Callide Solar Power Station Project

Application Number: **02253** Commencement Date: **14/02/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Callide Solar Power Station Project

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Solar Farm

1.1.4 Estimated start date *

30/06/2025

1.1.4 Estimated end date *

30/06/2075

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Proposed Action background and overview

Edify Energy (the Proponent) proposes to construct and operate a solar power station near Biloela in Central Queensland. The Callide Solar Power Station Project (the Proposed Action) will establish a 200 MW Solar Photovoltaic (PV) Farm with a 200 MW/800 MWh Battery Energy Storage System (BESS) in a site

(the Project Area) located approximately 7 kilometres (km) North-east of Biloela. The Proponent also intends to co-locate sheep grazing with the Project Area following construction of the solar facility.

The Proponent has completed the planning and some of the environmental assessment for this project, with Development Approval received from Banana Shire Council in October 2023.

It is expected that the development will provide power to the broader Banana Shire and Central Queensland region, via interconnection to the National Electricity Market's transmission network. The Project Area is located next to the Callide Power Station and therefore the solar and energy storage facility will be able to maximise its access to the grid and its ability to export renewable energy into the power system.

The proposed BESS component will store excess energy generated by the solar farm and support the grid by providing power to the grid in peak periods of demand or when there is a lack of energy generation. The final form and design of the BESS will be determined through the procurement phase of the project.

The Proposed Action intends to house up to 49 sheep initially to test the co-location with the solar facility. If this is successful, the number of sheep will gradually increase to up to 1,000. Co-location of sheep grazing on site will maintain an ongoing agricultural use of the site and support greater socio-economic outcomes for the region.

Sheep grazing will also ensure ongoing agricultural sustainability of the Project Area. Currently, the site is utilised for dryland cropping which results in bare ground and reduced soil health, leading to greater erosion and run-off. A pasture based farming activity (such as sheep grazing) can lead to long-term improvement in soil quality (less erosion, run-off and increase organic carbon) and therefore maintain ongoing agricultural viability of the site. Sheep grazing in particular is compatible with solar farms as the sheep do not damage solar infrastructure and provide mutual benefits including:

- Higher growth rate and fertility of the sheep
- Soil improvement created by shading effects of the panels to the ground below
- Reduction of fire risk through controlled grazing

Proposed action activities / components

The Proposed Action will include the solar farm, BESS and sheep grazing, along with a number of supporting facilities such as site office, substation, laydown area, fencing, access tracks and other ancillary equipment. More specifically, the Proposed Action will include the following components:

- Photo Voltaic (PV) panels mounted on single axis trackers to follow the sun from east to west. The panels are expected to be of a maximum height in the order of 4.2 m
- Inverters and integrated transformers
- Central 33 kV switchboard (ring main unit)
- Battery energy storage system (BESS) units comprising sealed lithium ion. The batteries would be contained in cabinets with a height of up to 3.0 m
- High voltage (HV) substation
- Prefabricated operations and maintenance (O&M) building
- Gravel car parking area for construction and then operational staff parking
- Internal access tracks (approximately 4.0 m wide)
- Perimeter security fencing
- Fencing associated with the grazing of sheep

The solar panels will be mounted on single-axis trackers to follow the sun to maximise the generation of energy. These tracker systems are suitable for the grazing proposed and will provide opportunities to shade livestock in the hotter parts of the day.

Due to the modularity of the solar array and BESS component, minimal heavy machinery is anticipated for the construction of the Proposed Action. This ensures the construction period will be conducted with minimal disturbance, limiting any impacts on amenity. The construction of Proposed Action will generally require:

- Site survey, inspection, and mobilisation
- Minimal site clearing, levelling and compacting (mostly localised to the hardstand areas of the development)
- Fencing of the Project Area, including security fencing (and later, CCTV monitoring system)
- Temporary laydown area for equipment and shipping containers
- Staggered delivery of equipment and material throughout the construction period
- Mechanical installation of the PV modules
- Trenching for underground cabling and footings
- Installation of electrical cabling, inverters, junction boxes and other associated electrical equipment
- Preparation and installation of high voltage transformer(s)
- Construction and installation of new on-site substation
- Construction and installation of battery energy for future storage capabilities
- Commissioning and testing of the facility

It is assumed that most construction activities will be undertaken during daylight hours, between 6:00am and 6:00pm, Monday to Saturday. No work will occur on Sundays and public holidays. As there is minimal requirement for access during the ongoing operation of the facility, access during this period will likely be weekday business hours only.

The Proposed Action will have a lifespan of approximately 50 years. This will be facilitated through a lease arrangement with the landowner, with the possibility of extension. At the conclusion of the lease, the solar and energy storage facility will be decommissioned, and the land returned to its original state.

Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 2, pages 8-11 provides details of the nature and extent of the direct and indirect impacts associated with the activities for the Proposed Action.

Proposed Action footprint

The Project Area is 516.4 ha in size and the proponent is seeking to develop up to a maximum 412 ha of the site (the Disturbance Footprint) for activities under the Proposed Action. The remaining areas within the Project Area comprise of the Avoidance Footprint (94.4 ha) and an existing transmission easement (the Easement) (9.9 ha). The Avoidance Footprint has been designed to avoid key environmental values and will not be subject to any development activities under the Proposed Action. The Easement is operated by Powerlink Queensland. Activities associated with the Proposed Action will be limited to supporting ancillary infrastructure (road/track crossings and cabling) within the Easement and will not include hard stand or other built infrastructure including solar panels. Key environmental values within the Easement will also be avoided as required.

Refer to Att A – Callide Solar Power Station: EPBC Referral Impact Assessment, Figure 1, Section 1, page 6 & Figure 3, Section 2, page 9 for locations of the Project Area, Disturbance Footprint and Avoidance Footprint.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Development Approval (DA) for the project Development Permit (Material Change of Use (MCU011-22/23) Public Facility Other (Solar Farm & Animal Husbandry) was granted by Banana Shire Council (subject to conditions) on 25 October 2023.

