Baldon Wind Farm

Application Number: **02167** Commencement Date: **11/12/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Baldon Wind Farm

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Wind Farm

1.1.4 Estimated start date *

01/09/2025

1.1.4 Estimated end date *

01/01/2067

1.2 Proposed Action details

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

The proposed action (the Project) is the development of a wind farm that will consist of up to 180 turbine locations with a combined installed nominal capacity of approximately 1,400MW. The Project will include all the associated infrastructure which would be required to connect the Project to the National Energy Market (NEM), provide access to construct, operate, maintain, and decommission the Project. The proposal will allow for inclusion of a Battery Energy Storage System (BESS) with an approximate capacity and energy generation of 200MW/400MWh. The Project area covers ~46,266ha and is comprised of 2 rural property holdings.

A Development Corridor has been established within the project area, which represents a buffered indicative infrastructure layout that has been used for specialist assessments and to enable some flexibility during the detailed project design. Final disturbance areas will be refined as the Project progresses and will considerably smaller than this. The area of the Development Corridor is approximately 2842.5ha which is equivalent to 6% of the total subject land. The Development Corridor generally includes the following buffers around proposed infrastructure:

- 30m buffer either side of access tracks
- 15m buffer either side of underground cables
- 50m buffer either side of overhead transmission lines
- 80m radius buffer around wind turbine locations

The indicative disturbance area that would be directly impacted during Project construction is estimated to be 819ha. This allows for all construction related activities such as lay down areas, temporary roads, site offices, concrete batch plants and quarry. The disturbance areas for operations is estimated at 348ha and would be wholly located within the areas of construction disturbance. Amendments to the design may occur during the detailed design process, however design amendments would remain generally within the Development Corridor. Further due diligence assessment would be required for areas outside the Development Corridor where impacts are subsequently proposed

The Project consists of the following key infrastructure components

- Up to 180 wind turbines with
    - Rated capacity of ~ 8MW or greater (the actual turbine is not yet selected). If the project is staged it is likely that turbine models with greater rated capacity would be installed in later stages due to technological advances

    - Three blades mounted to a rotor hub on a nacelle above a tubular steel tower
    - Maximum ground to blade tip height of 300m and rotor diameter of 205m
    - Adjacent hardstand areas (~ 85mx70m) for use as crane pads, assembly and laydown areas and potentially for siting BESS
- Overhead transmission lines, approximately 33km, to connect the project substations to the point of connection
- Substations and switching stations and other related electrical facilities. Up to 7 substations/switching stations may be proposed
- A BESS up to 200MW/400MWh - **refer below**
- Connection to the National Electricity Grid **-refer below**
- Upgrades to the offsite transport route required to facilitate component deliveries.
- Ancillary activities – r**efer below**

The project may be developed in separate stages. This will likely be determined by the available capacity in the surrounding network and the ability to connect to it.

Construction activities will result in direct impacts to native vegetation through vegetation clearing and earth moving. The establishment of roads, hardstands and other project infrastructure. Indirect impacts to areas of retained habitat may occur through changes to light, noise and hydrology features temporarily during the construction phase. Operation of the wind farm has the potential to result in direct impacts to birds & bats from blade strike during wind power generation and indirect impacts.

Wind Turbine Generators

The Project will use horizontal-axis wind turbines which include

- A concrete gravity foundation
- A tower made of multiple steel sections bolted together
- A nacelle housing the generator and to which the rotor is attached
- Components within the nacelle (yaw system, gear unit cooling system)
- A generator with a specific name-plate MW capacity
- A rotor hub, to which turbine blades are attached
- Wind turbine blades with pitch system to allow adjustments to the wind turbine operation
- Electrical and communications cabling between the turbine and substation

Battery Energy Storage System

The design of a BESS would include consideration of the scale of storage needed for the Project. The ultimate design specification would be determined by system requirements, available technology reliability, and commercial aspects, however it is anticipated that the facility could have a capacity of up to approximately 200MW/400MWh located at or near to one or more of the Project's substations, or multiple small BESS connected to all or a subset of wind turbines.

Electrical connection to NEM

The Darlington Point-Balranald 220 kV transmission line and the Project Energy Connect 330 kV line traverse the central portion of the project site. The substation/switching station located on either side of these lines is expected to serve as the point of connection between the Project and the NEM, however this is dependent on available capacity, accessibility and regulatory approval to connect to one or both of these lines. Other connection points may become available if additional network augmentations in the region materialise.

Ancillary Infrastructure

The Project will also include various supporting infrastructure and associated works which includes:

- Internal gravel-capped access tracks, approximately 6 -10m wide, depending on location and use. They would be subject to detailed design and would involve land clearance, civil works, surface stabilisation and drainage works
- Underground cabling to connect collector groups of wind turbines as well as connecting to substations. Cables would be layed in trenches approximately 0.6m deep and then backfilled and rehabilitated progressively.
- Car parking would be in designated areas at both the construction and operations compound, on hardstand with designated parking areas
- 3 temporary monitoring masts are currently located on site. Aan additional 8 may be installed which would be removed after construction. During operations there would be 5 permanent wind monitoring masts which would stand at approximately 130m
- It is proposed there would be 2-3 mobile concrete batching plants on site located either at a construction compound or substation. Total footprint for each mobile plant would be about 100mx100m
- Rock crushing facilities sourcing of gravel from local quarries if available
- Construction laydown areas with an allowance of 1–5ha per compound has been assumed. Laydown areas will be cleared areas and the area compacted with hardstand
- Temporary construction compounds including site office and maintenance and storage facilities and security fencing. These are typically temporary buildings which are transported to site by truck and placed on temporary footings
- 1 - 2 Operations compounds would be established in addition to small auxiliary operations compounds. These would be located where construction compounds were located or at substation locations
- Temporary Accommodation Camp: located on site close to the Sturt Hwy entrance and sized to meet the project construction workforce of 350-400 workers. The camp may be downsized if alternative accommodation in the area is confirmed shortly prior to the commencement of construction
- A gypsum resource has been identified in the southwest of the project area. If feasible this surface resource would be extracted using an excavator and transported along the access tracks to be used as a stabilising agent for the access track and hard stands. The amount of gypsum to be won from the quarry has not yet been determined and would require further investigation and permitting
- It is estimated that up to 250ML per annum of water will be required during construction. Construction water may be sourced from 3 new groundwater bores on site; an existing groundwater bore on site; surface water from nearby waterways; and/or water sourced from third parties. Relevant permits, approvals, allocations and other requirements would be obtained prior to sourcing construction water. There are very minimal water requirements during the project operations (<5MLp/a).

Transport Route & Site Access

A port and transport route assessment has determined that the two most feasible routes for major components to site would be from Port Adelaide or the Port of Newcastle. Both options remain viable for this project. The primary access point to the Project Site will be directly from the Sturt Highway. There may be secondary access points for local access from Baldon Road and Keri East Road.

Large components would be transported via road on large semi-trailers to the site under escort. The route would undergo detailed assessment and any required upgrades would need to be completed in consultation with the relevant authorities prior to the overdimensional transport being undertaken.

