponent for the		
purposes of the action described in this EPBC Act Referral.			
Signature:Date: 23/07/2021			
I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small business entity and confirm that I qualify for a small business exemption.			
Signature:Date:			
<u> </u>			



Proposed designated proponent		
9.2.1 Is the proposed designated proponent an organisation or busines	s?	
✓ Yes □ No		
Organisation		
Organisation name (as registered for ABN/ACN)	WALLAROO SOLAR FARM PTY LTD	
Business name		
ABN	60635212501	
ACN	635212501	
Business address	Unit 1, 239 Beaconsfield St, Milperra, 2214, NSW, Australia	
Postal address		
Mark Bloom and an	+61402557272	
Main Phone number	+01402337272	
Fax		
Primary email address	dan@newenergydevelopment.com	
Secondary email address		
9.2.2 Contact (for an organisation - the contact details of the pers	, ,	
First name	Daniel	
Last name	Flynn	
Job title	CEO	
Phone	+61402557272	
Mobile	+61402557272	
Fax		
Email	dan@newenergydevelopment.com	
Primary address	Unit 1, 239 Beaconsfield St, Milperra, 2214, NSW, Australia	
Address		
Declaration: Proposed Designated Proponent		
I, Daniel Adin Flynn	,the	
proposed designated proponent, consent to the designation of		
myself as the proponent for the purposes of the action described in this EPBC Act Referral.		
Signature: Date: 23/07/2021		



Referring party (person preparing the information)		
9.3.1 Is the referring party an organisation or a business?		
✓ Yes No		
Organisation		
Organisation name (as registered for ABN/ACN)	NGH PTY LTD	
Business name		
ABN	31124444622	
ACN		
Business address	Unit 2, 54 Hudson Street, Hamilton, 2303, NSW, Australia	
Postal address		
Main Phone number	02 4929 2301	
Fax		
Primary email address	Les.s@nghconsulting.com.au	
Secondary email address		
9.3.2 Contact (for an organisation - the contact details of the pers	on authorised to sign on behalf of the organisation)	
First name	Les	
Last name	Seddon	
Job title	Principal Environmental Consultant	
Phone	0425 283 868	
Mobile		
Fax		
Email	Les.s@nghconsulting.com.au	
Primary address	Unit 2, 54 Hudson St, Hamilton, 2303, NSW, Australia	
Address		
Declaration: Referring party (person preparing the information)		
ı, Les Seddon	, declare that	
to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and		
correct. I understand that giving false or misleading information is a serious offence.		
In Aloth		
Signature:		

Appendix A	
Attachment	
Document Type	File Name
action_area_images	Att A_WallarooSF_ExtentAndLocation_20210628.pdf
action_area_images	Att B_WallarooSF_Footprints_20210702.pdf
action_area_images	Att C_WallarooSF_IndicativeLayout_20210628.pdf
govt_approval_conditions	Att F_WallarooSF_SEARs.pdf
public_consultation_reports	Att E_WallarooSF_ScopingReport_final v1.1.pdf
supporting_tech_reports	Att D_WallarooSF_AssessofSignif_20210702.pdf
flora_fauna_investigation	Att G_WallarooSF_LandCatAssess_20210702.pdf

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Appendix B		
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