A number of policy, guidelines, and guidance documents are relevant to identifying the impacts and constraints for the Proposed Action and providing guidance in the assessment of the ecological values and impacts. Relevant State documents include:

- Queensland *Nature Conservation Act 1999*
  - *Nature Conservation (Animals) Regulation 2020*
  - *Nature Conservation (Plants) Regulation 2020*
- Queensland *Environmental Offsets Act 2014*
  - *Environmental Offsets Regulation 2014*
  - *Queensland Environmental Offsets Policy*
- Queensland *Vegetation Management Act 1999*

Additionally, the following EPBC Act policy documents and guidance are relevant to the Proposed action including:

- *Matters of National Environmental Significance – Significant impact guidelines 1.1*
- *Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory*
- *National Recovery Plan for the Koala Phascolarctos cinereus (combined populations of Queensland, New South Wales and the Australian Capital Territory)*
- *Referral guidance for the endangered koala*
- *Approved Conservation Advice for the Brigalow (Acacia harpophylla dominant and co-dominant) ecological community*

Refer to Att A – Callide Solar Power Station: EPBC Referral Impact Assessment, Section 1, pages 1-3 for details of the EPBC policy documents and guidance and how they were applied to the impact assessment for the Proposed Action.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Public consultation activities were undertaken between January 2020 and November 10 2022, as part of the Community Engagement Plan (CEP) developed to support the State Development Approval application for the Proposed Action. The public consultation activities included:

- Early targeted engagement (January 2020) – this involved engagement with adjoining or directly adjacent landowners. There were four meetings with five separate landowners to provide an overview of the project. A total of 9 individuals attended these sessions
- Further targeted consultation (May 2022) – this involved further targeted engagement with neighbouring residents within 1.5 km of the site. There were six meetings with seven separate landholders. An additional tenant was engaged with during a doorknock session. A total of 16 people were met with during this round of engagement
- Visual assessment – this involved conducting a visual impact assessment from the viewpoint of properties surrounding the site. For residents, Edify contacted landowners for permission to

undertake the visual assessment from close to their dwelling. If contact or access was not possible, a representative viewpoint was taken from outside the property boundary. In total, there were 10 residential viewpoints accessed, and two representative viewpoints

Refer to Att B - Callide Solar Power Station Project Town Planning Report, Appendix H, pages 20-23 for details of community engagement.

The next phase of community engagement is expected to occur in 2024 and will involve re-engaging with the neighbouring community and consulting with the broader community of Biloela and surrounds.

The Proponent is currently engaging with the local Traditional Owners, the Gaangulu Nation People (GNP). An initial meeting was held on 14 April 2024. The purpose of this meeting was to expand upon existing relations and schedule future cultural heritage surveys, which are anticipated to occur between May and October 2024. Edify and GNP intend to enter a Cultural Heritage Management Agreement (CHMA) in 2024, with the site surveys a key process to support the CHMA and any subsequent Cultural Heritage Management Plan.

1.3.1 Identity: Referring party

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	90150901965
Organisation name	Open Lines Consulting Pty Ltd
Organisation address	4B / 5 Hall St, Lyneham, Canberra, 2602

Referring party details

Name	Mitchell Ross
Job title	Environmental Consultant
Phone	0449211447
Email	heather@openlines.com.au
Address	4B / 5 Hall St, Lyneham, Canberra, 2602

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	85606684995
Organisation name	EDIFY ENERGY PTY. LTD.

Organisation address	Level 1 34-35 South Steyne, Manly, NSW, 2095

Person proposing to take the action details

Name	Patrick Dale
Job title	Project Development Manager
Phone	0487177136
Email	patrick.dale@edifyenergy.com
Address	Level 3, 201 Charlotte Street, Brisbane QLD 4000

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The Proponent's business is focused on improving environmental outcomes through the generation and supply of sustainable energy to power homes and industry across Australia. This project will help achieve these environmental outcomes through delivery of a Solar farm.

The Proponent has sought appropriate approval through the state planning framework and EPBC Act. The Proponent therefore understands and functions in accordance with any Queensland and Commonwealth environmental laws and requirements, including management practices.

The Proponent is deemed to have a satisfactory record of responsible environmental management and will act in accordance with any state and federal requirements for the Proposed Action.

The Proponent has previously referred the following actions under the EPBC Act:

- Gannawarra Solar Farm Development, Vic (2016/7807)
- Solar Farm development, north-west of Collinsville, Qld (2016/7824)
- Stage 2 Solar Farm Development, north-west of Collinsville, Queensland (2017/7904)
- Majors Creek Solar Farm, south of Townsville, Queensland (2017/7963)
- Darlington Point Solar Farm, near Darlington Point, NSW (2018/8218)
- Smoky Creek Solar Farm (2021/9030)

- EGH2 Green Hydrogen Project (2023/09604)

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Edify Energy commits to undertake all activities in accordance with the Edify Energy Best Practice Charter (see Att C - Edify Energy Best Practice Charter, whole document, pages 1-2).

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	85606684995
Organisation name	EDIFY ENERGY PTY. LTD.
Organisation address	Level 1 34-35 South Steyne, Manly, NSW, 2095

Proposed designated proponent details

Name	Patrick Dale
Job title	Project Development Manager
Phone	0487177136

Email	patrick.dale@edifyenergy.com
Address	Level 3, 201 Charlotte Street, Brisbane QLD 4000

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	90150901965
Organisation name	Open Lines Consulting Pty Ltd
Organisation address	4B / 5 Hall St, Lyneham, Canberra, 2602
Representative's name	Mitchell Ross
Representative's job title	Environmental Consultant
Phone	0449211447
Email	heather@openlines.com.au
Address	4B / 5 Hall St, Lyneham, Canberra, 2602

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	85606684995
Organisation name	EDIFY ENERGY PTY. LTD.
Organisation address	Level 1 34-35 South Steyne, Manly, NSW, 2095
Representative's name	Patrick Dale
Representative's job title	Project Development Manager
Phone	0487177136
Email	patrick.dale@edifyenergy.com