Preliminary Layout

The Project which forms the basis of this Referral has been informed through a consideration of the available land area, environmental, heritage and neighbouring property constraints. The layout of turbines and other infrastructure will be optimised to avoid or minimise sensitive ecological features, heritage or social sensitivities. This design is being further refined during development of the EIS as detailed assessments are undertaken and consideration of how the results impact the Project, and vice versa.

Operations & Maintenance

Thirty five full time workers will be involved in the operations and maintenance for the wind farm. Core activities to be undertaken would include routine maintenance of the wind turbines and related infrastructure, such as substation, monitoring masts, general administration and routine inspections and compliance monitoring.

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

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

Yes

1.2.5 Provide information about the staged development (or relevant larger project).

The project may be developed in stages, however the Environment Impact Statement (EIS) will consider the impacts for the whole project.

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

Commonwealth Law

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Regulates the assessment and approval of activities that would have or is likely to have a significant impact on Matters of National Environmental Significance (MNES), activities by Commonwealth government agencies and activities by any person on Commonwealth land.

As of September 2023, one year of bird and bat utilisation surveys has been completed, in addition to broader ecological surveys, targeted surveys and other environmental investigations. The following species have been confirmed to be present in the study area:

Flora

- *Brachyscome papillosa* (Mossgiel Daisy)
- *Maireana cheelii* (Chariot Wheels)
- *Lepidium monoplocoides* (Winged Peppercress)

Fauna:

- *Aphelocephala leucopsis* (Southern Whiteface)
- *Pedionomus torquatus* (Plains-wanderer)
- *Neophema chrysostoma* (Blue-winged Parrot)
- *Gelochelidon nilotica* (Gull-billed Tern)
- *Lophochroa leadbeateri* (Pink Cockatoo)

- *Litoria raniformis* (Southern Bell Frog)

Climate Change Act 2022 provides legislated economy wide greenhouse gas emissions targets for 2030 and 2050.

State Law

- *Environmental Planning and Assessment Act 1979* – Relevant as Section 4.36 of the EP&A Act provides that a development would be State Significant Development (SSD) if it is declared to be SSD by a SEPP.
- State Environmental Planning Policy (Planning Systems) 2021 – Classifies the project as SSD as the capital investment value of more than $30 million.
- *Environmental Planning and Assessment Regulation 2021* - The regulation provides the framework for NSW SSD assessment and formal consultation requirements.
- State Environmental Planning Policy (Transport and Infrastructure) 2021 – regulates permissible use and outlines agency consultation requirements
- State Environmental Planning Policy (Primary Production) 2021 - Provides for agricultural land use matters of State or regional significance
- *National Parks and Wildlife Act 1974* - responsible for the conservation of objects, places or features of cultural value within the landscape, such as but not limited to places, object and features of significance to Aboriginal people, places of social value and places of historic, architectural or scientific value. Relevant to Aboriginal cultural heritage assessment.
- *Biosecurity Act 2015* - provide for the establishment and functions of Local Control Authorities for weeds (LGA or County Councils) and weed control obligations on public and private land.
- *Heritage Act 1977* – Regulates local and state heritage listed items.
- *Biodiversity Conservation Act 2016* - Act requires a biodiversity development assessment report to be prepared for SSD unless determined otherwise by the Planning Agency Head and the Environment Agency Head.
- *Protection of the Environment Operations Act 1999* (POEO Act) – requires scheduled activities including electricity (wind farms) to hold an Environment Protection Licence.
- *Electricity Infrastructure Investment Act NSW 2020* - coordinates investment in new generation, storage, and network infrastructure in NSW and for other purposes.
- *Conveyancing Act 1919* – Relevant to lease, purchase and subdivision of the land.
- *Waste Avoidance and Resource Recovery Act 2001* - includes resource management hierarchy principles to encourage the most efficient use of resources and to reduce environmental harm.
- *Wakool Local Environmental Plan 2013* – Sets the objectives and permitted land use in land zones. Includes mapping of environmentally sensitive land under Environmental Planning Instruments.
- *Hay Local Environmental Plan 2011* – Sets the objectives and permitted land use in land zones. Includes mapping of environmentally sensitive land under Environmental Planning Instruments.

New South Wales (NSW) Policy

NSW Electricity Strategy - NSW Government's plan for a reliable, affordable and sustainable electricity future.

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. *

The following plans and guidelines have been considered when preparing and undertaking community engagement activities:

- Community Engagement Guidelines (CEC, 2018)
- Social Impact Assessment Guidelines (DPIE, 2023)
- Undertaking Engagement Guidelines for State Significant Projects (DPIE, 2021)
- Wind Energy Guideline (DPIE, 2016)
- Wind Energy: Noise Assessment Bulletin (DPIE, 2016)
- Wind Energy: Visual Assessment Bulletin (DPIE, 2016)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (DEECW 2010)
- Code of Practice for Archaeological Objects in NSW (DEECW 2010)

There has been substantial public consultation throughout the development of the Project to date, including with Indigenous stakeholders.

The EIS will provide further details about the project consultation that has been undertaken. This includes:

- Establishment of project website (www.baldonwindfarm.com), including an online survey which provides an opportunity for website visitors to share their views about the project
- Public information sessions held at Moulamein in February 2022 prior to the Scoping Report submission
    - Public information sessions held at Moulamein, Hay and Balranald August 2023 during the preparation of the EIS
- Project representatives attendance at various community events with project information and surveys available during 2023 (e.g. Celebrate Moulamein Festival 30 March 2023; and Hay Community Education, and Employment Expo 6 November 2023)
- One on one engagement with community members that requested further meetings
- Targetted consultation with local community and businesses (interviews) as part of the Social Impact Assessment
- Letters sent to three Local Aboriginal Land Councils (LALCs) prior to the submission of the Scoping Report
- Publication of project newsletters (1 in 2022; 2 in 2023; more to come in 2024)
- Consultation with the Representative Aboriginal Parties (RAPs) as part of the preparation of the Aboriginal Cultural Heritage Assessment (ACHA) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010). This has included over 5 weeks of on site surveys with the RAPs and has resulted in the micrositing of the Development corridor and indicative construction disturbance area to avoid Aboriginal sites.

- Meetings between the proponent and the RAPs to discuss the project and to ensure the project results in positive outcomes to the Indigenous stakeholders while avoiding or minimising impacts to cultural heritage matters.

A summary of the consultation outcomes undertaken to date is provided in *Att 9 - Consultation Attachment _April 24*.

Public consultation and engagement with the community and with Indigenous stakeholders is planned to continue prior to the EIS submission, during the EIS assessment period and beyond.

Community information sessions are planned in Balranald, Hay and Moulamein on the 9th and 10th May 2024, in addition to further engagement with a range of local Indigenous stakeholders and the wider local community.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

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privacy@awe.gov.au.

☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details	
ABN/ACN	32140108390
Organisation name	Goldwind Australia Pty Ltd
Organisation address	2000 NSW

Referring party details	
Name	Renae Gifford
Job title	Senior Environmental Planner
Phone	0488003877
Email	renaegifford@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

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	612375050
Organisation name	BALDON WIND FARM PTY LTD
Organisation address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

Person proposing to take the action details

Name	Ning Chen
Job title	Chief Executive Officer Goldwind Australia
Phone	(02) 90081715
Email	ningchen@goldwindaustralia.com

Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

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. *

Baldon Wind Farm Pty Ltd has no record of any proceedings under Commonwealth, State to Territory law for the protection of the environment.