Address	Level 3, 201 Charlotte Street, Brisbane QLD 4000

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

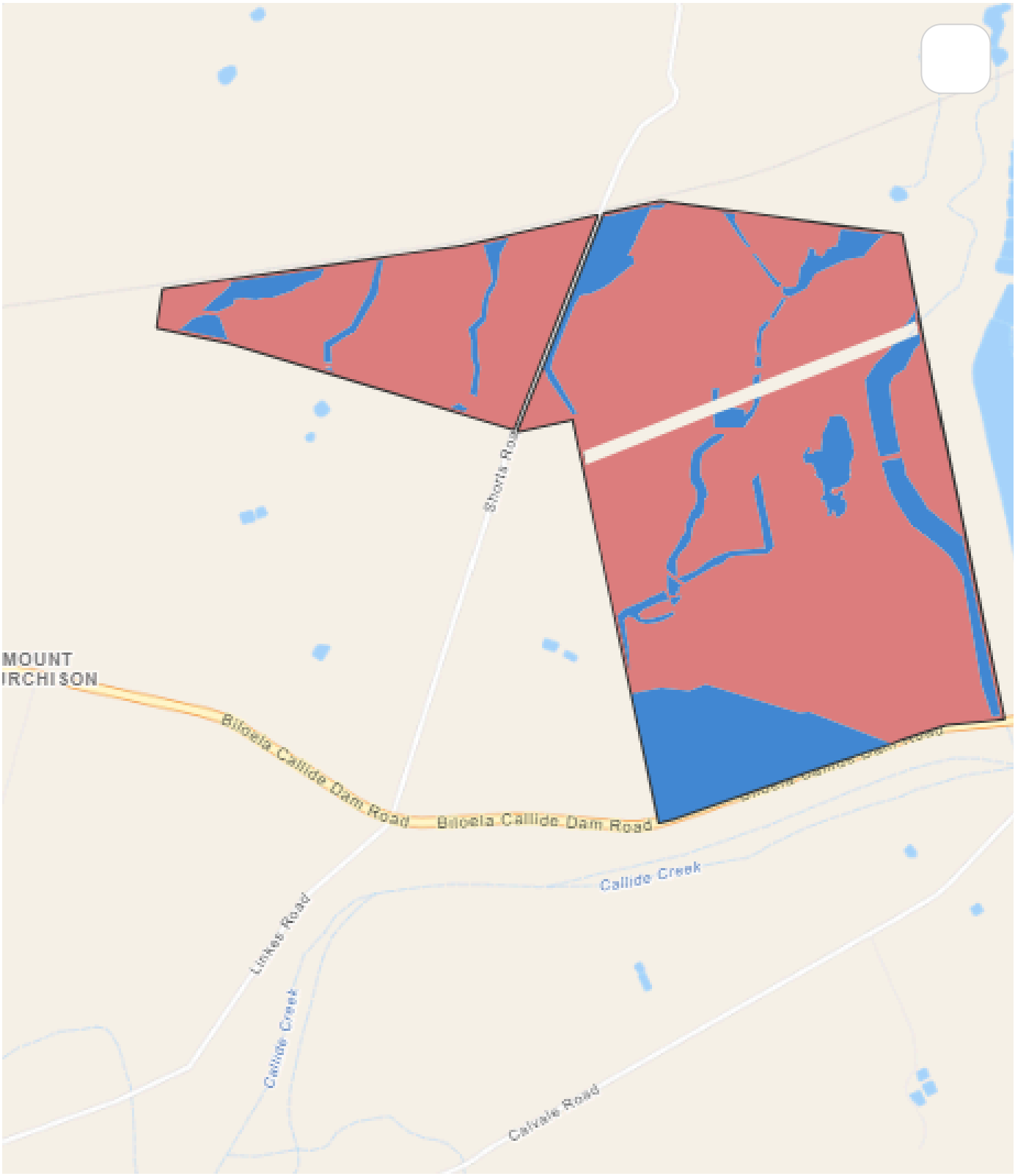
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 517.14 Ha **Disturbance Footprint:** 412.64 Ha **Avoidance Area:** 94.55 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

551 & 641 Biloela Callide Road, and Lot 28 Shorts Road, Mount Murchison QLD 4715.

2.2.2 Where is the primary jurisdiction of the proposed action? *

Queensland

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Project Area is located over four freehold parcels. These include Lot 154 on SP126053, Lot 2 on RP619032, Lot 28 on RN519 and Lot 3 on RP608599.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

Current condition and distance to major towns

The Project Area is located approximately 95 km south-west of Gladstone, near Biloela in central eastern Queensland. The Project Area has mostly been cleared, and current land use is predominantly dryland cropping. The condition of the Project Area has been impacted by historic clearing and continued cropping. As a result, limited remnant native vegetation is present and potential habitat for EPBC listed threatened species is limited and of low quality.

Remnant native vegetation within the Project Area is confined to a small patch of *Acacia harpophylla* and/or *Casuarina cristata* open forest woodland on fine-grained sedimentary rocks (Regional Ecosystem 11.9.5) at the east of the Project Area. This patch is approximately 5.4 ha in size and is fragmented from other of vegetation. Approximately 1.4 ha of this vegetation meets the condition thresholds for the EPBC listed TEC Brigalow (*Acacia harpophylla* dominant and co-dominant). The canopy and shrub layer of the TEC predominantly comprises native species, while the ground layer is dominated by non-native grasses including Buffel (*Cenchrus ciliaris*) and Green Panic (*Megathyrsus maximus*).

The remainder of the Project Area (511 ha) is comprised of non-remnant vegetation. The majority of this non-remnant vegetation is comprised of introduced species for dryland cropping. Dryland cropping typically results in bare ground and reduced soil health, leading to greater erosion and run-off. Sample extracts from the years 2000 and 2018 show a reduction in soil organic carbon level and suggest that soil condition is declining (see Att D - Callide Solar Power Station Project Town Planning Report, page 24).

A first order watercourse (ephemeral) and several drainage lines intersect the Project Area and comprise of non-remnant vegetation dominated by weed species. The groundcover in the watercourse drainage lines is dominated by Feathertop Rhodes Grass (*Chloris virgata*) and Buffel Grass on the upper banks. Small sections of theses drainage lines also support narrow fringing bands of non-remnant vegetation comprising Brigalow and Sally Wattle (*Acacia salicina*), with a dense ground cover of Green Panic and occasional Poplar Box (*Eucalyptus populnea*). These patches of fringing vegetation are significantly fragmented and narrow along the watercourse and drainage lines.

The Project Area contains two constructed farm dams. These occur in cleared locations and do not support mature fringing vegetation.

Refer to Att E - Callide Solar Project MNES Assessment Report, pages 1-16 for further details on the current condition of the Project Area.

Zoning and land use

The Project Area is zoned as Rural under the Banana Shire Council Planning Scheme 2021. There will be no changes to the zoning for this activity. Land use in the Project Area is classified predominantly as 'cropping' with a small area of 'grazing native vegetation' (Queensland Government, 2023b). The majority of the Project Area is currently used for cultivation and is classified as 'important agricultural area' under the Banana Shire Council Planning Scheme 2021. The surrounding area is predominantly rural land, rural residential properties, and agricultural land. The Callide Power Station and Callide Coal mine are located

east of the Project Area. The Project Area is bordered by the Moura System railway line in the north and Biloela Callide Road in the south (see Attachment B - Callide Solar Power Station Project Town Planning Report, pages 6-8).

Development Approval (DA) for the Proposed Action, Development Permit (Material Change of Use (MCU011-22/23) Public Facility Other (Solar Farm) & Animal Husbandry), was granted by Banana Shire Council (subject to conditions) on 25 October 2023.

Road infrastructure

Access to the Project Area will be through the existing local road (Shorts Road) via Biloela Callide Road. No access to the site is proposed from Biloela Callide Road.

It is anticipated that all traffic will be contained onsite during construction and operation although specific parking arrangements have not been determined. At this stage, 12 parking bays are proposed to be provided as part of the site works and operations wholly within the development footprint.

Internal, unsealed roads will be required for access across the Project Area for construction and maintenance purposes. These roads will be located entirely within the Disturbance Footprint, although are yet to be mapped, as detailed design is yet to commence.

Refer to Att F - Callide Solar Power Station Project Town Planning Report, Appendix E pages 2-4 for further details on roads and traffic.

3.1.2 Describe any existing or proposed uses for the project area.

The Project Area is zoned as Rural under the Banana Shire Council Planning Scheme 2021. There will be no changes to the zoning for this activity. Land use in the Project Area is classified predominantly as ‘cropping’ with a small area of ‘grazing native vegetation’ (Queensland Government, 2023b). The majority of the Project Area is currently used for cultivation and is classified as ‘important agricultural area’ under the Banana Shire Council Planning Scheme 2021. The surrounding area is predominantly rural land, rural residential properties, and agricultural land. The Callide Power Station and Callide Coal mine are located east of the Project Area. The Project Area is bordered by the Moura System railway line in the north and Biloela Callide Road in the south (see Att D - Callide Solar Power Station Project Town Planning Report, pages 6-8).

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The Project Area is within the IBRA Callide Creek Downs sub-region of the Brigalow Belt South bioregion. The subregion covers an area of 301,303 ha, between Lawgi Dawes in the south and Gogango in the North. The sub-region experiences a subtropical climate zone.

As discussed, the project area is highly modified and currently used for cropping. This is consistent with the broader landscape, which is highly altered and used predominantly for open cut mining and agriculture. Protected Areas in the broader landscape are not in proximity to the Project Area, occurring over 20 km

away. Mount Murchison Nature Refuge occurs 3.5 km to the north of the Project Area, adjacent to Callide Timber Reserve which extends east and north approximately 4 km north of the Project Area.

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

The topography of the Project Area and local area is gently undulating, with a gradual slope from northeast to southwest. To the north, east and west of the Project Area, hills 340 m to over 520 m in height occur (see Att G - Callide Solar Power Station Project Town Planning Report, Appendix G, pages 5 and 23).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Detailed field investigations have been undertaken by Eco Solutions & Management across the Project Area to inform this referral (see Att E - Callide Solar Project MNES Assessment Report, whole document, pages 1-16). The results of these investigations are provided in an ecological survey report attached to this referral, along with an EPBC impact assessment document (see Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, whole document, pages 1-31), which provides further detailed assessment against the requirements of the EPBC Act. Following is a summary drawn from these reports.

Flora

A total of 20 threatened flora species were identified by the EPBC Protected Matters Search Tool (PMST), Wildlife Online, and ALA database searches conducted for the Project Area with a 25 km buffer.

A likelihood of occurrence assessment was conducted for these species (see Att E - Callide Solar Project MNES Assessment Report, Appendix A, pages 31-46). This assessment considered the species known ranges, preferred habitat, and project site characteristics. This process informed ground-truthed vegetation mapping and fauna habitat mapping.

No threatened flora species were identified during field surveys. Targeted searches were undertaken for three threatened flora species with potentially suitable habitat (*Solanum dissectum, Solanum johnsonianum* and *Xerothamnella herbacea*), though no species were recorded.

The listed threatened flora species identified by the PMST are therefore considered unlikely to occur within the Project Area.

Threatened ecological communities

Approximately 1.4 ha of the native vegetation present in the Project Area (RE 11.9.5 described below) meets the condition thresholds for the EPBC listed TEC Brigalow (*Acacia harpophylla* dominant and co-dominant). This patch of Brigalow TEC occurs in the northern portion of the native vegetation patch. The canopy and shrub layer of the TEC predominantly comprises of native species (including Brigalow and Poplar Box) while the ground layer is dominated by Buffel Grass (*Cenchrus ciliaris*) as well as other common weeds including Khaki Weed (*Alternanthera pungens*), Cobblers Pegs (*Bidens pilosa*), Asthma Plant (*Euphorbia hirta*) and Fleabane (*Erigeron sp.*) This patch supports some habitat features such as sparse tree hollows, and fallen timber, hollow logs, and areas of deep leaf litter in low to moderate abundance. However, it is a small patch, is fragmented from other areas of vegetation and is considered to be of low habitat quality for fauna. See Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Figure 3, Section 2, page 9 for a map of Brigalow TEC within the Project Area.

Fauna

A total of 32 threatened fauna species were identified by the PMST, Wildlife Online, and ALA database searches conducted for the Project Area with a 25 km buffer. An additional 11 migratory listed bird species and one migratory listed reptile species were identified.

No threatened or migratory fauna species were identified during field surveys.

A likelihood of occurrence assessment was conducted for these species, as described above (see Att E - Callide Solar Project MNES Assessment Report, Appendix A, pages 47-84). The assessment determined that Koala (*Phascolarctos cinereus*) (Endangered) has the potential to occur within the Project Area. All other fauna species identified by the PMST are considered unlikely to occur within the Project Area.