Baldon Wind Farm Pty Ltd is an entity which has shareholdings of Omni Windfarms Pty Ltd and Goldwind International Holdings (HK).

Neither Goldwind International (GWI) or Omni Windfarms have been subject to any proceedings under a Commonwealth, State or Territory Law.

Goldwind Australia (GWA) is a subsidiary of GWI and have developed a number of projects which have been referred to Department Climate Change, Energy, the Environment and Water (DCCEEW).

GWA has developed a range of projects that are subject to EPBC approvals and has a positive record of performance under the EPBC approvals, summary notes below.

- Cattle Hill Wind Farm EPBC 2009/4839 – Series of Annual Compliance Reports – National recognition by Clean Energy Council for Innovation – Identiflight Eagle Risk mitigation – 3 Offset areas established, to be registered
- Stockyard Hill Wind Farm EPBC 2016/7746 - Series of Annual Compliance Reports – Offset areas established and addressed by the reporting
- Coppabella Wind Farm EPBC 2017/8129 – Project planning advanced – In consultation with DCCEEW
- Moorabool Wind Farm EPBC 2009/4907 - Not controlled where implemented in accordance with Conditions 1 and 2

- Clarke Creek Wind Farm EPBC 2018/8141 - Project under construction – management plans prepared and approved. The EPBC Approval Holder has been transferred to a new entity as the project has been divested.
- White Rock Wind Farm Stage 2 – EPBC 2018/8156 – Not commenced yet

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

GWA is committed to managing the environment impacts associated with construction and operation of its wind farm interests in Australia and has established and maintains an Environmental Management System (EMS) covering all aspects associated with planning, construction and operation of wind farms for this purpose.

The GWA Environmental Policy applies to all Employees, contractors and workers on GWA projects, and contains the following commitments and intended outcomes:

- Ensure compliance with statutory, regulatory, contractual and other environmental obligations
- Establish, implement, maintain and regularly review an effective, structured Environmental Management System consistent with the framework of ISO 14001:2015
- Promote efficient and responsible use of resources, effective waste management, pollution prevention and protection of the natural environment, heritage and biodiversity
- Establish a framework with annual objectives and targets to measure environmental performance and identify opportunities for improvement to reduce the organisation's environmental footprint
- Deliver relevant and consistent training to staff, suppliers and contractors to educate and strengthen their awareness for their respective environmental obligations and responsibilities whilst under the management and control of GWA
- Undertake environmental risk assessments prior to undertaking activities that may cause harm to the environment and integrate appropriate mitigation measures relative to the identified risk
- Investigate environmental incidents to determine practical corrective actions and the sharing of learnings to minimise the risk of recurrences
- Assess and adopt where appropriate the available technology and innovations that reduce the overall impact of our services across all business streams
- Review annually this Environmental Policy to ensure its alignment and ongoing implementation is consistent with the strategic direction of GW

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	612375050
Organisation name	BALDON WIND FARM PTY LTD
Organisation address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

Proposed designated proponent details

Name	Ning Chen
Job title	Chief Executive Officer Goldwind Australia
Phone	(02) 90081715
Email	ningchen@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

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	32140108390
Organisation name	Goldwind Australia Pty Ltd
Organisation address	2000 NSW
Representative's name	Renae Gifford
Representative's job title	Senior Environmental Planner
Phone	0488003877
Email	renaegifford@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

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	612375050
Organisation name	BALDON WIND FARM PTY LTD
Organisation address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

Representative's name	Ning Chen
Representative's job title	Chief Executive Officer Goldwind Australia
Phone	(02) 90081715
Email	ningchen@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

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

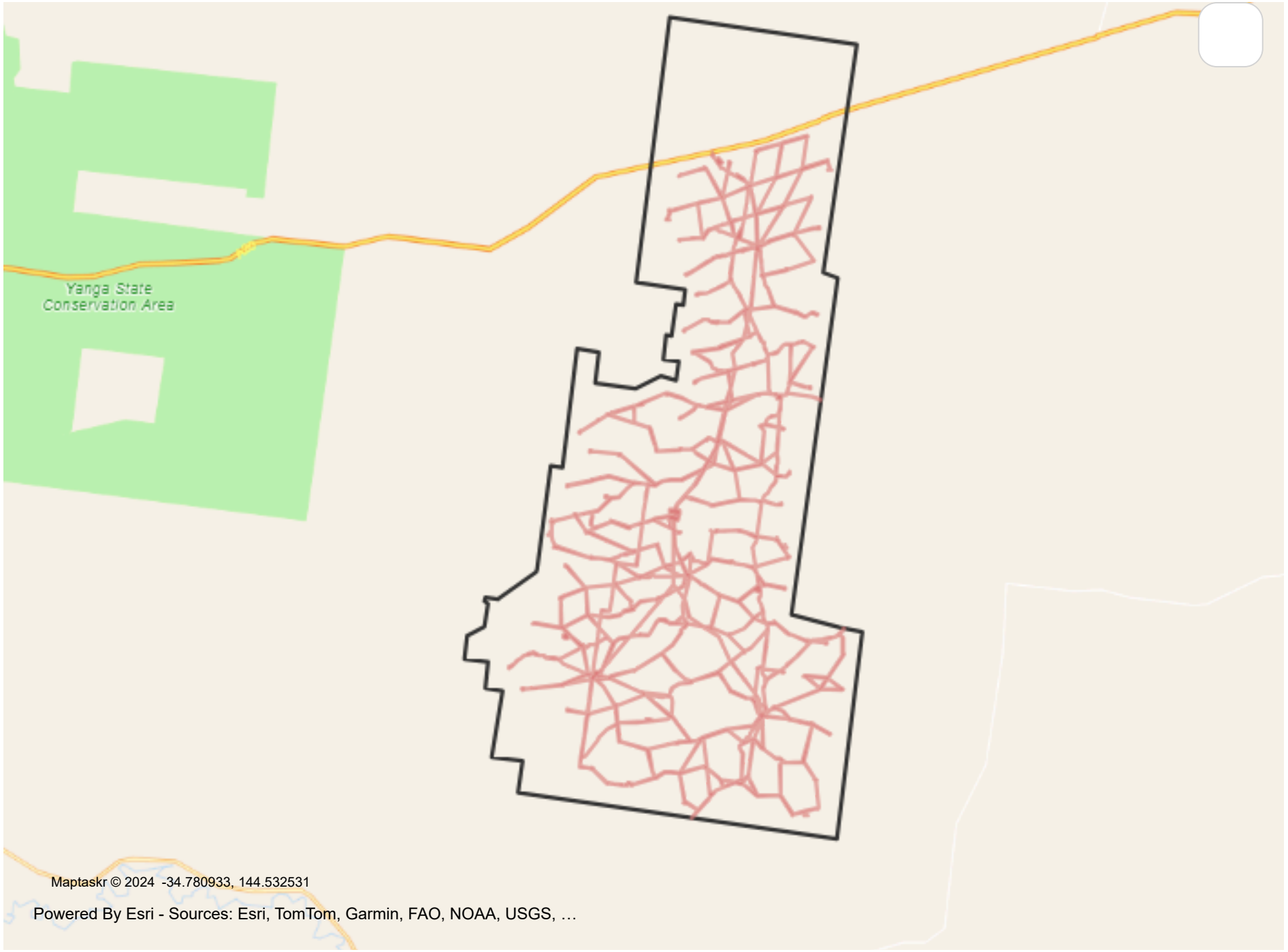
1.4 Payment details: Payment allocation

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


Yanga State
Conservation Area
Maptaskr © 2024 -34.780933, 144.532531
Powered By Esri - Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, …

Project Area: 46362.42 Ha **Disturbance Footprint:** 819.06 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

1543 Tchelery Road, Moulamein, 2733, NSW

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

New South Wales

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 tenure of the Study Area for the proposed development is freehold. The Project area also includes crown land associated with paper roads.