Habitat

Habitat within the Project Area was considered to be of generally low quality. As discussed, the Project Area has been cleared and is actively used for cropping. The field surveys identified three main habitats types. These include:

- A small patch (5.4 ha) of remnant native vegetation, partly comprised of Brigalow TEC (1.4 ha). The patch is considered to be of low habitat quality. This patch supports some habitat features such as sparse tree hollows, and fallen timber, hollow logs, and areas of deep leaf litter in low to moderate abundance. However, it is a small patch and is fragmented from other areas of vegetation
- Watercourse and vegetated drainage lines (non-remnant). These areas are considered to be of low habitat quality. Habitat features such as fallen timber, tree hollows and leaf litter are sparse to absent. Additionally, the patches are significantly fragmented and narrow
- Two constructed farm dams. These areas are considered to be of low habitat quality. The dams occur in cleared locations and do not support mature fringing vegetation

The surveys identified 21.8 ha of potential dispersal habitat for the Koala in the Project Area. This potential habitat is primarily associated with the patch of RE 11.9.5 and Brigalow TEC, and patches of non-remnant vegetation along the drainage lines which intersect the site See Att A – Callide Solar Power Station - EPBC

Referral Impact Assessment, Figure 3, Section 2, page 9 for a map of Koala dispersal habitat within the Project Area.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Soils

The Project Area is mapped to occur within a Vertosol soils area (Queensland Government, 2023b). Vertosols are clay soils which exhibit strong cracking when dry and shrink-swell properties (The Australian Soil Classification, 2024).

The current land-use of cropping and cultivation in the Project Area involves routine significant disturbance to the top soil (see Att E - Callide Solar Project MNES Assessment Report, Section 1, page 1). Sample extracts from the years 2000 and 2018 show a reduction in soil organic carbon level and suggest that soil condition is declining (see Att D - Callide Solar Power Station Project Town Planning Report, page 24).

Vegetation

Remnant native vegetation within the Project Area is confined to a small patch in the central eastern portion of the Project Area. This patch is identified as Regional Ecosystem 11.9.5 (*Acacia harpophylla* and/or *Casuarina cristata* open forest woodland on fine-grained sedimentary rocks) and comprises of Brigalow (*Acacia harpophylla)* with scattered emergent Poplar Box (*Eucalyptus populnea*) and a sparse shrub layer comprised primarily of native species including Wilga (*Geijera parviflora*), Stiff Denhamia (*Denhamia oleaster*), Scrub Boonaree (*Alectryon diversifolius*) and Peach Bush (*Ehretia membranifolia*). The ground layer predominately comprises of exotic grass species including Buffel (*Cenchrus ciliaris*) and Green Panic (*Megathyrsus maximus*). This patch of native vegetation is approximately 5.4 ha in size and is fragmented from other areas of vegetation.

The remainder of the Project Area (511 ha) is comprised of non-remnant vegetation. The majority of this non-remnant vegetation is comprised of introduced species for dryland cropping. A first order watercourse (ephemeral) and several drainage lines intersect the Project Area with a groundcover dominated by Feathertop Rhodes Grass (*Chloris virgata*). Buffel Grass was typically confined to the upper banks. Small sections of theses drainage lines also support narrow fringing bands of non-remnant vegetation comprising Brigalow and Sally Wattle (*Acacia salicina*), with a dense ground cover of Green Panic and occasional Poplar Box (*Eucalyptus populnea*). These patches of fringing vegetation are significantly fragmented and narrow along the watercourse and drainage lines.

Refer to Att E - Callide Solar Project MNES Assessment Report, whole document, pages 1-16 for further detail on vegetation within the Project Area.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

No Commonwealth, National or World Heritage places were identified by the PMST within 25 km of the Project Area.

Two sites on the State Heritage register map (Queensland Government, 2023a) and the Local Heritage Register (Banana Shire Council, 2024) occur within 25 km of the Project Area. These are:

- Greycliffe Homestead – approximately 8 km west of the Project Area at Biloela
- Kilbirnie Homestead – approximately 13 km north of the Project Area

One additional site on the Local Heritage Register occurs within 25 km of the Project Area. This is the Biloela Butter Factory approximately 8 km west of the Project Area at Biloela (Banana Shire Council, 2024).

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The Project Area is located on Gaangalu Country. No indigenous heritage values were identified within or surrounding the Project Area during searches of the Commonwealth National Heritage List.

A review of the Queensland Aboriginal and Torres Strait Islander Cultural Heritage Database and Register was undertaken, and no cultural heritage records were located within or surrounding the Project Area.

As discussed, the Proponent is currently engaging with the local Traditional Owners, the Gaangulu Nation People (GNP). Edify Energy and GNP intend to enter a Cultural Heritage Management Agreement (CHMA) in 2024, with the planned site surveys a key process to support the CHMA and any subsequent Cultural Heritage Management Plan.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Project Area is located in the Dawson River sub-basin which forms part of the Fitzroy Basin of the North East Coast drainage division of Queensland. This Fitzroy Basin also forms part of the Great Barrier Reef Catchment. The Great Barrier Reef National Heritage Area occurs approximately 480 km downstream from the Project Area (Queensland Government, 2023b).

No Ramsar Wetlands occur within the Fitzroy River Basin.

The Project Area drains to Callide Creek generally in a north to south direction. Drainage to Callide Creek occurs via two systems. The first is the 1st order ephemeral watercourse located on the eastern edge of the Project Area, draining directly south to Callide Creek. The second is a number of smaller drainage lines which dissect the Project Area, draining in a south-west direction to Callide Creek west of the Project Area. The watercourse and drainage lines within the Project Area do not appear to hold water for extended periods and did not support aquatic vegetation when visited during field surveys for the project. Two constructed farm dams occur within the Project Area. Additional dams are located upstream and

downstream of the Project Area (see Att H - Callide Solar Power Station Project Town Planning Report, Appendix F, pages 5-19 & Att E - Callide Solar Project MNES Assessment Report, Section 4.3.2, pages 12-15).

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no World Heritage properties within or adjacent to the Project Area.

The Great Barrier Reef National Heritage Area occurs approximately 480 km downstream from the Project Area. The Project Area is located in the Fitzroy basin, which forms part of the Great Barrier Reef Catchment. Drainage occurs via Callide Creek and Dawson River, which are tributaries of the Fitzroy River.

Given that the site is currently utilised for dryland cropping which results in bare ground and reduced soil health, leading to greater erosion and run-off, it is unlikely that the Proposed Action will lead to an increase in erosion and runoff. Additionally, the pasture based farming (sheep grazing) may lead to long-term improvement in soil quality and less erosion and run-off.

Vegetation clearance and soil disturbance for the Proposed Action may lead to some erosion and run-off. However, the area of disturbance will be buffered from avoidance along the watercourse and drainage lines and is unlikely to affect the sedimentation or water quality of Callide Creek. Additionally, appropriate mitigation measures will be implemented during construction, operation and decommissioning to limit excess run-off or contaminants leaving the site (See Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 3.2, pages 12-16).

Altogether it is highly unlikely that the Proposed Action will impact the Great Barrier Reef National Heritage Area because:

- The Great Barrier Reef is located approximately 480 km downstream from Project Area
- Potential indirect impacts including those related to stormwater flows will be mitigated
- The watercourses within and adjacent to the Project Area are only minor ephemeral tributaries
- The size of the Disturbance Footprint is very small relative to the broader catchment area

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage properties within or adjacent to the Project Area.

The Great Barrier Reef National Heritage Area occurs approximately 480 km downstream from the Project Area. The Project Area is located in the Fitzroy basin, which forms part of the Great Barrier Reef Catchment. Drainage occurs via Callide Creek and Dawson River, which are tributaries of the Fitzroy River.

Given that the site is currently utilised for dryland cropping which results in bare ground and reduced soil health, leading to greater erosion and run-off, it is unlikely that the Proposed Action will lead to an increase in erosion and runoff. Additionally, the pasture based farming (sheep grazing) may lead to long-term improvement in soil quality and less erosion and run-off.

Vegetation clearance and soil disturbance for the Proposed Action may lead to some erosion and run-off. However, the area of disturbance will be buffered from avoidance along the watercourse and drainage lines and is unlikely to affect the sedimentation or water quality of Callide Creek. Additionally, appropriate mitigation measures will be implemented during construction, operation and decommissioning to limit excess run-off or contaminants leaving the site (See Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 3.2, pages 12-16).

Altogether it is highly unlikely that the Proposed Action will impact the Great Barrier Reef National Heritage Area because:

- The Great Barrier Reef is located approximately 480 km downstream from Project Area
- Potential indirect impacts including those related to stormwater flows will be mitigated
- The watercourses within and adjacent to the Project Area are only minor ephemeral tributaries
- The size of the Disturbance Footprint is very small relative to the broader catchment area

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar Wetlands within, adjacent to, or downstream of the Project Area.

The Project Area is located in the Fitzroy basin. No Ramsar Wetlands occur within the Fitzroy River Basin.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Arthraxon hispidus
No	No	Bertya opponens
No	No	Cadellia pentastylis
No	No	Calidris acuminata
No	No	Calidris ferruginea
No	No	Cossinia australiana
No	No	Dasyurus hallucatus
No	No	Delma torquata
No	No	Denisonia maculata
No	No	Dichanthium queenslandicum
No	No	Dichanthium setosum
No	No	Egernia rugosa
No	No	Elseya albagula
No	No	Erythrotriorchis radiatus
No	No	Falco hypoleucos
No	No	Furina dunmalli

Direct impact	Indirect impact	Species
No	No	Gallinago hardwickii
No	No	Geophaps scripta scripta
No	No	Grantiella picta
No	No	Hemiaspis damelii
No	No	Hirundapus caudacutus
No	No	Macroderma gigas
No	No	Neochmia ruficauda ruficauda
No	No	Nyctophilus corbeni
No	No	Petauroides volans
No	No	Petaurus australis australis
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)
No	No	Polianthion minutiflorum
No	No	Pteropus poliocephalus
No	No	Rhaponticum australe
No	No	Rheodytes leukops
No	No	Rostratula australis
No	No	Samadera bidwillii
No	No	Solanum dissectum
No	No	Solanum johnsonianum
No	No	Stagonopleura guttata

Ecological communities

Direct impact	Indirect impact	Ecological community
No	Yes	Brigalow (Acacia harpophylla dominant and co-dominant)
No	No	Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions

Direct impact	Indirect impact	Ecological community
No	No	Poplar Box Grassy Woodland on Alluvial Plains
No	No	Weeping Myall Woodlands

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Relevant MNES

Brigalow TEC

Recent field surveys identified a patch of RE 11.9.5 on the eastern side of the Project Area. Approximately 1.4 ha of this vegetation community met the condition thresholds to be classified as a patch of the TEC. The canopy of the Brigalow TEC patch was comprised of Brigalow with scattered Poplar Box (*Eucalyptus populnea*). The shrub layer of the patch was sparse and comprised mostly of native species Wilga (*Geijera parviflora*), Stiff Denhamia (*Denhamia oleaster*), Scrub Boonaree (*Alectryon diversifolius*) and Peach Bush (*Ehretia membranifolia*). The Ground layer was mostly exotic including Green Panic, and Buffel Grass (see Att E - Callide Solar Project MNES Assessment Report, Section 4.3.2, pages 12-15).

Koala (*Phascolarctos cinereus*)

No historical records of the Koala (*Phascolarctos cinereus*) occur within the Project Area, and recent field surveys did not record the species. There are a number of historical records within the vicinity of the Project Area. The most recent record within 10 km of the Project Area is dated 1997.

Field surveys identified approximately 21.8 ha of potential Koala dispersal habitat within the Project Area. This habitat includes the patch of remnant native vegetation (RE 11.9.5) / Brigalow TEC in the east of the Project Area, and portions of non-remnant vegetation in the watercourse and drainage lines which contain isolated tree species that the Koala may use for dispersal between habitat to the north and the south of the Project Area. Areas of potential habitat are generally considered to be of low habitat quality due to minimal habitat features, and the patch size and level of fragmentation of the vegetation (see Att E - Callide Solar Project MNES Assessment Report, Section 4.3.2, pages 12-15)

An overview of potential impacts to Koala and Brigalow TEC is provided below. Refer to Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 2, pages 8-11 and Section 4, pages 17-29 for a detailed description of potential impacts associated with the Proposed Action including the nature, extent and duration of potential impacts for Brigalow TEC and Koala.