Refer to *Att 1 BWF Lot and DP* attached for complete list of relevant Lot and DP's.

3. Existing environment

3.1 Physical description

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

The Project is in the Riverina-Murry region, with the majority located in the Murray River Local Government Area (LGA) and the northern part in the Hay Shire LGA (*Att 3, Appendix A, A1, page A-1, Regional Features*). The Project area is approximately 40 km north to south and 15 km east to west, covering 46,266 hectares and is comprised of two rural property holdings. The Development corridor for the proposed infrastructure layout comprises of 2,800 ha which is equivalent to 6% of the total subject land.

The property is within the plains country and sits between the Murray River to the south and Murrumbidgee River to the north, mostly avoiding the higher value agricultural zones or the river floodplains. It is also within an area of low-density rural settlement and distant from the larger regional towns as listed below (*Att 2 Section 1, pp 1 [Att2 being the preliminary biodiversity report]*:

- Moulamein, approximately 15 km to the south of the Project
- Balranald, approximately 44 km to the west of the Project
- Hay, approximately 64 km to the northeast of the Project
- Deniliquin, approximately 100km to the southeast of the Project

The Project site is located on land classified as RU1 Primary Production in the Murray River Local Environment Plans. No Biophysical Strategic Agricultural Land (BSAL) occurs within the study area (*Att 2, Section 3.1, pp 5 [Att2 being the preliminary biodiversity report*].

The Sturt Highway and the existing Darlington Point-Balranald 220 kV transmission line pass through the central part of the proposed Project area. There is also a new transmission line proposed to be developed as part of 'Project EnergyConnect'. This new transmission line is likely to follow a similar route to that of the existing line and may provide an alternative connection option for the Project.

The main access to the Project is via the Sturt Highway in the north of the project area and there are three named (*Att 3, Appendix A, A1, p.p A-1)*, unsealed council roads which traverse the Project site (Baldon Road/Dry Lake Road and Keri East Road).

There are a total of 14 residential dwellings within 10 km of a proposed Wind Turbine Generator (WTG) location. All these dwellings have been considered during the design of the initial layout.

Due to the history of grazing with native vegetation being low and sparse. The site generally has good biodiversity values with the native vegetation mapped is in generally good condition. Native saltbush is predominant over the project area. The dominant plant community type is Cotton Bush open shrubland of the semi-arid (warm zone. Exotic species are present onsite include African Boxthorn, Paterson's Curse and Ward's Weed.

The project area is within the South-West REZ. Other renewable energy and transmission developments within 50km of the project include:

- Project EnergyConnect
- Sunraysia Solar Farm
- Limondale Solar Farm
- Junction Rivers Wind Farm
- Keri Keri Solar Farm
- Keri Keri Wind Farm
- Wilan Wind Farm
- Tchelery Wind Farm
- The Plains Wind Farm
-

The Project is located within the Riverina biogeographic region (RIV) and within the Murrumbidgee Sub-Region (RIV02, IBRA7). The Riverina bioregion is in southwest NSW, extending across the State border into central-north Victoria. It extends from Ivanhoe in the Murray Darling Depression Bioregion south to Bendigo, and from Narrandera in the east to Balranald in the west.

The Murray River to the south of the Project, the Murrumbidgee River to the north and the various tributaries within the locality of the Project, flow west from the Highlands in the east across the Riverina plain and ultimately draining to South Australia by the Murray-Darling System.

The Project area is predominantly used for agricultural purposes, specifically for the grazing of sheep (*Att 4, App A.2, p.p A11, Land Use mapping*). Areas of remnant woodland and grassland are also present in isolated patches across the Project area.

Introduced species occur in the area including pigs, rabbits, cats and foxes, along with weed species such as Patterson’s Curse.

There is one National Parks within a 30 km radius of the Project (*Att 2, Section 3.1.2, Page 5*). The following potentially sensitive areas exist in the wider region:

- Yanga National Park (11 km west)
- Kalyarr National Park (37 km southwest)
- Murrumbidgee Valley National Park (50 km northwest)

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

Existing Use

The majority of the Project area is used for grazing, predominantly for sheep (*Att 2, Section 3.1.2, Page 5*). There are a total of 14 residential dwellings within 10 km of a proposed WTG locations. Three of these dwellings (dilapidated uninhabited houses) are owned by the Projects landowners which are within the Project boundary. The remaining 11 residential dwellings or homesteads belong to neighbouring properties.

Proposed Use

The proposed development is a Wind Farm that will consist of up to 180 wind turbine generators (WTGs) with an approximate maximum installed capacity of 1000 MW. The turbines currently available and under consideration are in the range of 7-9MW in output with blade tip heights up to 300 m.

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

The Project site is comprised of flat agricultural land, with minimal elevation change. There are no important or unique values which apply to the Project Area. The Abercrombie Creek (Strahler level 4) passes through the study area west to east (*Att 3, Appendix A, A1, page A-1 Regional Features*). Gunyah Swamp is located within the southern portion of the study area.

As stated in 3.1.1 there are one national park which are within a 30km radius.

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 site is characterized by flat topography approximately 70m AHD with less than 1% slope.

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.

There was a limited site survey undertaken on the 3-4 September 2020 (see *Att 2, Section 2, Page 4*). The purpose of the site visit was to determine the presence of any threatened species or populations, along with the identification and note any habitat features of interest.

An initial Bird and Bat Risk Assessment was completed by Nature Advisory in August 2022 (see *Att 2, Section 2, Page 4)*. It was used to inform bird and bat utilisation surveys, which commenced in winter 2022. The work is ongoing and will support the detailed assessment of collision risk and the development of a bird and bat adaptive monitoring plan as the Project progresses.

A targeted survey program has commenced with threatened owl surveys being undertaken in August 2023 and threatened flora surveys in September 2023 (see *Att 2, Section 2, Page 4)*. Incidental observations of threatened species have also been recorded through these targeted surveys. The targeted survey program is ongoing with additional surveys planned for October, November and December 2023, in consultation with agencies as required (see *Att 2, Section 2, Page 4*).

Plant community types (PCTs) are the finest level in the NSW vegetation classification hierarchy. They identify and describe recurring patterns of native plant species assemblages in relation to environmental conditions such as soil, temperature, moisture and other factors. Their floristic composition is characterised by frequently co-occurring species, including combinations of trees, shrubs and/or ground cover plants. The following PCTs have been recorded within the development footprint (*see Att 2, Section 3.3, Page 7-8) (see Att 5, App A.3, pp A-111, PCT Mapping*):

- PCT 13 - Lignum woodland wetland in the inner floodplains in the semi-arid (warm) climate zone
- PCT 15 - Black Box open woodland wetland with chenopod understorey mainly on the outer floodplains in southwestern NSW (mainly Riverina Bioregion and Murray Darling Depression Inland Floodplain Woodlands)
- PCT 17 - Lignum shrubland wetland of the semi-arid (warm) plains (mainly Riverina Bioregion and Murray Darling Depression Bioregions
- PCT 28 - White Cypress Pine open woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone
- PCT 46 - Curly Windmill Grass - speargrass - wallaby grass grassland on alluvial clay and loam on the Hay Plain, Riverina Bioregion
- PCT 57 - Belah/Black Oak - Western Rosewood - wilga woodland of central NSW including the Cobar Peneplain Bioregion
- PCT 153 - Black Bluebush low open shrubland of the alluvial plains and sandplains of the arid and semi-arid zones
- PCT 157 - Bladder Saltbush shrubland on alluvial plains in the semi-arid (warm) zone including Riverina Bioregion
- PCT 159 - Old Man Saltbush shrubland mainly of the semi-arid (warm) climate zone (south western NSW)
- PCT 160 - Nitre Goosefoot shrubland wetland on clays of the inland floodplains
- PCT 163 - Dillon Bush (Nitre Bush) shrubland of the semi-arid and arid zones
- PCT 164 - Cotton Bush open shrubland of the semi-arid (warm) zone

The total area of each PCT within the disturbance corridor is yet to be fully determined and will be provided in the Biodiversity Assessment Method (BAM) to be prepared for the EIS.

Desktop Assessment

The Project is located within the Riverina biogeographic region (RIV) and within the Murrumbidgee Sub-Region (RIV02, IBRA7). The Riverina bioregion is in southwest NSW, extending across the State border into central-north Victoria. It extends from Ivanhoe in the Murray Darling Depression Bioregion south to Bendigo, and from Narrandera in the east to Balranald in the west. Vegetation ranges from river red gums along river channels to saltbush on the plains. There are several threatened species of both plant and animal species in this bioregion.

The property is within the plains country and sits between the Murray River to the south and Murrumbidgee River to the north, mostly avoiding the higher value agricultural zones or the river floodplains (*Att 2, Section 1.1 pp 1*).

The desktop search of the Protected Matters Search Tool was undertaken for the study area. The full results of the search are provided in Appendix B of the attached NGH *Preliminary Biodiversity technical report* (October 2023). (*Att 2, Section 3.2, pp 6-7). (Att 8, Appendix B, pp B-1 - B X111) [Appendix B being results of Protected Matters Search Tool]*

Those species which were determine as potentially being present on site are listed below:

Threatened Ecological Community

- Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
- Grey Box (*Eucalyptus microcarpa)* Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
- Weeping Myall Woodlands
- Natural Grasslands of the Murray Valley Plains
- Plains Mallee Box Woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions

Birds:

- *Botaurus poiciloptilus (*Australasian Bittern)
- *Aphelocephala leucopsis* (Southern Whiteface)
- *Calidris ferruginea (*Curlew Sandpiper*)*
- *Falco hypoleucos* (Grey Falcon)
- *Grantiells picta* (Painted Honeyeater)
- *Leipoa ocellate* (Malleefowl)
- *Numenius madagascariensis* (Eastern Curlew)
- *Pedionomus torquatus (*Plains-wanderer)
- *Pezoporus occidentalis (*Night Parrot*)*
- *Lathamus discolor* (Swift Parrot)
- *Polytelis swainsonii* (Superb Parrot)
- *Rostratula australis (*Australian Painted Snipe)

- *Neophema chrysostoma* (Blue-Winged Parrot)

Fish

- *Maccullochella macquariensis (Trout Cod)*
- *Maccullochella peeli* (Murray Cod)

Reptiles

- *Heniaspis damelii* (Grey snake)

Amphibians

- *Litoria raniformis* (Growling Grass Frog/Southern Bell Frog)

Mammals

- *Nyctophilus corbeni* (Corben's Long-eared Bat)
- *Phascolarctos cinereus* (Koala)

Plants

- *Austrostipa metatoris* (A spear-grass)
- *Austrostipa wakoolica* (A spear-grass)
- *Solanum karsense* (Menindee Nightshade)
- *Brachyscome papillosa* (Mossgiel Daisy)
- *Lepidium monoplocoides* (Winged Pepper-cress)
- *Maireana cheelii* (Chariot Wheels)
- *Swainsona murrayana* (Slender Darling-pea)

Three species have been recorded within the Project Boundary to date:

- Maireana cheelii (Chariot Wheels)
- Circus assimilis (Spotted Harrier)
- Pedionomus torquatus (Plains-wanderer)
- *Brachyscome papillosa* (Mossgiel Daisy)
- *Lepidium monoplocoides* (Winged Pepper-cress)

Ground Validated Vegetation

The results of the ground validation of vegetation types to date has found that the mapped communities were generally accurate. Some areas mapped as exotic do contain native saltbush (planted in windrows).

The dominant vegetation communities onsite are provided in the attached tables.

PCT 46 is associated with the EPBC Act listed Threatened Ecological Community (TEC) Natural Grasslands of the Murray Valley Plains. Floristic plots (yet to be completed) are required to determine if PCT 46 meets the key diagnostic criteria of the TEC. No other EPBC Act listed TECS are associated with the PCTS on site (*Att 2, Section 3.3, p.p 8*).

Confirmed species assemblages

As of September 2023, one year of bird and bat utilisation surveys has been completed by Nature Advisory, in addition to broader ecological surveys, targeted surveys and other environmental investigations by NGH.

EPBC Act listed entities now confirmed to be present include (*Att 2, Section 3.5, p.p 9*):

Flora:

- *Brachyscome papillosa* (Mossgiel Daisy)
- *Maireana cheelii* (Chariot Wheels)
- *Lepidium monoplocoides* (Winged Peppercress)

Fauna:

- *Aphelocephala leucopsis* (Southern Whiteface)
- *Pedionomus torquatus* (Plains-wanderer)
- *Neophema chrysostoma* (Blue-winged Parrot)
- *Gelochelidon nilotica* (Gull-billed Tern)
- *Lophochroa leadbeateri* (Pink Cockatoo)
- *Litoria raniformis* (Southern Bell Frog).

Further field surveys targeting threatened species and those at risk of wind turbine collision will be conducted in accordance with the Biodiversity Assessment Method (BAM) to inform an EIS.