Direct impacts

The Proposed Action will result in the removal and clearing of vegetation for construction, operation and decommissioning of the Callide Solar Power Station. The maximum extent of clearing and direct disturbance is 412 ha.

Koala

The Proposed Action is not expected to directly impact the Koala. Project design has ensured that the potential function of mapped dispersal habitat within the Project Area to facilitate movement of the species north-south is maintained.

The Proposed Action will lead to small-scale clearing of minor, fringing areas of this potential habitat, comprising up to around 1.3 ha of the 21.8 ha mapped within the Project Area. This clearing will not affect, interfere with or impede on the potential dispersal function of the mapped habitat.

Direct impacts to habitat are therefore minimal and are mostly associated with the construction of the fencing and bushfire/access around the boundary of the Project Area and small sections of the drainage lines that will be utilised for tracks/crossings. The fencing and the tracks/crossings will be designed to retain the natural hydrology of these areas and maintain landscape connectivity and movement for the Koala.

While activities associated with construction and operation of the Proposed Action may have the potential to result in direct injury or mortality of Koalas should they occur within or adjacent to the Project Area, these potential impacts are considered unlikely to eventuate due to the remote chance that the species using the area and the management measures that will be implemented for the Proposed Action.

Brigalow TEC

The project footprints have been designed to avoid any patches of Brigalow TEC that occur within the Project Area. As such, the entire 1.4 ha patch of Brigalow TEC, with an additional 20 m buffer zone will be avoided and contained within the Avoidance Footprint. Brigalow TEC will therefore not be subject to any direct clearance or removal as a result of the Proposed Action, as the entire patch including a 20 m buffer zone will be avoided. Any accidental direct clearing or damage to the TEC will be prevented by the mitigation measures implemented for the Proposed Action.

Indirect impacts

A number of indirect impacts have been considered in relation to the Proposed Action. These include:

- Hydrological / soil disturbance
- Spread of disease / pathogens
- Introduction and / or spread of weeds
- Predation / competition by pest fauna
- Altered fire regimes
- Noise, vibration, dust and light pollution
- Fauna displacement, fragmentation and barriers to movement

See Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 4, pages 17-29 for a detailed description of potential impacts associated with the Proposed Action to Koala and Brigalow TEC, including specific management measures that will be implemented to mitigate these potential impacts.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

There will be no significant impacts to relevant MNES as a result of the proposed action because:

- All areas, including a buffer, that meet the definition of the Brigalow TEC will be avoided

- The potential function of the mapped potential dispersal habitat for Koala to facilitate movement will be maintained
- Indirect impacts will be adequately mitigated

Please refer to Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 4, pages 17-29 for significant impact assessments for the Koala and Brigalow TEC.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

Significant impacts to threatened species and ecological communities as a result of direct disturbance are unlikely, and any potential indirect impacts will be appropriately managed through implementation of mitigation measures. The Proposed Action is not expected to be a controlled action for listed threatened species or ecological communities.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

An overview of avoidance and mitigation for the Proposed Action are provided below. Refer to Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 3, pages 12-16 and Section 4, pages 17-29 for significant impact assessments for the Koala and Brigalow TEC including details of avoidance and mitigation.

Avoidance

The Avoidance Footprint was established to avoid the following:

- The entire patch of patch (5.4 ha) of vegetation the central eastern portion of the Project Area which comprises of RE 11.9.5 (*Acacia harpophylla* and/or *Casuarina cristata* open forest woodland on fine-grained sedimentary rocks). This area contains 1.4 ha of EPBC listed Brigalow TEC and may provide potential dispersal habitat for Koala

- A 20 m buffer around edges of the Brigalow TEC where it interfaces with development (to minimise the risk of edge effects/indirect impacts)
- The watercourse and drainage corridors that intersect the site to ensure potential use of these areas as dispersal habitat for the Koala is maintained. Avoidance of these corridors will also maintain existing hydrological flows within the Project Area

The Avoidance Footprint covers 94.4 ha. Narrow crossings of the watercourse and drainage lines will be required for access across the Project Area. These areas have been excluded from the Avoidance Footprint, and instead form part of the Disturbance Footprint. These tracks/crossings will:

- Utilise existing crossings where available
- Be constructed to retain the natural hydrology of these areas
- Be constructed in a way which maintains landscape connectivity for species movement, including the Koala

Key environmental values within the Easement which includes watercourse and drainage corridors that contain areas of potential Koala dispersal habitat will also be avoided.

The Avoidance Footprint will therefore ensure that potential habitat and environmental values (including Brigalow TEC and koala dispersal habitat) will remain within the landscape, and connectivity through the Project Area will be maintained.

Mitigation measures

Measures to mitigate impacts of development on MNES will be implemented through a Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP) which will be developed for the Proposed Action. The CEMP and OEMP will detail the mitigation measures that will be implemented, including any required species-specific measures, and will be developed prior to implementation of the Proposed Action.

Refer to Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Table 4, Section 3, pages 14-16 for details of the mitigation measures that will be implemented for the Proposed Action.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No offsets are proposed for the Proposed Action, as residual significant impacts to threatened species and ecological communities are not considered likely due to the avoidance outcomes and implementation of mitigation measures.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
No	No	Apus pacificus
No	No	Calidris acuminata
No	No	Calidris ferruginea
No	No	Calidris melanotos
No	No	Crocodylus porosus
No	No	Cuculus optatus
No	No	Gallinago hardwickii
No	No	Hirundapus caudacutus
No	No	Monarcha melanopsis
No	No	Motacilla flava
No	No	Myiagra cyanoleuca
No	No	Rhipidura rufifrons

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

Recent field surveys did not record any migratory species or habitat for these species within the Project Area. All migratory species identified by the PMST are considered unlikely to occur within the Project Area. Direct or indirect impacts on migratory species are therefore considered to be highly unlikely.

See Att E - Callide Solar Project MNES Assessment Report, Appendix A, pages 47-84 for the likelihood of occurrence assessment for migratory species.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action does not constitute a nuclear action under section 22 of the EPBC Act.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth Marine Areas within or adjacent to the Project Area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Great Barrier Reef National Heritage Area occurs approximately 480 km downstream from the Project Area. The Project Area is located in the Fitzroy basin, which forms part of the Great Barrier Reef Catchment. Drainage occurs via Callide Creek and Dawson River, which are tributaries of the Fitzroy River.