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

The current vegetation is low and sparse Saltbush, with some limited agriculture uses outside pasturing. Large portions of the site are mapped as PCT 164 Cotton Bush open shrubland of the semi-arid (warm) zone. No Biophysical Strategic Agricultural Land (BSAL) occurs within the study area (see *Att 2 , Section 3.1.1, Page 5*). Provided in Table 3-2 of Att 2 BWF Preliminary Biodiversity Assessment Report is a list of PCTs present within the study area and approximate hectares of each.

The study area sits within the Shepparton Formation. Much of the site is classified as 'unconsolidated to poorly consolidated, mottled, variegated clay, silty clay with lenses of polymictic, coarse to fine sand and gravel; partly modified by pedogenesis, includes intercalated red-brown palaeosols'.

Soil profiles from the local area (eSPADE v.21) have shown that erosion/land degradation at the site is moderate, with minor to severe wind erosion and minor scald erosion. No salting was evident in any of the soil profiles. Most profiles identified the site as being well drained with moderate runoff (see *Att 2, Section 3.1.2, Page 5*).

Current, Sharing and Enabling Environmental Data (SEED), mapping shows the Project area primarily comprised of Land and Soil Capability Class 5 soil with smaller areas of Class 4 occurring through the site, and Class 6 soil located alongside watercourses.

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.

There are no Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

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

A desktop search of the Aboriginal Heritage Information Management System (AHIMS) database and relevant registers was carried out using a 10 km buffer to the Project Boundary. There are culturally significant sites within the greater area, but that this information cannot be made publicly available due to cultural sensitivity reasons'.(refer *Att 10 AHIMs Search Survey_sensitive*).

An Aboriginal Cultural Heritage Assessment (ACHA) and Archaeological Assessment are underway as part of the EIS preparation, including consultation with Aboriginal Community stakeholders. Activities related to the Aboriginal Cultural Heritage Assessment will be carried out in accordance with the following guidelines:

• Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010)

• Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)

• Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (DECCW, 2010)

A number of additional sites have been identified through field work undertaken to date and will be reported in the EIS.

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. *

A fourth order stream and several 1,2 and 3rd order streams bisect the site. Abercrombie Creek and a tributary off Twelve Mile Creek that pass through the study area are mapped as Key Fish Habitat per NSW Department of Primary Industry (see *Att 2, Section 3.1.2 Page 5) (Att 3, Appendix A1, p.p A-1, Regional Features)*. NSW Biodiversity Values Mapping that includes the site, corresponds to the riparian corridor along Abercrombie Creek (see *Att 2, Section 3.1.2 Page 5*). The overall terrain of the study area is relatively flat, with an elevation of approximately 80 metres Above Sea Level (ASL) and elevation variation of less than 5m across the study area (see *Att 2, Section 3.1.2 Page 5*).

Initial assessments do not indicate that the land is flood prone (see *Att 2, Section 3.1.2 Page 5*). Land immediately adjacent to the northern boundary of the project area is identified as forming part of the Lowbidgee floodplain (Uara Creek), which is subject to periodic inundation.

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

EPBC Act section	Controlling provision	Impacted	Reviewed
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 areas within the Project Area or in proximity to the Project 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 areas of national heritage within the Project Area or in proximity to the Project 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.

Direct impact	Indirect impact	Ramsar wetland
No	No	Banrock Station Wetland Complex
No	No	Hattah-Kulkyne Lakes
No	No	Riverland
No	No	The Coorong, and Lakes Alexandrina and Albert Wetland

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 wetland areas within or near the project area. The project area is 100-150 kilometres upstream from the nearest Ramsar site at Hattah-Kulkyne Lakes (Ramsar site 16), 200-300 kilometres upstream from the Riverland (Ramsar site 29) and 300 – 400 kilometres upstream of the Banrock Station wetland complex (Ramsar site 63), and the Coorong, and lakes Alexandrina and Albert wetland (Ramsar site 25).

No direct or indirect impacts to Ramsar Wetlands are considered likely to occur because of the action given the large distance between the Project and identified wetlands. Potential impacts from the proposed action are anticipated to be limited and not result in any direct or indirect impacts to the hydrological regime or ecological character of the identified wetlands. Therefore, direct and/or indirect impacts on this listed item are considered unlikely.

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
Yes	Yes	Aphelocephala leucopsis
No	No	Aprasia parapulchella

Direct impact	Indirect impact	Species
No	No	Austrostipa metatoris
No	No	Austrostipa wakoolica
No	No	Botaurus poiciloptilus
Yes	Yes	Brachyscome papillosa
No	No	Calidris ferruginea
No	No	Climacteris picumnus victoriae
Yes	Yes	Falco hypoleucos
No	No	Galaxias rostratus
No	No	Grantiella picta
No	No	Hemiaspis damelii
No	No	Lathamus discolor
No	No	Leipoa ocellata
Yes	Yes	Lepidium monoplocoides
Yes	Yes	Litoria raniformis
Yes	Yes	Lophochroa leadbeateri leadbeateri
No	No	Maccullochella peelii
Yes	Yes	Maireana cheelii
No	No	Melanodryas cucullata cucullata

Direct impact	Indirect impact	Species
Yes	Yes	Neophema chrysostoma
No	No	Nyctophilus corbeni
Yes	Yes	Pedionomus torquatus
No	No	Rostratula australis
No	No	Solanum karsense
No	No	Stagonopleura guttata
No	No	Swainsona murrayana

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
No	No	Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
Yes	Yes	Natural Grasslands of the Murray Valley Plains
No	No	Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions
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. *

The construction and operation of the project will result in impacts on native vegetation and native fauna.

In terms of construction, the project will require the clearing of native vegetation to provide for access tracks, substations, office facilities and hard stands for the wind turbines, along with some minor earthworks and reshaping. These activities may result in a direct and long-term impact on the occurrence, extent and coverage of native vegetation, including threatened species and ecological communities. Clearance of native vegetation can also lead to indirect impacts including the loss of feeding, refuge and breeding habitat for native fauna, particularly threatened fauna, may also occur, including habitat fragmentation and the loss of habitat connectivity.

Construction related direct and indirect impacts may also include introduction of noxious weeds, sedimentation, erosion, impacts to water quality, light and noise pollution and animal strike from vehicles.

Operational direct impacts to avifauna may occur due to collision with turbines. Depending on local site usage, some species represent higher risk, having characteristics that elevate their risk profile such as potentially important areas of habitat nearby, susceptibility to known local threats, flocking in large numbers, poor manoeuvrability and likely to forage within the rotor sweep area.

Further surveys and specific evaluation of the Project's disturbance footprint and operational parameters are underway to complete the assessment of biodiversity impacts for these and other species confirmed or assumed to occur onsite. Threatened species and ecological communities listed under the EPBC Act that have been identified as occurring or likely to occur in the project area (see *Att2, Section 4.2 page 12-13)* (see *Att 5, Appendix A.3, p.p A-111*) (see *Att 7, Appendix A.4, p.p A-IX (redacted)*) and that will be subject to impacts as a result of the proposed action include:

TECs

Natural Grasslands of the Murray Valley Plains (dependent on further floristic surveys to confirm presence). – Direct Impact via vegetation clearance

Flora:

Brachyscome papillosa (Mossgiel Daisy) Direct and Indirect impacts due to land clearing

Maireana cheelii (Chariot Wheels) - Direct and Indirect impacts due to land clearing

Lepidium monoplocoides (Winged Peppercress) - Direct and Indirect impacts due to land clearing

Fauna:

Falco hypoleucos (Grey Falcon) Direct and Indirect impacts due to land clearing and potential for bird strike from wind turbine

Pedionomus torquatus (Plains-wanderer) Direct and Indirect due to land clearing

Aphelocephala leucopsis (Southern Whiteface) Direct and Indirect impacts due to land clearing and potential for bird strike from wind turbine

Gelochelidon nilotica (Gill billed tern) Direct and Indirect impacts due to land clearing and potential for bird strike from wind turbine

Neophema chrysostoma (Blue-winged Parrot) Direct and Indirect impacts due to land clearing and potential for bird strike from wind turbine

Lophochroa leadbeateri (Pink Cockatoo) Direct and Indirect impacts due to land clearing and potential for bird strike from wind turbine

Litoria raniformis (Southern Bell Frog) Direct and Indirect impacts due to land clearing and creek crossings

Threatened species and ecological communities which have not been identified on the project site to date through survey, but could potentially be present include (see *Att2, Table 3-1, p.p.6) (see Att8, Appendix B, p.p B-1 - X111*):

TECs

Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions - no direct or indirect impact

Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia - no direct or indirect impact

Weeping Myall Woodland - no direct or indirect impact

Natural Grasslands of the Murray Valley Plains Direct Impact via vegetation clearance

Plains Mallee Box Woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions - no direct or indirect impact

Flora

Austrostipa metatoris (A spear grass) - no direct or indirect impact

Austrostipa wakoolica (A Spear grass)- no direct or indirect impact

Solanum karsense (Menindee Nightshade) - no direct or indirect impact

Swainsona murrayana (Slender Darling Pea)- no direct or indirect impact

Swainsona plagiotropis (Red Darling Pea)- no direct or indirect impact

Fauna

Aprasia parapulchella (Pink legless lizard) - no direct or indirect impact

*Botaurus poiciloptilu*s (Australasian Bittern) - no direct or indirect impact

Calidris ferruginea (Curlew Sandpiper) - no direct or indirect impact

Grantiella picta (Painted Honeyeater) - no direct or indirect impact

Hemiaspis damelii (Grey Snake) - no direct or indirect impact

Lathamus discolor (Swift Parrot) - no direct or indirect impact

Leipoa ocellata (Mallee Fowl) - no direct or indirect impact

Maccullochella macquariensis (Trout Cod) - no direct or indirect impact

Maccullochella peeli (Murray Cod) - no direct or indirect impact

Nyctophilus corbeni (Corben's Long-eared Bat) - no direct or indirect impact

Phascolarctos cinereus (Koala) - no direct or indirect impact

Polytelis swainsonii (Superb Parrot) - no direct or indirect impact

Pezoporus occidentalis (Night Parrot) - no direct or indirect impact
Rostratula australis (Australian Painted Snipe) - no direct or indirect impact

The Baldon Wind Farm is currently progressing layout design and investigations - with the final design and therefore impact footprint yet to be determined. As discussed, the presence of threatened species and ecological communities have been confirmed on the site. Direct and indirect impacts are considered likely without the implementation of avoidance or mitigation measures.

Once the final development footprint has been confirmed, EPBC Act listed threatened species and ecological communities would be assessed against the *Significant Impact guidelines 1.1 Environment Protection and Biodiversity Conservation Acy 1999* as part of the BDAR that will be prepared for the project.

In addition to the threat of direct loss of habitat from windfarm construction, wind farm impacts on birds and bats may arise from:

- Direct collision of birds and bats with operating wind turbine blades or towers
- Disturbance effects that exclude birds and bats from their habitat
- Barrier effects that limit bird and bat movements between essential resources, such as foraging and roosting areas.

Seasonal surveys are ongoing to inform the project design and assessment.

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

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Construction activities can lead to direct and indirect impacts which include sedimentation and erosion, water quality impacts, noise and light pollution, weed infestation and vehicle collisions with wildlife. Collision with turbine with birds and bats are the primary operational impact associated with wind farms.

In the absence of any avoidance or mitigation measures implemented, project related impacts may result in a significant impact to threatened species and ecological communities where they are present within the development corridor.

Currently there are six fauna species, three flora species and one TEC which have either been confirmed to be present or are considered likely to be present. Impacts to the local population of these is possible depending on their extent and the mitigation measures to be implemented. With reference to *Matters of National Environmental Significance - Significant Impact Guidelines 1.1,* due to the early stage of design and ongoing biodiversity surveys it is considered appropriate to undertake a precautionary approach and consider the potential impacts to be significant.

Ecological targeted surveys have been initiated and are continuing along with bird and bat utilisation studies to support the EIS.

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

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The proposed action involves the construction and operation of up to 180 wind turbines with potential disturbance footprint of 819.06ha. Whilst the project is at the early stages and targeted ecological surveys are ongoing, given the size, nature and scale of the project it is possible that the proposed action could result in a significant impact to threatened species or ecological communities listed as MNES under the EPBC Act. It is for this reason that the proposed action is considered to be a controlled action.

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. *

In terms of vegetation clearing, wind farms can usually maintain quite discrete linear disturbance footprints, for tracks, cabling, turbine sites and hard stands – particularly in low relief terrain such as at Baldon Wind Farm. As such the ability to minimise clearing and to microsite infrastructure to avoid higher value native vegetation where there is a suitable alternative is relatively high.

The detailed design will consider the ecological constraints within the assessment corridor to maximise the avoidance and minimisation principles.

The construction and operation of the wind farm will be undertaken in accordance with several environmental management plans, (including vegetation management, erosion and sediment control, water quality and weed and pest), which will be developed to minimise environmental impacts. These plans have not been prepared. These are anticipated to be prepared as post-approval management plans .

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

In terms of the assessment pathway, native vegetation clearing will trigger the requirement for the Biodiversity Development Assessment Report (BDAR) utilising the NSW Biodiversity Assessment Method. Demonstrating that avoidance has been considered as much as is feasible for the Project will be required. This will be an iterative process, as more site data is collected, and the Project layout is refined. Impacts that cannot be

avoided will generate an offset obligation.

Areas of least constraint are those highly modified and exotic (non-native) areas. These are areas that generate low or no need for further assessment and low or no offset obligation.

As the establishment of physical stewardship site to address the biodiversity offset obligation is usually the most preferred option for large scale projects, the Applicant will progress these investigations at a high level, in line with the Biodiversity Develpment Assessment Report (BDAR) assessment. Detailed stewardship assessment (Biodiversity Stewardship Assessment Reporting; BSSAR) is recommended to be contracted to consultants not involved in the BDAR assessment to avoid any perceived conflict of interest. It is noted that the BAM is endorsed by the Commonwealth as able to calculate and meet Commonwealth offset obligations as well. Offset requirements will be satisfied as per the legal requirements at the time of delivery.

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	Gallinago hardwickii
No	No	Gelochelidon nilotica

Direct impact	Indirect impact	Species
No	No	Motacilla flava
No	No	Myiagra cyanoleuca
No	No	Numenius madagascariensis

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. *

Surveys to date have not identified the listed migratory species. It is not expected that listed migratory species occur on site regularly or in large numbers and as such potential direct or indirect impacts are considered unlikely.

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 development is not a nuclear action.

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. *

The proposed development is not within, nor does not impact a Commonwealth Marine 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 proposed development will not result in any direct or indirect impacts to the Great Barrier Reef

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 development will not impact on a water resource in relation to large coal mining development or coal seam gas.

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.

—

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. *

The proposed development is not located on Commonwealth land nor will it result in any direct or indirect impact to Commonwealth land

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.

—

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. *

The proposed development will not impact any Commonwealth heritage places or overseas

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:

- Threatened Species and Ecological Communities (S18)

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)
- 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. *

Alternatives which were considered as part of the project development included alternate location of the project, alternate turbine locations and consideration of the project not progressing.

There are a range of site options in south-west NSW that are potentially suitable to physically host wind farm infrastructure, however, many of these either lack the appropriate wind resource, are not available to host a project or are more distant from suitable transmission lines with sufficient capacity to export energy to the NEM.

This specific site has been selected on the following basis:

- Wind: The wind resource has been assessed as excellent using modelled data and on-site wind monitoring for 2 years.
- Land: The landowner supports the Project and has entered into an agreement for the development.
- Environment: The flat site and current agricultural use mean the design can be flexible to avoid key sensitive areas.
- Community: The Murray River and Hay Shire councils are supportive and recent community engagement has indicated there is overarching support for the Project. Low rural settlement density and the ability to provide large setback distances to neighbouring dwellings will reduce potential for community impacts
- Planning: The State Government and local Shire councils are supportive and there is a well-defined planning approvals pathway to assess the Project
- NEM: An existing transmission line crosses the subject land which provides access to the NEM. The *Project EnergyConnect* project currently under construction will provide extra grid capacity for the project to connect into.
- Design: The development of the EIS and associated studies has informed the current site design to be produced that seeks to provide a viable project while minimizing any potential impacts to the environment or the local and regional community.

The project has been progressed through the integration of social, environmental, heritage, and economic considerations while developing the Project to minimise potential impacts and conserve or enhance the beneficial outcomes for the local community. This strategy aligns with the concepts of *Australia's National Strategy for Ecologically Sustainable Development.* The final disturbance footprint will be included within the EIS and further refined with the conclusion of the supporting technical studies (including biodiversity, Aboriginal heritage, visual amenity and noise and vibration).

As part of the ongoing project refinement, the following principles will be followed:

- Minimisation of vegetation clearance
- Utilise areas already disturbed where feasible
- Minimise both direct and indirect impacts to neighbours and other sensitive receivers
- Avoid and protect items of Aboriginal cultural heritage
- Flexible design approach to respond to environmental constraints as they are identified

The do-nothing option would forego the energy generation benefits of the project as well as supporting the Australian transition to renewables. The benefits to the local community and economy through direct employment and further flow on effects would also not be realised.

5. Lodgement

5.1 Attachments

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 9 - Consultation Attachment_April24.pdf Summary of the outcomes of consultation undertaken to date.	15/04/2024	No	High
#2.	Link	Aboriginal Cultural Heritage Consultation Requirements for Proponents https://www.environment.nsw.gov.au/research-and-..			High
#3.	Link	Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (DECCW, 2010) https://www.environment.nsw.gov.au/research-and-..			High
#4.	Link	Community Engagement Guidelines for The Australian Wind Community https://assets.cleanenergycouncil.org.au/documen..			High
#5.	Link	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011 https://www.environment.nsw.gov.au/research-and-..			High
#6.	Link	Social Impact Guidelines February 2023 https://www.planningportal.nsw.gov.au/sites/defa..			High
#7.	Link	Undertaking Engagement Guidelines for State Significant Projects https://www.planning.nsw.gov.au/sites/default/fi..			High
#8.	Link	Wind Energy Guidelines for State Significant wind energy development. December 2016			High

		https://www.planning.nsw.gov.au/sites/default/fi..	
#9.	Link	Wind Energy Noise Assessment Bulletin December 2016 https://www.planning.nsw.gov.au/sites/default/fi..	High
#10.	Link	Wind Energy Visual Assessment Bulletin December 2016 https://www.planning.nsw.gov.au/sites/default/fi..	High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1 BWF Lot and DP.pdf Details of Lot and DP relevant to the Project Area	19/12/2023	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 3 - BWF Preliminary Biodiversity Report App A1.pdf Appendix A1 of Preliminary Biodiversity technical Report providing regional context	03/04/2024	No	High
#2.	Document	Att 4 - BWG Preliminary Biodiversity Report App A2.pdf Appendix A2 of Preliminary Biodiversity technical Report - Landuse	03/04/2024	No	High
#3.	Document	Att 5 - BWF Preliminary Biodiversity Report App A3.pdf Appendix A3 of Preliminary Biodiversity technical Report - PCTs	03/04/2024	No	Medium
#4.	Document	Att 6 - BWF Preliminary Biodiversity Report App A4.pdf Appendix A4 of Preliminary Biodiversity technical Report - Threatened Species	03/04/2024	Yes	Medium
#5.	Document	Att 7 - BWF Preliminary Biodiversity Report App App A4_redacted.pdf Appendix A4 of Preliminary Biodiversity technical Report - Threatened Species (redacted)	03/04/2024	Yes	Medium
#6.	Document				

		Att 8 - BWF Preliminary Biodiversity techncial App B.pdf Appendix B Preliminary Biodiversity technical Report - EPBC Listed Species	03/04/2024	No	High
#7.	Document	Att2 - BWF Preliminary biodiversity technical report Final.pdf Preliminary Biodiversity technical report for the Baldon Wind Farm	03/04/2024	No	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 10 AHIMs Search Results_sensitive.pdf Results of AHIMs search previously undertaken. Not for public due to cultural sensitivities.	22/07/2020	Yes	Medium
#2.	Link	Aboriginal Cultural Heritage Consultation Requirements for Proponents https://www.environment.nsw.gov.au/research-and-..			High
#3.	Link	Aboriginal Cultural Heritage Consultation Requirements for Proponents https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#4.	Link	Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (DECCW, 2010) https://Code of Practice for Archaeological Inve..			High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	32140108390
Organisation name	Goldwind Australia Pty Ltd
Organisation address	2000 NSW
Representative's name	Renae Gifford
Representative's job title	Senior Environmental Planner
Phone	0488003877
Email	renaegifford@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

☑ 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, **Renae Gifford of Goldwind Australia 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	612375050
Organisation name	BALDON WIND FARM PTY LTD
Organisation address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000
Representative's name	Ning Chen
Representative's job title	Chief Executive Officer Goldwind Australia
Phone	(02) 90081715
Email	ningchen@goldwindaustralia.com
Address	Level 25, Tower 1, International Towers Sydney, 100 Barangaroo Ave, Barangaroo NSW 2000

☑ 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, **Ning Chen of BALDON WIND FARM 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, **Ning Chen of BALDON WIND FARM 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. *