Given that the site is currently utilised for dryland cropping which results in bare ground and reduced soil health, leading to greater erosion and run-off, it is unlikely that the Proposed Action will lead to an increase in erosion and runoff. Additionally, the pasture based farming (sheep grazing) may lead to long-term improvement in soil quality and less erosion and run-off.

Vegetation clearance and soil disturbance for the Proposed Action may lead to some erosion and run-off. However, the area of disturbance will be buffered from avoidance along the watercourse and drainage lines and is unlikely to affect the sedimentation or water quality of Callide Creek. Additionally, appropriate mitigation measures will be implemented during construction, operation and decommissioning to limit excess run-off or contaminants leaving the site (See Att A – Callide Solar Power Station - EPBC Referral Impact Assessment, Section 3.2, pages 13-16).

Altogether it is highly unlikely that the Proposed Action will impact the Great Barrier Reef National Heritage Area because:

- The Great Barrier Reef is located approximately 480 km downstream from Project Area
- Potential indirect impacts including those related to stormwater flows will be mitigated
- The watercourses within and adjacent to the Project Area are only minor ephemeral tributaries
- The size of the Disturbance Footprint is very small relative to the broader catchment area

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action does not constitute a coal seam gas or large coal mining development.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There is no Commonwealth Land within or adjacent to the Project Area.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Commonwealth heritage places within or adjacent to the Project Area.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The Proposed Action’s location, timing and activities were informed by extensive project planning and site studies undertaken by the Proponent, including the Town Planning Report and associated studies undertaken to inform the sate Development Approval (see Att D - Callide Solar Power Station Project Town Planning Report, whole document, pages 1-34).

The Proposed action was considered to be the most appropriate and feasible option for the following key reasons:

- The close proximity to Callide Power Station enables the efficient connection to the grid, without the need for additional extensive infrastructure

- The Project Area has suitable access with surrounding road network, removing requirements to construct new roads or extensive access points
- The Project Area is comprised predominantly of non-remnant vegetation and has low environmental value and minimal biodiversity constraints
- The existing use of the site (dryland cropping) supports the dual use of the Proposed Action (power generation/storage and agriculture) and provides opportunity to improve the long-term agricultural sustainability of the land. The Project Area can then be returned to sole agriculture use at the end of the life of the Project.
- The proximity to Biloela (7 km south-west) supports the socio-economic value of the Proposed Action, providing both short and long-term employment opportunities in both renewable energy and agriculture, and further expanding the renewable energy and sheep grazing industries in the region

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B-Callide Solar Power Station Project Town Planning Report, Appendix H.pdf Community Engagement Plan associated with the Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	30/11/2022	No	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att C-Edify Energy Best Practice Charter.pdf Provides details of Edify Energy’s best practice charter.		No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Callide Solar Power Station Project Town Planning Report.pdf The Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	19/12/2022	No	High
#2.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	26/02/2024	No	High
#3.	Document	Att F-Callide Solar Power Station Project Town Planning Report, Appendix E.pdf Traffic Impact Assessment associated with the Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	31/10/2022	No	High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Callide Solar Power Station Project Town Planning Report.pdf The Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	19/12/2022	No	High

3.1.4 Gradient relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att G-Callide Solar Power Station Project Town Planning Report, Appendix G.pdf Landscape Character & Visual Impact Assessment associated with the Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	07/12/2022	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

#2.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	27/02/2024	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D-Callide Solar Power Station Project Town Planning Report.pdf The Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	19/12/2023	No	High
#2.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	27/02/2024	No	High
#3.	Link	(The Australian Soil Classification, 2024) Vertosols https://www.soilscienceaustralia.org.au/asc/ve/v..			High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	(Banana Shire Council, 2024) Local Heritage Register https://www.banana.qld.gov.au/downloads/file/539..			High
#2.	Link	(Queensland Government, 2023a) Heritage Register Map https://apps.des.qld.gov.au/heritage-register/map/			High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	27/02/2024	No	High
#2.	Document	Att H-Callide Solar Power Station Project Town Planning Report, Appendix F.pdf Appendix F to the Town Planning Report prepared by RPS Group for Edify Energy. This appendix is the Surface Water and Flood Impact Assessment		No	High
#3.	Link	(Queensland Government, 2023b) Queensland Globe https://qldglobe.information.qld.gov.au/			High

4.1.1.3 (World Heritage) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

4.1.2.3 (National Heritage) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High
#2.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	27/02/2024	No	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

4.1.5.3 (Migratory Species) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitive	Confidence

#1.	Document	Att E-Callide Solar Project MNES Assessment Report.pdf MNES ecology report prepared by Eco Solutions & Management to inform the referral.	27/02/2024	No	High

4.1.8.3 (Great Barrier Reef) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att A-Callide Solar Power Station Project - EPBC Referral Impact Assessment.pdf Detailed impact assessment for the referral prepared by the referring party	16/04/2024	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitive	Confidence
#1.	Document	Att D-Callide Solar Power Station Project Town Planning Report.pdf The Town Planning Report prepared by RPS Group for Edify Energy. This document was prepared to seek Development Approval under state legislation.	19/12/2023	No	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	90150901965
Organisation name	Open Lines Consulting Pty Ltd
Organisation address	4B / 5 Hall St, Lyneham, Canberra, 2602
Representative's name	Mitchell Ross
Representative's job title	Environmental Consultant
Phone	0449211447
Email	heather@openlines.com.au
Address	4B / 5 Hall St, Lyneham, Canberra, 2602

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Mitchell Ross of Open Lines Consulting Pty Ltd**, 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. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	85606684995
Organisation name	EDIFY ENERGY PTY. LTD.
Organisation address	Level 1 34-35 South Steyne, Manly, NSW, 2095
Representative's name	Patrick Dale
Representative's job title	Project Development Manager
Phone	0487177136
Email	patrick.dale@edifyenergy.com
Address	Level 3, 201 Charlotte Street, Brisbane QLD 4000

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Patrick Dale of EDIFY ENERGY PTY. LTD.**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and 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. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✓ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Patrick Dale of EDIFY ENERGY PTY. LTD.**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *