Bashan Wind Farm

Application Number: **01761** Commencement Date: **05/04/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Bashan 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 *

01/03/2026

1.1.4 Estimated end date *

01/01/2060

1.2 Proposed Action details

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

The Bashan Wind Farm (the Proposed Action) is the development and operation of a renewable energy project comprising a wind farm and battery energy storage, with a total generation capacity of up to 450MW.

The Proposed Action includes the infrastructure required to access, construct, operate, maintain, and decommission the wind farm and the associated ancillary infrastructure, buildings and works to connect the project to the NEM, generate renewable energy, and transmit electricity into the local electricity network. Direct access to the electricity grid is via the TasNetworks 220 kV overhead powerline which crosses the site; the grid has capacity to receive the maximum generation capacity of the Proposed Action with no major line augmentation works.

Development of the Proposed Action is subject to change based on turbine model selection, completion of studies required for the Environmental Impact Statement (EIS), and feedback from the community. The indicative layout is 56 turbines and 3 substations, with a generating capacity of 434MW (max. 450MW). The final layout to be submitted for approval is not expected to be substantially different to the one being referred but may require adjustments post-completion of further studies and feedback from community and regulatory stakeholders.

Location and Land Uses

The Proposed Action is in a relatively remote part of the Central Highlands, south of the existing but Proposed Action unrelated, Cattle Hill Wind Farm (CHWF). Main land uses are farming (grazing), forestry, recreational hunting and fishing, and hydroelectric power generation.

Land secured for the Proposed Action (the 'Project Area') comprises approximately 9,467 hectares of private freehold land held in 5 seperate rural holdings (**Figures 1 and 2, Att_1_Land Tenure**). The 5 participating landowners include everyone living in the immediate area affected by the Proposed Action. There are also small sections of Crown Land (e.g. reserved roads and casements).

The Proposed Action comprises two distinct areas, referred to as 'Bashan South' (WTGs 1 to 37) and 'Bashan South' (WTGs 38) in this Referral document (**Figure 1, Att_2_General Location of Bashan Wind Farm**).

Access

One main access point is to be developed for component delivery and construction; 'Bashan Road (northern access point)'. Two existing accesses via Glenmark (southern access) and Bashan Roads (eastern access) provide convenient access to/around the site for light vehicles and will not be utilised for construction deliveries.

Activities associated with the Proposed Action

The Proposed Action includes the construction, operation, and eventual decommissioning activities such as native vegetation clearing, ground and rock excavation, the construction of wind turbine foundations and hard stand areas, the construction of access roads/laydown areas, and the construction of ancillary infrastructure.

Construction phase aspects include:

- Creation of component delivery access and an internal road network within Bashan North;
- Widening of existing internal roads and creation of stretches of new road within the Bashan South;
- Installation of drainage and stormwater management measures;

- Earthworks and removal of vegetation;
- Excavation of turbine foundations and creation of turbine hardstands;
- Concrete batching;
- Rock crushing;
- Progressive rehabilitation; and
- Ongoing rehabilitation management post-construction.

Construction activities will cause a direct impact to native vegetation through clearing and earthmoving. Indirect impacts to areas of retained native vegetation communities and habitats may occur through temporary changes to light, noise and hydrology during construction.

Infrastructure

Wind Turbine Generators

The Project will use horizontal-axis turbines comprised of the following components:

- A concrete foundation (hardstand approx 60m x 80m) and tower made of steel sections bolted together;
- A nacelle at the top of the tower to house the generator and to which the rotor is attached (fitted with the yaw system and cooling system;
- A rotor hub fitted with turbine blades, usually three with pitch system to allow operational adjustments; and
- Electrical and communications cabling (generally underground) between the turbine, substation.

Battery Energy Storage System (BESS)

The BESS design is to be guided by the scale of storage needed for the Project, system requirements, available technology and its reliability, and commercial aspects. It is anticipated that the facility could have a capacity of approx 200-400MWh and be located near the substation, or multiple small BESS connected to all or a subset of wind turbines and located on the turbine hardstand.

IdentiFlight

A full coverage IdentiFlight (IDF) system is included in the Proposed Action which includes a next generation version of the system installed at CHWF with improved tracking capabilities.

Ancillary Infrastructure

Supporting infrastructure and associated works including internal access tracks connecting the various proposed action elements and facilitating construction and operational activities, car parking, wind monitoring masts, concrete batching plants, crushing facilities, construction laydown areas, and construction and operational compounds including site office and maintenance and storage facilities and security fencing.

Summary of key infrastructure

- Creation of access, widening of existing internal forestry roads, and creation of new internal roads.
- Up to 56 wind turbines (rated capacity of up to 8 MW) and hardstands (**Att_7_Turbine Product Specifications Brochure**).
- One main substation, and two switching stations.
- A BESS, located close to the main substation.

- Underground cabling to connect groups of turbines to the main substation (or BESS) and switching stations.
- A permanent Operations and Maintenance Compound including warehousing for components and consumables and storage for blades.
- Three 130m Meteorological masts.
- An IdentiFlight eagle collision avoidance system including up to 30 IdentiFlight stations.
- Temporary construction facilities and compounds.

Infrastructure Layout

The layout (**Figure 1, Att_2**) is guided by wind modelling, listed species habitat, proximity to TasNetworks infrastructure, anticipated site ground conditions and constructability, setback to residential dwellings of non-participants, etc.

Of relevance to MNES, investigations thus far have included two years of eagle utilisation surveys, over two years of seasonal bird studies, bioacoutsic recordings and wildlife camera surveys, and the GPS tracking of eagles from two separate pairs which utilise nests located just inside the northern boundary of Bashan South, and outside of the eastern boundary of Bashan South respectively.

The Development Footprint can't be confirmed at this stage, and some aspects of the Proposed Action have not yet been finalised, the two major aspects being the selection of the turbine model(s) and the BESS inclusion and sizing. The location of turbines and infrastructure is also subject to change during the preparation of the Environmental Impact Statement (EIS) based on the findings of studies/investigations done in response to the Project Specific Guidelines (PSGs) for the EIS. The PSGs will not be received by BWF until after the Ministers (or Delegate) determination of the Proposed Action as a controlled action (or not a controlled action) has been made; a Bilateral Agreement assessment approach is requested and preferred by BWF.

Once the PSGs are received, layout development will continue in tandem with the completion of studies required for the EIS, and a final layout for approval will be submitted for assessment as part of the Development Application.

Turbine Model and Capacity

Turbines will be manufactured, supplied and installed by Goldwind, who intends to provide operation and maintenance services for the Project life. Four turbine models with capacities of between 6.0 MW and 8.0 MW are being reviewed and selection of a turbine model (or combination) is pending. Supporting maps in this Referral are based on an indicative layout using a 7.8MW turbine. Regardless of model, the final layout is not expected to be substantially different, however the positioning and spacing between turbines would be slightly different for each different turbine/combination of turbines.

The turbines under consideration are larger than those at Cattle Hill Wind Farm (CHWF; EPBC 2009/4839), which allows for a more efficient wind farm, with fewer turbines and hardstands, resulting in significantly less disturbance to the environment. By way of comparison, the CHWF generation capacity is 144.5 MW which required 48 turbines of 3.0 MW and 3.4 MW rated capacity, and 48 associated turbine hardstands. To generate the equivalent electricity output using 6.0 MW turbines (the lower capacity range of the turbines under consideration) would require only 24 turbines and hardstands, or if using 8.0 MW turbines (the lower capacity range of the turbines under consideration), only 18 turbines and hardstands would be needed.

Construction Timeline

Bashan Wind Farm will require approximately 36 months to construct from commencement of works to practical completion.

Transport of Components from Port to Site

Two viable routes have been identified for the transport of oversized components from Bell Bay. One route via Miena/Marlborough highway appears viable for blade delivery, but can't be used for the tower sections, nacelles, and other heavy components. The preferred transport route for blades and towers/heavy components is the route established and used for the CHWF in 2019. This route required significant upgrades to Waddamana Road to accommodate the 71m blades and heavy component deliverables used for the CHWF. Waddamana Road has very low vehicle usage and discussions are underway with the Central Highlands Council for the upgrade of the road to accommodate larger component deliveries that will be required for the Project.

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? *

Planning Pathway and Environmental Impact Assessment (EIA) Process

The Proposed Action will require assessment and approval under Commonwealth, and State and Local (Tasmanian) legislation, as follows:

At the local level, a permit must be granted under the *Land Use Planning and Approvals Act 1993* (LUPAA) to authorise the development and use of land for the purpose of constructing and operating a wind farm.

The Tasmanian Planning Scheme - Central Highlands (TPS-CH) is the planning instrument in force in the Central Highlands Municipality that will guide the assessment pathway. Under the TPS-CH the proposed use is classified as ‘Utilities’ and will be considered by the Central Highlands Council as a discretionary planning permit application following submission of the development application.

At the state level, the Proposed Action is a prescribed Level 2 Activity for the purpose of assessment under Schedule 2 of the *Environmental Management and Pollution Control Act 1994* (EMPCA). Specifically, it accords with Part 7 (f) of Schedule 2: ‘…(f) Wind Energy Facilities: facilities for generating energy through wind with a maximum generating capacity of 30 megawatts or more.’ This determines the Class of the project for assessment under EMPCA by EPA Tasmania, who will be the coordinating body for the assessment process under the nominated approvals pathway (Bilateral Agreement).

The Proponent has initiated the planning and EIA processes by the submission of a NOI to the EPA (on 25 October 2024). The NOI indicates the preferred approvals pathway is assessment under the Bilateral Agreement, therefore the EPA and Central Highlands Council will undertake the planning and environmental assessment process prescribed by the LUPAA and EMPCA.

The Tasmanian EPA will coordinate the overall assessment in consultation with its referral agencies and authorities, which for the Proposed Action, are:

Obligatory Notifications

- *Department of Health and Human Services*
- *Central Highlands Council (CHC)*

Tasmanian State Government Departments

- *Conservation Assessments (NRE)*
- *Crown Land Services, Parks and Wildlife Service (NRE)*
- *Parks and Wildlife Service (NRE)*
- *Aboriginal Heritage Tasmania (DPAC)*
- *Heritage Tasmania (NRE)*
- *Forest Practices Authority (DOSG)*
- *Department of State Growth (DSOG)*
- *Climate Change Branch, Renewables, Climate and Future Industries Tasmania (ReCFIT) (DSG)*
- *Tasmania Fire Service (DPFEM)*

State Government Business Enterprises, State-Owned Companies & Regional Water Corporations

- *Sustainable Timber Tasmania*
- *Tas Networks*
- *Tas Ports*

Commonwealth Government

- *Department of Climate Change, Energy, the Environment and Water (DCCEEW)*

At the Commonwealth level, the Proposed Action requires assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

Commonwealth approval is required for an action which has, will have, or is likely to have a significant impact on a Matter of National Environmental Significance (MNES) or on Commonwealth waters or land. In this case, Commonwealth approval for the Proposed Action is considered almost certain to be required, and the proponent has volunteered the project as a controlled action, in a briefing provided to DCCEEW, EPA, and Central Highlands Council in December 2023, and subsequent pre-lodgment meetings with DCCEEW relating to this Referral.

Assessments carried out by the Proponent indicate the Project would be considered as a Controlled Action based on known presence (and therefore potential impacts which may be significant) on:

- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)

The species of concern and mitigation strategies to mitigate potential impacts are detailed in Section 4.

The Bilateral Agreement between the Tasmanian and the Commonwealth Governments allows the two assessments to be undertaken concurrently. For this Proposed Action, if it is deemed a controlled action under the EPBC Act, the Proponent seeks to have the Proposed Action assessed

pursuant to the Bilateral Agreement under Section 45 of the EPBC Act between Tasmanian and Commonwealth governments.

Relevant legislation and guidelines

Acts and associated Regulations considered most relevant to the assessment and approval process include:

- *Environment Protection and Biodiversity Conservation Act 1999 (Cwth)*
- *Land Use Planning and Approvals Act 1993 and subordinate Regulations*
- *Environmental Management and Pollution Control Act 1994 and subordinate Regulations*
- *Threatened Species Protection Act 1995 and subordinate Regulations*
- *Forestry Practices Act 1985 and subordinate Regulations*
- *Nature Conservation Act 2002 and subordinate Regulations*
- *Aboriginal Heritage Act 1975 and subordinate Regulations*
- *Work Health and Safety Act 2012 and subordinate Regulations*
- *Explosives Act 2012 and subordinate Regulations*

Guidelines considered most relevant to the assessment and approval process, include:

- *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (2012)*
- *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (2013)*
- *Guide to Eagle Nest Searching and Nest Activity Checks (EPA, 2023)*
- *Fauna Technical Note No. 1 Eagle nest searching, activity checking and nest management (FPA, 2024)*
- *Fauna Technical Note No. 6: Wedge-tailed eagle nesting habitat model (FPA 2024)*
- *Best Practice Erosion and Sediment Control (International Erosion Control Association (Australasia) 2008,*
- *National Light Pollution Guidelines for Wildlife, DCCEEW, 2023)*
- *Guidelines for Natural Values Survey – Terrestrial Development Proposals (DPIPWE)*
- *Noise Measurement Procedures Manual, Dept. Environment, Parks, and Heritage and the Arts, 2008)*
- *Tasmanian Acid Sulphate Soil Management Guidelines (DPIPWE, 2009)*
- *Weed and Disease Planning and Hygiene Guidelines (DPIPWE, 2015)*
- *Guideline for Community Engagement, Benefit Sharing and Local Procurement (ReCFIT, 2023)*
- *Appendix 4: General Offset Principles from the Guidelines for Natural Values Surveys – Terrestrial Development Proposals,*
- *Offset Guidelines for Impacts to Threatened Eagles from Wind Farm Developments*
- *Tasmanian Devils – Devil Survey Guidelines and Management Advice.*

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. *

Consultation with project participants commenced in 2021, and has continued through the development process, resulting in three additional landowners being added during 2023.

A letter drop to all residents within 5km of potential turbine sites was undertaken in April 2024, as a means of making initial contact with local neighbours, with many of the houses not being permanently occupied. Follow up meetings and discussions have been held since and are ongoing.

At this stage, no major concerns have been identified, however discussions are ongoing. Most people living locally should have a reasonable understanding of the potential impacts, due to adjoining CHWF which has operated for nearly 5 years.

Approach to Consultation

Based on experience from CHWF, a shop front in Bothwell or another regional town is not considered to be the most effective way to engage with the Central Highlands community. Bothwell is a relatively small, regional town which is dispersed over a large area and is geographically removed from the project. The preferred approach involves:

- *A website providing an interactive 'digital shopfront' with information about the Project*
- *Targeted advertising in all Central Highlands townships;*
- *Attendance at events and venues within the region targeting various demographics;*
- *In person consultation with neighbours and near neighbours;*
- *In person meetings by appointment available to anyone; and*
- *Dedicated project phone and email addresses.*

Complaints and Enquiries

The Project's Complaints and Enquiries Plan outlines the procedures to follow if an enquiry or complaint is made by a member of the community in relation to the project. Multiple points of contact will be available for members of the public to make a complaint or raise an enquiry, including by email, written communications, in-person by appointment, phone communications, and attendance at events and venues published on the project website.

Website

The project website (www.Bashanwindfarm.com) will be used as the primary source of project related information and community engagement management such as enquiries and highlighting key events. It will provide a permanent means for members of the public to get in touch with the project team and receive responses to enquiries. The website will continue to serve as an important communication tool throughout the operational life of the wind farm.

Events

The project team will publish a calendar of events that the project team will be attending on the website for those interested in learning more about the project and to submit inquiries. Due to the limited number of public events available for attendance across the Central Highlands, members of the project team are also available for in person-meetings upon request, and have attended a number of such meetings. The calendar of upcoming events is published under the events section of the Bashan project website.

Stakeholder Engagement Plan

A Stakeholder and Community Engagement Plan (SaCEP) has been developed to guide engagement methods and activities for the project. The plan identifies key stakeholder groups, and the methods and frequency of engagement activities for each. The plan covers both community and regulatory stakeholders and has been developed based on the ReCFIT guidelines referred to

above. Underpinning themes for the SaCEP include transparency, honesty and authenticity, local procurement, social license, industry leadership, best practice, and legacy initiatives for the Central Highlands.

A Goldwind Community Engagement Manager has been dedicated to the Project who is responsible for effective implementation of the SaCEP, application of the Complaints and Enquiries Plan, and recording of Stakeholder meetings in Goldwind's Stakeholder Management System.

The Project Development Manager and team are actively seeking input from the surrounding community and available for in-person visits to any residents within Central Highlands. To date, initial engagement with most community members has been well received and feedback on the engagement approach has received positive comments from ReCFIT, who monitors community engagement activities at the State level on behalf of the Tas Energy Minister. The Project Team has also actively engaged early with the No Turbine Action Group, and also received positive comments on both the location and proposed layout and eagle initiatives included within the Proposed Action.

Community Benefits

Community benefits and neighbour benefit arrangements are under consideration and are being codeveloped with input from Council and the Community, in line with the ReCFIT Guideline for Community Engagement, Benefit Sharing and Local Procurement. While not yet finalized, the Proponent is seeking to formalize arrangements and carry out further consultation in consultation with all relevant stakeholders including non-participant members of the local community living within the area of the Proposed Action.

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.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at 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? *

No

Referring party details

Name	Richard Barnes
Job title	Principal Planner and Ecologist
Phone	0438588695
Email	rwbarnes73@gmail.com
Address	PO Box 171 Brighton TAS 7030

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	680340381

Organisation name	BASHAN WIND FARM PTY LTD
Organisation address	Suite 02, Level 25 100 Barangaroo Avenue Barangaroo, NSW, 2000

Person proposing to take the action details

Name	David Rogers
Job title	Development Manager
Phone	+61 0459 863 50
Email	davidrogers@goldwindaustralia.com
Address	Level 4, North Tower Building, 485 La Trobe Street, Melbourne, VIC 3000

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. *

BASHAN WIND FARM PTY LTD was registered on 29/08/2024. It is a subsidiary of Goldwind International (GWI) and an entity owned by Goldwind Australia Pty Ltd (GWA). The recent registration date for BASHAN WIND FARM PTY LTD indicates that its history of environemntal management is very limited. Notwithstanding this, in Australia, GWC and GWA have developed a number of renewable energy projects which have been the subject of assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) including the following:

- Cattle Hill Wind Farm EPBC 2009/4839, Tasmania (operating);

- Stockyard Hill Wind Farm EPBC 2016/7746, Victoria (operating);
- Coppabella Wind Farm EPBC 2017/8129, New South Wales (advanced planning stage);
- Moorabool Wind Farm EPBC 2009/4907, Victoria (operating);
- Clarke Creek Wind Farm EPBC 2018/8141, Queensland (under construction); and
- White Rock Wind Farm Stage 2 EPBC 2018/8156, New South Wales (action has not commenced).

GWC and GWA have a positive record of performance under the EPBC Act, as well as having maintained a strong compliance track record and good reputation with local and state regulators. Accordingly, and as an entity wholly owned by GWA, BASHAN WIND FARM PTY LTD is committed to maintain a strong compliance track record and good reputation with local and state regulators.

GWC and GWA are not subject to any current or historical proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

BASHAN WIND FARM PTY LTD is not subject to any current or historical proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

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; and
- Assess and adopt where appropriate the available technology and innovations that reduce the overall impact of our services across all business streams.

The GWA Environment Policy is reviewed annually to ensure its alignment and ongoing implementation is consistent with the strategic direction of GWA.

As an entity of GWA, the Proposed BWF and entity BWFPL are required to adhere to all provisions of the GWA EMS.

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	680340381
Organisation name	BASHAN WIND FARM PTY LTD
Organisation address	Suite 02, Level 25 100 Barangaroo Avenue Barangaroo, NSW, 2000

Proposed designated proponent details

Name	David Rogers
Job title	Development Manager
Phone	+61 0459 863 50
Email	davidrogers@goldwindaustralia.com
Address	Level 4, North Tower Building, 485 La Trobe Street, Melbourne, VIC 3000

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

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

Name	Richard Barnes
Job title	Principal Planner and Ecologist
Phone	0438588695
Email	rwbarnes73@gmail.com
Address	PO Box 171 Brighton TAS 7030

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	680340381
Organisation name	BASHAN WIND FARM PTY LTD
Organisation address	Suite 02, Level 25 100 Barangaroo Avenue Barangaroo, NSW, 2000
Representative's name	David Rogers
Representative's job title	Development Manager
Phone	+61 0459 863 50
Email	davidrogers@goldwindaustralia.com
Address	Level 4, North Tower Building, 485 La Trobe Street, Melbourne, VIC 3000

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

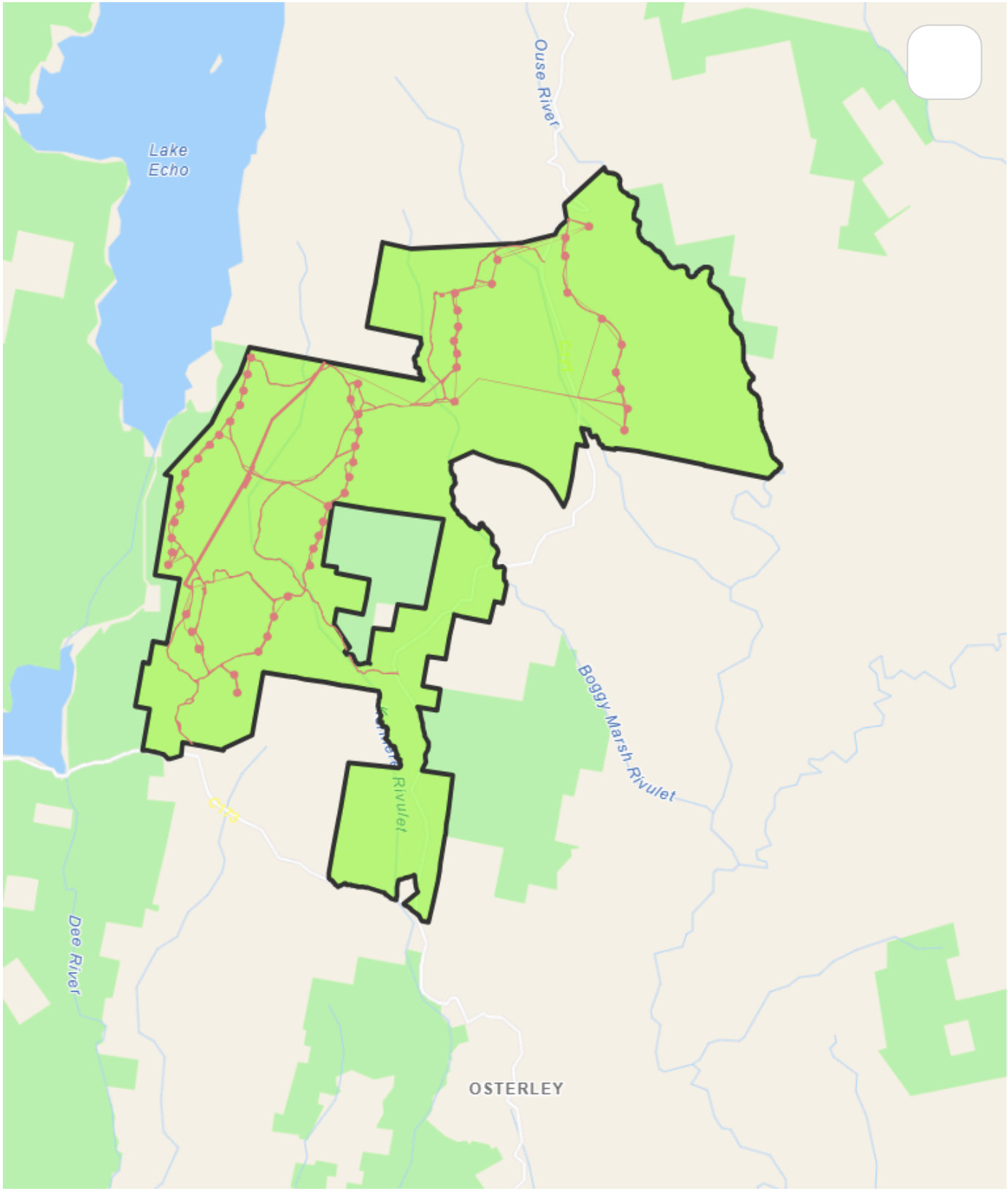
1.4 Payment details: Payment allocation

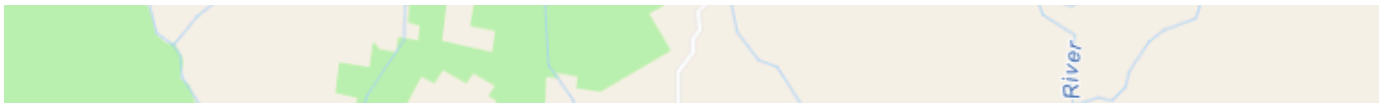
1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint





Project area: 9467.36 Ha
Disturbance footprint:477.6 Ha

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Powered By Esri - Sources: Esri, TomTom, Gar…

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

3136 VICTORIA VALLEY RD VICTORIA VALLEY TAS 7140

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

Tasmania

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 comprised of approximately 9,467 ha of land, with the actual Project infrastructure (turbines and hardstands, battery, substation(s), roads, control buildings, powerlines, cables and storage areas) likely to occupy a maximum Development Footprint of around 480ha (based on the indicative layout included with this Referral; Figure 1, Att_2_General Location of Bashan Wind Farm).

The indicative Development Footprint figure can be considered conservative, as it allows for 100m disturbance around every turbine (measured from the turbine centrepoint), and 20m disturbance either side of all internal roads (measured from the centerline of existing and proposed roads). In reality, much of this allowance will not be needed, as most of the Bashan North site is cleared agricultural farmland with very little disturbance of existing vegetation required, and approximately 70% of the internal road work already exists, and only requires widening. Similar conservative provisions have been applied to all infrastructure including the reticulation network.

In terms of land tenure, the Project Area largely covers 5 privately owned rural properties (Figure 2, Att_1_Land Tenure) is made up of the following (Figure 1, Att_1_Land Tenure):

- Private Freehold
- Crown Land
- Reserved Lands

The Project Area does not include any lands reserved under the *Nature Conservation Act 2002.*

3. Existing environment

3.1 Physical description

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

The Project Area is located approximately 4km south-west of Waddamanna, 22kms northwards of Ouse, and 27km northwest of Bothwell.

The Project Area as shown in this Referral (**Figure 1, Att_1_Land Tenure**) is approximately 9,400 hectares in size but the Development Footprint is a far smaller subset of this area, expected to be in the order of 480 hectares. It is variably zoned Agriculture and Rural under the Tasmanian Planning Scheme - Central Highlands Local Provision Schedule.

The proposed use as a wind farm is included in the Utilities use class, which is a permissible use (discretionary) within both the Agriculture and Rural zones.

Topography

The proposed layout is generally formed by three strings of wind turbines that follow the high points of the north-south located hills (Figure 1, Att_2_General Location of Bashan Wind Farm). The Development Footprint is predominantly undulating hills ranging from 700 - 900m above sea level (asl), with the lower elevated sites occurring at the eastern side of the Project Area (Figure 2, Att_3_Existing Environment). A section of the Project Area slopes to the Ouse River, at the far north-eastern corner of the Project Area, where elevation drops to around 500m asl. No development is proposed in this location as the wind resource is lacking.

Watercourses, marshes and other waterways

Most of the Project Area is within the Ouse River catchment, with some also reporting to the Upper Derwent (Derwent River) and Dee (Dee River) catchments (Figure 5, Att_3_Existing Environment). The Ouse and Dee Rivers eventually report to the Derwent River. The Ouse River forms the north-eastern most edge of the Project Area. There are a limited number of waterways that pass through the Project Area including Kenmere Creek, Duck Rivulet, Bashan Rivulet, and Boggy Marsh Rivulet, and there are also marshes including Five Mile, Boggy, Kitchens, Duck and Martin Cashs Marshes.

Reserved Land

There are no areas of national park, conservation areas, nature reserves or state reserves within or adjacent to the Project Area (Att_6_NVA Search Report, pp. 51-53).

Geology and Soils

The base geology is dominated in the north by basalt with the southern portion being generally Jurassic dolerite formations. The Project Area includes both the Central Highlands and South, East & Midlands Land Systems (Figure 3, Att_3_Existing Environment) but development is only proposed to occur within the Central Highalnds Land System. At a more refined scale, the broader Central Highlands Land System includes the Victoria Valley and Wihaerja Land System (Att_4_Land System Information) which are summarised below:

- The Victoria Valley Land System is situated on the southern extremity of Region 5 immediately south of Lake Echo. It extends from Brown Marsh Tier in the north west to Nine Mile Marsh in the south east. Jurassic dolerite underlies the entire area and dolerite boulders are evident on the surface in many places. Soil profiles are stony to rocky, generally brown in colour, relatively deep and gradational through all components. Fertility is reasonable with soils supporting mixed forest, tall open forests or open forests.
- Undulating plains of Tertiary basalt form the bedrock in this land system which is situated in the central south of the study area. It covers land in the vicinity of Wihareja Lagoon, Bashan Plains, Shannon Lagoon and Stockyard Flats with a minor erosional remnant immediately north of these flats. Shannon Lagoon occurs in a higher altitudinal zone but is included in this land system due to many similarities. Stepped land forms resulting from Tertiary lava flows are obvious on Bashan Plains and around Shannon Lagoon. Low rocky ridges are common around Wihareja Lagoon with more restricted occurrences on Bashan Plains where they are confined to areas Intruded by Jurassic dolerite. Extensive tracts have been cleared for grazing, and 'improved' pastures have been established in places. This is probably a result of the relatively high physical fertility of the soils.

No State listed geo-conservation sites are present in the Project Area (Att_6_NVA Search Report, pp.36).

Vegetation and other biodiversity matters

TASVEG 4.0 mapping (Att_6_NVA Search Report, pp. 36-44, Figure 3, Att_2_General Location of Bashan Wind Farmand Figure 3 Att_3_Existing Environment) shows the Project Area is made up of a combination of plantation forestry, modified lands (including agricultural land) and native vegetation classes. The site also contains several State-listed threatened communities; Highland *Poa* grassland, Highland grassy sedgeland.

Natural Values Atlas (Att_6_NVA Search Report) and Protected Matters Reports (Att_5_Protected Matters MNES Search Tool Report) were generated for the Project Area, and these identified several threatened communities and endangered flora and fauna species as being present or likely to be present.

The PMST Report identified four threatened ecological communities, 31 listed threatened species and 8 listed migratory species which are predicted to occur within the Project Area. A summary of the Protected Matters Report species is provided below:

Threatened communities

- Lowland Temperate Grasslands of Tasmania
- Alpine sphagnum bogs and associated ferns
- Tasmanian forests and woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata/Eucalyptus brookeriana*), and
- Tasmanian white gum (*Eucalyptus viminalis*) wet forest.

Threatened species

Flora

- Midlands Mimosa (*Acacia axillaris*) - Vulnerable
- Native Wintercress (*Barbarea australis*) - Endangered
- Miena Cider Gum (*Eucalyptus gunnii* subsp*. divaricata*) - Endangered
- Clover Glycine (*Glycine latrobeana*) - Vulnerable
- Liawenee Greenhood (*Pterostylis pratensis*) - Vulnerable
- Swamp Everlasting (*Xerochysum palustre*) - Endangered
- Curtis' Colobanth (*Colobanthus curtisiae*) - Vulnerable
- Crowded Leek-Orchid (*Prasophyllum crebriflorum*) - Endangered

Fauna

- Tasmanian Wedge-Tailed Eagle (*Aquila audax* subsp. *fleayi*) - Endangered
- Curlew Sandpiper (*Caldris ferruginea*) - Critically Endangered
- Blue-winged parrot (*Neopheme chrysostoma*) - Vulnerable
- Tasmanian Azure Kingfisher (*Ceyx azureus diemenensis*) - Endangered
- Tasmanian Masked Owl (*Tyto novaehollandiae castanops*) - Vulnerable
- Spotted-tail Quoll (*Dasyurus maculatus* subsp. *maculatus*) - Vulnerable
- Eastern Quoll (*Dasyurus viverrinua*) - Endangered
- White-bellied sea-eagle (*Haliaeetus leucogaster*) - Marine
- Ptunarra Brown Butterfly (*Oreixenica ptunarra*) - Endangered
- Eastern Barred Bandicoot (*Perameles gunnii gunnii*) - Vulnerable
- Tasmanian Devil (*Sarcophilus harrisii*) - Endangered

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

The broad land uses of the Project Area are shown in Figure 1, Att_3_Att_3_Existing Environment.

Bashan North is generally associated with a series of weathered basalt plateau and broader flats of Bashan Plains and Martins Cashs Marsh, and are consequently mainly cleared of native vegetation to support dryland agricultural activities (stock grazing) and hardwood plantations.

Most of Bashan South is native forest and woodland vegetation that is managed for forestry purposes, and with large areas covered by Private Timber Reserves. Hardoowd plantations have been established on some of the lower elevated slopes of Bashan South, such as those around and to the north of Stockyard Flats.

The transmission of electricity via the TasNetworks overhead line from Wadamanna traverses through the Project Area.

There are four residential dwellings and associated outbuildings within the Project Area; three of which are intermittently used (e.g during stock mustering) and one which is permanently occupied. All four dwellings belong to participants of the Project.

The adjacent Lake Echo is used for recreational fishing, and camping associated with Hydro Tasmania maintained camp grounds.

The wind farm will be complimentary to the existing siviculture operations and will not encroach upon or compromise the existing uses of the site and its surrounds.

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

There are no areas of national park, conservation areas, nature reserves or state reserves within or adjacent to the Project Area (Att_6_NVA Search Report, pp. 51-53).

Most of the Project area is covered by a Private Timber Reserve overlay and the surrounding areas by commercial forestry operations.

There are no mapped geoconservation sites within the Project Area (Att_6_NVA Search Report, pp.36).

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 existing altitude of the Development Footprint ranges between 600 and 900m ASL (Figure 2, Att_Att_3_Existing Environment), with gradients at proposed turbine sites (and possible turbine sites) ranging from 0 to about 15%.

Turbines have been sited to avoid areas prone to subsidence or inundation and have been sited back from ridgelines where eagle nests are present within the vicinity.

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.

As part of the planning phase of the wind farm, consideration was given to the flora and fauna values (species and ecological communities) at proposed WTG locations and the road network as a means to try to avoid impact at an early stage of Project design.

GWA engaged Van Diemen Consulting (VDC) to undertake flora and fauna surveys of each of the proposed WTG locations identified as the Development Footprint in Layout 11; the layout submitted with the Referral is slightly modified to Layout 11 with one WTG having been removed, several in Bashan South being slightly moved to avoid localised difficult ground conditioons, and 4 being radically reloacted to avoid visual impacts to the shack area south of Dee Lagoon. Despite the alterations, most WTGs remain in the same location and even with geographic movements, many of the vegetation communities are the same as those intersected by other WTGs.

Searches were done of the EPBCA Protected Matters Search Tool (PMST; **Att_5_Protected Matters MNES Search Tool Report**) and the Natural Values Atlas database (NVA, NRE; **Att_6_NVA Search Report**) to identify listed species and ecological communities previously recorded (or may occur, or are likely to occur based on habitat) within a 1 km buffer applied to the edge of the Project Area. The searches identified several EPBCA listed communities and flora and fauna species as being present, may be present, or are likely to be present in or near the Project Area.

The survey results of the Layout 11 proposed WTG locations are provided in the report BASHAN WIND FARM, WIND TURBINE GENERATOR ECOLOGICAL ASSESSMENTS, JULY 2024 prepared by VDC (Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 1, Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 2, and Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 3).

As noted at Section 1.2.1, the layout (Figure 1, Att_2) is guided by wind modelling, listed species habitat, proximity to TasNetworks infrastructure, site ground conditions and constructability, setback to residential dwellings of non-participants, etc. The Development Footprint can't be confirmed at this stage because some components of the Proposed Action have not yet been finalised (e.g., BESS inclusion). The location of turbines and infrastructure is also subject to change during the preparation of the Environmental Impact Statement (EIS) based on the findings of studies/investigations done in response to the Project Specific Guidelines (PSGs) yet to be issued by the Environment Protection Authority Tasmania. Layout development will continue in tandem with the completion of studies required for the EIS, and a final layout for approval will be submitted for assessment in the EIS.

Listed Ecological Communities

The PMST Report predicted four threatened ecological communities to occur, may occur are are likely to occur within the Project Area:

- Lowland Temperate Grasslands of Tasmania;
- Alpine sphagnum bogs and associated ferns;
- Tasmanian forests and woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata/Eucalyptus brookeriana*); and
- Tasmanian white gum (*Eucalyptus viminalis*) wet forest.

Of these, only three are known to occur, likely to occur, or may actually occur in the Project Area (see also Table 1, Att_11):

1. 'Lowland Temperate Grasslands of Tasmania' occurs in the Project Area (north-eastern area on the slopes down to the Ouse River but yet to be fully mapped) but its occurrence does not intersect with the current Development Footprint;
2. 'Alpine sphagnum bogs and associated ferns' ecological community has not been identified in the Project Area at this stage but it may be present (e.g. very localised parts of Five Mile Marsh), but it is unlikely to be intersected by the Development Footprint if it is present; and
3. 'Tasmanian forests and woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata/Eucalyptus brookeriana*)' ecolgoical community occurs in the Project Area, where it is associated with the basalt springs on lower elevated slopes near Bashan Road where the Ouse River valley drops down to Waddamanna township - while present, there is unlikely to be any impact to this ecological community from the Proposed Action but this will be confirmed by finer scale mapping using the most recent layout.

The upper altidunal range of *Eucalyptus viminalis* (about 600m a.s.l.) effectively excludes the possibility of the occurrence of 'Tasmanian white gum (*Eucalyptus viminalis*) wet forest') where the Development Footprint is proposed.

The Project Area contains several State-listed threatened communities which are generally present as remnants adjacent to or associated with agricultural land (modified land dominated by exotic species managed for livestock grazing); Highland *Poa* grassland, Highland grassy sedgeland.

Listed flora and fauna species

Thirty one threatened fauna and flora species were identified in the PMST (Att_5_Protected Matters MNES Search Tool Report), in addition to eight migratory species. VDC undertook a MNES Assessment of PMST identified MNES to determine if the identified matters may be impacted by the Proposed Action based on the surveys conducted for Layout 11 and other general surveys of the Project Area to guide the planning and development of the Proposed Action.

The MNES Assessment is provided in Att_9_MNES_Assessment_Listed communities_Threatened species_Migratory species.

Further studies are to be conducted, and some areas of habitat yet to be assessed (e.g. the presence of Ptunarra brown butterfly (*Oreixenica ptunarra*) in suitable habitat during the flying season which is not to occur until around March 2025).

The results of the MNES Assessment are summarised below.

Flora

Fourteen flora species were identified in the PMST Report however only five are known to occur, or are likely to occur in the Project Area and include -

- *Barbarea australis* (Native wintercress), Endangered - known to occur on the Ouse River where it grows in river cobbles (may be impacted by road works at the Ouse River crossing);
- *Colobanthus curtisiae* (Curtis' Colobanth), Vulnerable - may occur in the Project Area and Development Footprint, not yet observed during surveys;
- *Glycine latrobeana* (Clover glycine), Vulnerable - may occur in the Project Area and Development Footprint, not yet observed during surveys;
- *Prasophyllum crebriflorum* (Crowded Leek-Orchid), Endangered - a *Prasophyllum* species with affinities to *P. crebriflorum* has been observed in the Development Footprint. It may be this species, or the common *P. sphacelatum.* Further field surveys are required to refine its presence and to understand the taxonomic status of the plants present (the Tasmanian

Herbarium has redetermined all *P. crebriflorum* specimens on the Central Highlands to *P. sphacelatum*).
- *Pterostylis pratensis* (Liawenee Greenhood), Vulnerable - Recorded during surveys in Highland *Poa* grassland and associated vegetation types on Bashan Plains.

Fauna

Tasmanian Devil is present on site, and to a lesser extent, Spotted-tailed Quoll, both of which have been detected by wildlife cameras throughout the Project Area and found to be utilising the existing forestry roads as movement corridors. Potentially suitable den structures and scat occurrences are progressively being mapped in tandem with ecological surveys to build up an overall picture of terrestrial fauna movements and habitat usage.

A species list of birds observed during bird utilisation surveys can be found in **Att_10_Bird Utilisation Report_Wildspot Consulting**. Native bird species listed on the EPBCA that have been observed include the following:

- Tasmanian subspecies of wedge-tailed eagle (*Aquila audax* subsp. *fleayi*) - Endangered (see predicted nesting habitat in **Figure 2, Att_2_General Location of Bashan Wind Farm** and nests shown in **Figure 4, Att_2_General Location of Bashan Wind Farm**);
- Swift parrot (*Lathamus discolor*) - Critically Endangered;
- Blue Winged Parrot *(Neophema chrysostoma)* - Vulnerable;
- White Bellied Sea Eagle (*Haliaeetus leucogaster*) - Marine; and
- White-throated Needletail (*Hirundapus caudacutus*) - Vulnerable.

Of the 17 listed fauna species identified in the PMST, those speices with a greater likelihood of a possible significant impacts from the proposed Action are summarised below with possible impacts (prior to avoidance and mitigation measures) stated:

- Tasmanian Wedge-Tailed Eagle (*Aquila audax* subsp. *fleayi*) - disturbance to nests, impact with turbine structure or blades
- Tasmanian Masked Owl (*Tyto novaehollandiae castanops*) - disturbance to nests or loss of a nest, impact with turbine structure or blades
- Spotted-tail Quoll (*Dasyurus maculatus* subsp. *maculatus*) - loss of habitat, roadkill
- White-bellied sea-eagle (*Haliaeetus leucogaster*) - disturbance to nests, impact with turbine structure or blades
- Ptunarra Brown Butterfly (*Oreixenica ptunarra*) - loss of habitat
- Eastern Barred Bandicoot (*Perameles gunnii gunnii*) - loss of habitat, roadkill
- Tasmanian Devil (*Sarcophilus harrisii*) - loss of habitat, roadkill
- Blue-winged parrot (*Neophema chrysostoma*) - turbine blade/infrastructure collision risk
- Lathams snipe (*Gallinago hardwickii*) - turbine blade/infrastructure collision risk

Feral species

Fallow deer are widespread and plentiful in the Project Area, with some herds exceeding 100 animals. Feral cats are also present across the Project Area based on wildlife camera footage.

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

The Tasmanian Government published TASVEG 4.0 mapping (Att_6_NVA Search Report, pp. 36-44 and Figure 3, Att_3_Existing Environment) indicates the Project Area is made up of a combination of native vegetation classes, plantation forestry, and other modified lands (including agricultural land).

A simplified 'vegetation group' map is provided in **Figure 3, Att_2_General Location of Bashan Wind Farm**.

The native vegetation (ecological communities) and its associated flora and fauna species in the Project Area is typical of the Central Highlands of Tasmania - mid to high elevation grassy-shrubby-scrubby forest and woodlands with interspersed non-forest native vegetation communities dominated by heaths, shrubs and grasses in low-lying areas of cold-air drainage or waterlogging, and occasional marshes.

The Project Area covers a variety of topographic relief with a general trend of decreasing elevation from west to east (Figure 2 in Att_3_Existing Environment). There is also a west to east gradient in rainfall and temperature which is reflective of the topography of the land forms present. Rainfall (and snow) annual totals are higher in the west in association with areas of higher elevation (western side of Bashan South), and decrease eastwards as elevation progressively decreases towards the Ouse River in the north-eastern section (Bashan North) of the Project Area. The mid to higher elevations of the Project Area limit plant/vegetation growth rates due to a short growing season because frosts and snow can occur at any time during the calendar year, even in mid to late summer. Winter months can be dominated by frosts, sometimes severe, and snowfall can occur at any time and persist for days but rarely weeks.

Generally, wet sclerophyll forest is more common in the west and middle sections of the Project Area, and only occasional in the eastern and south-eastern sections (Figure 3 Att_3_Existing Environment) on moist shaded sites and in association with gullies and watercourses. Disturbances such as wildfire, silvicultural and firewood harvesting, feral deer, and some livestock grazing have in areas impacted the species composition and structure of the midstorey layer.

Dry sclerophyll forest communities dominated by *E. tasmaniensis, E. dalrympleans, E. pauciflora,* and/or *E. amygdalina* are extensive in the west of the Project Area despite the higher rainfall in this area. The effects of exposure (wind regimes), prevelance of less fertile sites (e.g., sandstone derived soils), wildfire frequency, and often shallow to skeletal nature of the soils present (many areas are on shallow soils over bedrock or scree/coluvium) have conspired to limit or prevent the development of a wet sclerophyll midstorey layer in many areas. Most forest and woodland in the Project Area is dominated by *Eucalyptus tasmaniensis* (mountain stringybark) often with sub-dominant to co-dominant *Eucalyptus dalrympleana* (mountain white gum) and *E. pauciflora* (cabbage gum). The midstorey layer varies from shrubby, to heathy to grassy subject to past and present disturbance regimes (e.g. woodcutting, livestock grazing), site aspect, time since last fire, and silvicultural practices.

The majority of the eucalypt forests in the western and middle portions of the Project Area have been and continue to be used for native forest silviculture. Consequently, most of the forest and woodland in these areas is in a regrowth to multi-aged forest structure; old-growth elements are generally absent or very sparse and tnd to be limited to those areas retained in streamside reserves and wildlife habitat clumps.

Notable subalpine dry sclerophyll ecological communities include for example -

- *Eucalyptus coccifera* (Tasmanian snow gum) dry forest and woodland (TASVEG code - DCO) - is limited in its extent in the Project Area to a very exposed and rocky site at the highest altitudes of the Project Area; it grades into various non-forest communities such as Highland Poa grassland and eastern alpine heathland; and
- several patches of *Eucalyptus rodwayi* (Rodway's peppermint) forest and woodland (TASVEG code - DRO) occur on poorly drained flats associated with rivers, creeks and other drainage depressions where the soils are waterlogged for at least the wineter - spring months.

Non-forest vegetation types include heath, scrub, moorland, native grasslands, and marshes (Five Mile Marsh).

Many of the marsh environments have been historically cleared, ploughed and/or drained of their native vegetation (either in part, partially or fully) and replaced with non-native herbaceous vegetation comprised of exiotic herbs and grasses. The highlands of Tasmania were preferentially used for summer grazing of livestock to rest lowland pastures, or to provide fodder for livestock where lowlands pastures were depeleted which may havfe been an outcome of drought. The remnant native grasslands in the Project Area broadly continue to be grazed by stock, with their condition being variable across the Project Area - many native grasslands at the edge of improved pasture are more heavily affected by livestock grazing (and support weeds and exotic herbs and grasses), and possible fertiliser drift than those at the rear of paddocks, or in rocky areas that may be less attractive or inaccesible to grazing stock.

Geology and its influence on vegetation cover, form and species composition

The Project Area includes both the Central Highlands and South, East & Midlands Land Systems (**Figure 3 Att_3_Existing Environment**) but development is only proposed to occur within the Central Highalnds Land System. At a more refined scale, the broader Central Highlands Land System includes the Victoria Valley and Wihaerja Land System (Att_4_Land System Information) which are summarised below:

- The Victoria Valley Land System is situated on the southern extremity of Region 5 immediately south of Lake Echo. It extends from Brown Marsh Tier in the north west to Nine Mile Marsh in the south east. Jurassic dolerite underlies the entire area and dolerite boulders are evident on the surface in many places. Soil profiles are stony to rocky, generally brown in colour, relatively deep and gradational through all components. Fertility is reasonable with soils supporting mixed forest, tall open forests or open forests which is the case for the Prohject Area.
- Undulating plains of Tertiary basalt form the bedrock in this land system which is situated in the central south of the study area. It covers land in the vicinity of Wihareja Lagoon, Bashan Plains, Shannon Lagoon and Stockyard Flats with a minor erosional remnant immediately north of these flats. Shannon Lagoon occurs in a higher altitudinal zone but is included in this land system due to many similarities. Stepped land forms resulting from Tertiary lava flows are obvious on Bashan Plains and around Shannon Lagoon. Low rocky ridges are common around Wihareja Lagoon with more restricted occurrences on Bashan Plains where they are confined to areas Intruded by Jurassic dolerite. Extensive tracts have been cleared for grazing, and 'improved' pastures have been established in places. This is probably a result of the relatively high physical fertility of the soils.

The underlying geology and overlaying soils (basalt, sand, etc.) generally dictate the current land use and land use history of the site. That is, the basalt plateau and associated black-cracking clays of the valley floors associated with creeklines and marshes near Bashan Plains are now dominated by pastures for livestock grazing activities. Only remnant trees or very small patches of degraded forest and woodland now exist in those locations; for example, there are some remnant forest and woodland stands on the slope of Gathering Hill and a few basalt capped topographic rises where the ground is rocky or soils shallow.

The Victoria Valley Land System retains a much higher proportion of its vegetative cover, due to the poorer soils and practical limitations for most of it to be put to and mangaed as agricultural pastures for grazing. Instead, most is used for native forest silviculture or plantation (hardwood).

Poorer soils derived from sandstone or a sandstone/dolerite mix are usually dominated by heathy to scrubby understorey species while dolerite and basalt soils tend to support a grassy to low shrub dominated understorey with midstorey layers present on sheltered slopes or with less livestock activity; the presence of cattle and sheep tend to reduce the cover of midstorey shrub species, and eventually their presence can eradicate shrub and heath species altogether.

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 within the Project Area.

The Tasmanian Wilderness World Heritage Area (which is a National Heritage Place) lies approximately 24km southwest of the boundary of the Project Area. There are no state listed heritage features, listed on the Tasmanian Heritage Register, within or immediately adjacent to the Project Area.

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

Aboriginal heritage assessments have been completed with no arfefacts or sites of significance found. Any proposed further layout changes will be subject to resurvey.

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. *

Most of the Project Area is within the Ouse River Catchment, with some land in the Project Area reporting to the Upper Derwent Catchment (**Figure 5 Att_3_Existing Environment**).

The Ouse River forms the north-eastern most edge of the Project Area. There is unlikely to be any impact to water flows in any intersected catchments because the Proposed Action avoids (with the exception of roads, and electrical cabling infrastructure) major watercourses, wetlands and other hydrological features.

There are a limited number of waterways that pass through the Project Area including Kenmere Creek, Duck Rivulet, Bashan Rivulet, and Boggy Marsh Rivulet, and there are also marshes including Five Mile, Boggy, Kitchens, Duck and Martin Cashs Marshes.

Geotechnical investigations will be conducted for building works as part of the Detailed Design phase of the Proposed Action.

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	Yes	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.

—

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 the Project Area, and none will be affected by the Proposed Action.

The nearest World Heritage property is the ‘Tasmanian Wilderness’ Property ID 181, which is located more than 24kms from the nearest point of the Project Area. The proposed action is so far from the 'Tasmanian Wilderness' that the likelihood of any impact to it is nil (including its values for which it was listed).

Analysis of terrain indicates it is possible that the wind turbines could be visible from some vantage points within the Tasmanian Wilderness, albeit at a considerable distance (>25kms). At this distance, visibility of turbines will be limited and will be viewed within the context of the broader Tasmanian landscape in the area, which includes many towns, roads, transmission lines, mines and other forms of human infrastructure within the existing viewfields. The landscape between the proposed wind farm and the nearest Tasmanian Wilderness is dominated by native forest, modified land in the form of plantations and agricultural land, and is traversed by roads (including the Lyell Highway) and large scale transmission lines (Tarraleah and Waddamanna associated powerlines).

When considering the landscape surrounding the Tasmanian Wilderness more broadly, it is useful to recognise that the Tasmanian Wilderness World Heritage Area occupies almost a quarter of the land mass of Tasmania and there are major towns, mines and other significant infrastructure developments in proximity to it. The existing Cattle Hill Wind Farm lies approximately 20km from the Tasmanian Wilderness at its nearest point, noting this project was referred and assessed under the EPBC Act for other matters, but not for potential for impact on National Heritage or World Heritage.

Given there will be no direct impact to the Tasmanian Wilderness and the only potential for indirect impact is possible views of the wind turbines from vantage points in the Tasmanian Wilderness (viewed at a distance of over 22kms within view fields already substantially modified from their natural state), the Proposed Action is not expected to impact upon the values for which the Tasmanian Wilderness was listed.

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.

Direct impact	Indirect impact	National heritage
No	No	Tasmanian Wilderness

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 locations or properties within the Project Area, and none will be affected by the Proposed Action.

The nearest National Heritage property is the ‘Tasmanian Wilderness’ Property ID 181, which is located more than 24kms from the nearest point of the Project Area. The Proposed Action is so far from the 'Tasmanian Wilderness' that the likelihood of any indirect impact to it is nil (including its values for which it was listed).

There will be no direct impact to the National Heritage Place from the Proposed Action.

Analysis of terrain indicates it is possible that the wind turbines could be visible from some vantage points within the Tasmanian Wilderness, albeit at a considerable distance (>20kms). At this distance, visibility of turbines will be limited and will be viewed within the context of the broader Tasmanian landscape in the area, which includes many towns, roads, transmission lines, mines and other forms of human infrastructure within the existing viewfields. The landscape between the proposed wind farm and the nearest Tasmanian Wilderness is dominated by native forest, modified land in the form of plantations and agricultural land, and is traversed by roads (including the Lyell Highway) and large scale transmission lines (Tarraleah and Waddamanna associated powerlines).

When considering the landscape surrounding the Tasmanian Wilderness more broadly, it is useful to recognise that the Tasmanian Wilderness World Heritage Area occupies almost a quarter of the land mass of Tasmania and there are major towns, mines and other significant infrastructure developments in proximity to it. The existing Cattle Hill Wind Farm lies approximately 20km from the Tasmanian Wilderness at its nearest point, noting this project was referred and assessed under the EPBC Act for other matters, but not for potential for impact on National Heritage or World Heritage.

The EPBC Act Significant Impact Guidelines (p 19 to 22) state that an action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause one or more of the National Heritage values to be lost, degraded or damaged, notable altered, modified, obscured or diminished.

Given there will be no direct impact to the Tasmanian Wilderness and the only potential for indirect impact is possible views of the wind turbines from vantage points in the Tasmanian Wilderness (viewed at a distance of over 20km within view fields already substantially modified from their natural state), the Proposed Action is not expected to impact upon the values for which the National Heritage place was listed.

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.

—

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 or adjacent to the Project Area.

The nearest Ramsar Wetland is Interlake (Lake Crescent) which is approximately 32kms east of the nearest point of the Project Area. The Project Area is located outside the Interlaken (Lake Crescent) Ramsar Wetland catchment.

The Project Area drains to the Derwent River catchment via the drainage to the Shannon, Ouse and Derwent Rivers. The likelihood of an indirect impact such as a downstream impact (e.g. pollution) caused by the Proposed Action is nil.

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	Common name
No	No	Acacia axillaris	Midlands Mimosa, Midlands Wattle
Yes	No	Aquila audax fleayi	Tasmanian Wedge-tailed Eagle, Wedge-tailed Eagle (Tasmanian)

Direct impact	Indirect impact	Species	Common name
Yes	No	Barbarea australis	Native Wintercress, Riverbed Wintercress
No	No	Caladenia anthracina	Black-tipped Spider-orchid
Yes	No	Calidris acuminata	Sharp-tailed Sandpiper
Yes	No	Calidris ferruginea	Curlew Sandpiper
No	No	Carinascincus microlepidotus	Boulder Cool-skink, Southern Snow Skink
Yes	No	Ceyx azureus diemenensis	Tasmanian Azure Kingfisher
Yes	No	Colobanthus curtisiae	Curtis' Colobanth
Yes	Yes	Dasyurus maculatus maculatus (Tasmanian population)	Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population)
Yes	Yes	Dasyurus viverrinus	Eastern Quoll, Luaner
No	No	Eucalyptus gunnii subsp. divaricata	Miena Cider Gum
Yes	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	No	Glycine latrobeana	Clover Glycine, Purple Clover
Yes	No	Hirundapus caudacutus	White-throated Needletail
Yes	No	Lathamus discolor	Swift Parrot
No	No	Lepidium hyssopifolium	Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed
Yes	No	Leucochrysum albicans subsp. tricolor	Hoary Sunray, Grassland Paper-daisy
No	No	Litoria raniformis	Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
Yes	No	Neophema chrysostoma	Blue-winged Parrot
Yes	No	Oreixenica ptunarra	Ptunarra Brown, Ptunarra Brown Butterfly, Ptunarra Xenica
Yes	Yes	Perameles gunnii gunnii	Eastern Barred Bandicoot (Tasmania)

Direct impact	Indirect impact	Species	Common name
Yes	No	Prasophyllum crebriflorum	Crowded Leek-Orchid
No	No	Pseudocephalozia paludicola	Alpine Leafy Liverwort
No	No	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
No	No	Pterostylis commutata	Midland Greenhood
Yes	No	Pterostylis pratensis	Liawenee Greenhood
No	No	Pterostylis ziegeleri	Grassland Greenhood, Cape Portland Greenhood
Yes	Yes	Sarcophilus harrisii	Tasmanian Devil
Yes	No	Tyto novaehollandiae castanops (Tasmanian population)	Masked Owl (Tasmanian)
No	No	Xerochrysum palustre	Swamp Everlasting, Swamp Paper Daisy

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	No	Alpine Sphagnum Bogs and Associated Fens
Yes	No	Lowland Native Grasslands of Tasmania
Yes	No	Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (Eucalyptus ovata / E. brookeriana)
No	No	Tasmanian white gum (Eucalyptus viminalis) wet forest

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. *

State and EPBC-listed ecological communities

The Tasmanian digital vegetation mapping (TASVEG) shows the site to be largely native vegetation comprised of wet and dry eucalypt forests and woodlands, hardwood plantations (modified land), agriculotural land (modified land) and with pacthes of moorland/sedgelenad, scrub, grassland and heathland communities (**Figure 3, Att_2 and Figure 3, Att_3**).

According to the EPBCA Protected Matters Report (Att_7, p3) four EPBC Act listed ecological communities are likely to occur, may occur or are known to occur ; alpine sphagnum bogs and associated ferns,Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata / E. brookeriana*), Lowland Temperate Grasslands of Tasmania, and Tasmanian White gum (Eucalyptus viminalis) wet forest.

EPBC-listed ecological communities with the potential to occur in or near the Proposed Action site are described and assessed in more detail in **Table 1 of Att_9_MNES_Assessment_Listed communities_Threatened species_Migratory species.**

The 'Tasmanian White gum (*Eucalyptus viminalis*) wet forest' ecological community is likely absent from the Project Area (it is absent from the Development Footprint), and the remaining 3 ecological communities might be or are present in the Project Area and may possibly be impacted by the Proposed Action.

One of the native vegetation communities mapped within the Project Area is listed as threatened under the Tasmanian *Nature Conservation Act 2002*, namely Highland *Poa* grassand (TASVEG code - GPH), which is present on Bashan Plains and around Five Mile Marsh.

State Listed Flora and Fauna Species

A desktop Natural Values Atlas (NVA) Report generated on 27 January 2024 includes the following threatened (listed under state or Commonwealth legislation) flora and fauna previously recorded or predicted to occur within 5km of the Development Footprint (Att_6_NVA Search Report):

Flora species (TSP Act, EPBC Act)

- *Asperula scoparia subsp. scoparia*, prickly woodruff (r/-)
- *Australopyrum velutinum*, velvet wheatgrass (r/-)
- *Barbarea australis*, riverbed wintercress (e/EN)
- *Brachyscome rigidula*, cutleaf daisy (v/-)
- *Callitriche umbonata*, winged waterstarwort (r/-)
- *Carex gunniana*, mountain sedge (r/-)
- *Carex longebrachiata*, drooping sedge (r/-)
- *Colobanthus curtisiae*, grassland cupflower (r/VU)
- *Discaria pubescens*, spiky anchorplant (e/-)
- *Eucalyptus gunnii* subsp. *divaricata*, miena cider gum (e/EN)
- *Glycine latrobeana*, clover glycine (v/VU)
- *Hovea tasmanica*, rockfield purplepea (r/-)
- *Muehlenbeckia axillaris,* matted lignum (r/-)
- *Pimelea curviflora* var. *gracilis*, slender curved riceflower (r/-)
- *Prasophyllum crebriflorum,* crowded leek-orchid (e/EN)
- *Pterostylis pratensis*, liawenee greenhood (v/VU)
- *Rhodanthe anthemoides,* chamomile sunray (r/-)
- *Scleranthus fasciculatus*, spreading knawel (v/-)
- *Uncinia elegans,* handsome hooksedge (r/-)

Fauna species (TSP Act, EPBC Act)

- *Aquila audax* subsp. *fleayi*, Tasmanian wedge-tailed eagle (e/EN)
- *Accipiter novaehollandiae*, grey goshawk (e/-)
- *Alcedo azurea* subsp. *diemenensis*, azure kingfisher or azure kingfisher (tasmanian) (e/EN)
- *Dasyurus maculatus* subsp. *maculatus* (spotted-tail quoll) (r/VU)
- *Dasyurus viverrinus*, eastern quoll (-/EN)
- *Gallinago hardwickii,* lathams snipe (-/VU)
- *Haliaeetus leucogaster,* white-bellied sea-eagle (v/-)
- *Neophema chrysostoma*, blue-winged parrot (-/VU)
- *Oreixenica ptunarra*, ptunarra brown butterfly (e/EN)
- *Prototroctes maraena*, Australian grayling (v/VU) - predicted habitat only based on range boundary
- *Perameles gunnii gunnii,* eastern barred bandicoot (-/VU)
- *Pseudemoia pagenstecheri,* tussock skink (v/-) - predicted habitat only based on range boundary
- *Sarcophilus harrisii,* Tasmanian devil (e/EN)
- *Tyto novaehollandiae* subsp. *castanops,* Tasmanian masked owl (e/VU)

EPBC Listed Species

An EPBC Act Protected Matters Report (generated 21 January 2024) (Att 5, p 2; all maps in Att_11) identified 31 listed threatened species and 8 listed migratory species predicted to occur or may occur within the Project Area. The threatened fauna and flora species predicted by the PMST report include some of identified in the NVA report (listed above) and several additional birds, aquatic species and flora.

Threatened fauna species with the potential to occur in or near the Proposed Action site are described in more detail in **Table 3** of Att_9_MNES_Assessment_Listed communities_Threatened species_Migratory species.

The layout aims to avoid impacts to known listed flora locations, and potential habitat (especially that which is identified as ‘habitat critical to the survival of the species’). Whilst it is anticipated that this approach can be achieved by the careful placement of turbines and ancillary infrastructure, ecological surveys have been conducted and more are underway to ascertain the likelihood of these, and other native and threatened species, occurring in the Poject Area.

The primary potential impact associated with the Proposed Action to threatened flora and vegetation communities is through potential clearance of vegetation during the construction phase. Given the predominance of agricultural land (including native forests used for silvicultural harvesting and regeneration) across the Proposed Action site, and the ability to preferentially locate turbines on agricultural land or low-conservation value areas (e.g. well reserved forest communities that is not significant habitat for listed species) in determining the wind turbine layout, it is anticipated that most areas of habitat for threatened flora species, and threatened vegetation communities, can be avoided through development of the wind turbine layout.

Another potential impact may be through the introduction of weeds especially during construction. Weeds have the potential to reduce the quality of native vegetation communities as well as fragment existing vegetation and habitat for threatened species. This was not the case for the construction of the adjoining CHWF however, where weeds were effectively excluded and/or controlled. The same approach and control measures developed and implemented for the CHWF will be applied to the Proposed Action.

Threatened Fauna Impacts

The primary potential impact of the Proposed Action to threatened fauna species is through collision of threatened avifauna species withwind turbines. The Tasmanian Wedge-Tailed Eagle (*Aquila audax* subsp. *fleayi*) is resident at the Proposed Action site (see nests in **Figure 4, Att_2**) and its flight behaviour places this species at higher risk from collision with wind turbines than other bird species around the Proposed Action site.

Migratory avifauna species also occur around the Proposed Action site, and have some risk of collision of with wind turbines. In addition, lighting around the Proposed Action site has the potential to disorient migrating birds. Existing records (Att_6_NVA Search Report, p13 and Att_5_Protected Matters MNES Search Tool Report, pp 3-4, 6-12) indicate that these species prefer habitats in coastal environments which are absent from the Proposed Action site. It is possible that these species could overfly the Central Highlands, albeit these flights are anticipated to be relatively infrequent and may be completed by single birds or pairs rather than large flocks. However, there remains the potential for direct impact to these species through collisions with wind turbines installed by the Proposed Action, but it is unlikely to be significant.

Key habitat for the avifauna species discussed above will largely be avoided by the application of a 1,000 m buffer around Tasmanian Wedge-tailed Eagle nests (see), andavoiding key shorebird habitat around the coastline (through the 1 km buffer from the coastline defined in the indicative turbine envelope).

Terrestrial threatened fauna species, such as Spotted Tailed Quoll (*Dasyurus maculatus maculatus*), Eastern Quoll (*Dasyurus viverrinus*), Eastern Barred Bandicoot (*Perameles gunnii gunnii*), and Tasmanian Devil (*Sarcophilus harrisii*) are likely to use parts of the Project Area for foraging and potentially denning. Direct impacts to these species could occur through the clearance of potential habitat, or increased risk of roadkill due to increased traffic (especially in the construction phase).

Construction works could impact waterways through sedimentation, dust and soil compaction associated with earthworks and/or vegetation clearance. The Proposed Action would require some works around waterways, with the final layout to be designed to avoid direct impact to key habitat for these species. By avoiding key habitat areas, along with implementation of erosion and sediment control measures, it is anticipated that the Proposed Action would have minimal impact to water quality or quantity within key habitats for aquatic fauna species. However, there remains potential for impact to aquatic fauna species (and habitat).

Potential impact to threatened fauna species (such as birds) could also occur through noise, vibration, and lighting during construction. This has the potential to impact fauna species in a variety of ways. Night lighting may disturb or displace native nocturnal fauna, noise or vibration may cause displacement of mammals.

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. *

Based on DCCEEW's Significant Impact Guidelines, considering the presence of Tasmanian Wedge-Tailed Eagle, and its potential for collision with wind turbines based on previous wind farm operations in Tasmania, the Proposed Action has a real chance or possibility of significant impact to this species.

Other species, mainly birds, which could be significantly impacted include:

- *Neophema chrysostoma*, blue-winged parrot (-/VU) - turbine blade/infrastructure collision risk
- *Haliaeetus leucogaster,* white-bellied sea-eagle (v/-) - turbine blade/infrastructure collision risk
- *Oreixenica ptunarra*, ptunarra brown butterfly (e/EN) - habitat loss, disturbance from lighting and noise
- *Sarcophilus harrisii,* Tasmanian devil (e/EN) - den disturbance and loss, vehicle collision risk
- *Dasyurus maculatus* subsp. *maculatus* (spotted-tail quoll) (r/VU) - den disturbance and loss, vehicle collision risk
- *Dasyurus viverrinus*, eastern quoll (-/EN) - den disturbance and loss, vehicle collision risk
- *Tyto novaehollandiae* subsp. *castanops,* Tasmanian masked owl (e/VU) - collision risk, disturbance from lighting
- *Gallinago hardwickii,* lathams snipe (-/VU) - turbine blade/infrastructure collision risk

Given the range of potential impacts outlined above, and the range of threatened flora and fauna species that could potentially occur on the Proposed Action site, there is a real chance or possibility of significant impact to other threatened fauna and/or flora species. This is consistent with the precautionary principle, due to relative uncertainty around the ecological values that may occur on site and the potential for significant impact, without detailed footprints and management measures to minimise impacts to these matters.

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. *

While it is anticipated that the impact to Tasmanian Wedge-Tailed Eagle, and other listed flora and fauna species can be minimised through implementation of a range of management measures, given the early stage of the Proposed Action, it is appropriate for the potential impacts of the Proposed Action to be assessed under the EPBC Act.

Assessments carried out by the Proponent indicate the Project would be considered a Controlled Action based on known presence (and therefore potential impacts which may be significant) on:

- Listed threatened species and communities (sections 18 and 18A); and
- Listed migratory species (sections 20 and 20A)

As noted in Section 1.2.6, at the Commonwealth level, the Proposed Action will require assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). GWA actively volunteered the Project as being a controlled action in a briefing provided to

DCCEEW, EPA, and Central Highlands Council in December 2023, and subsequent pre-lodgment meetings with DCCEEW relating to this Referral.

To commence the assessment process and seek guidelines on the surveys and studies required to compliment those already completed, the Proposed Action is being referred. This approach by GWA is consistent with the precautionary principle, due to relative uncertainty around the ecological values that may occur on site and the potential for significant impact, based on experience from similar wind farm projects.

The Bilateral Agreement between the Tasmanian and the Commonwealth Governments allows the two assessments to be undertaken concurrently. For the Proposed Action, if it is deemed a controlled action under the EPBC Act, the Proponent seeks to have the Proposed Action assessed pursuant to the Bilateral Agreement under Section 45 of the EPBC Act between Tasmanian and Commonwealth governments.

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. *

As the Proposed Action is still in the planning and development phase, the full range of avoidance and mitigation measures are not yet finalised, but will be progressed with the submission of the EIS. However, some of the proposed mitigation actions can be confirmed here as they are well understood, as outlined below.

The Proposed Action will develop a range of evidence-based avoidance and mitigation measures, based on site-specific studies and habitat potentially affected by the Proposed Action.

Avoidance and Mitigation of Eagle Impacts (Tasmanian Wedge-Tailed Eagle, and White Bellied Sea Eagle)

This section discusses how lessons from the IdentiFlight (IDF) system at Cattle Hill Wind Farm (CHWF) are being applied to the project while in its development stage, and during the operations phase of the wind farm, if it is approved.

Wedge-tailed Eagle is the avifauna species at highest risk of impact at Tasmanian wind farms. Across different projects in Tasmania, the mitigation of eagle collision risk has proven to be a complex challenge. Successful management measures exist from other projects, including the automated eagle tracking and turbine curtailment Identiflight system at CHWF, and a range of other management measures at the CHWF, Musselroe, Bluff Point, and Studland Bay Wind Farms. However, variations between sites means that the implementation of measures from other sites must be assessed against site-specific characteristics.

Lessons from the CHWF IdentiFlight (IDF)

The use of the IDF system at CHWF was undertaken based on human observations of eagles in 2009. As a result, the number and position of IDF stations were not optimised based on eagle activity. By the time construction commenced in 2019, a new nest had been established which slightly altered the dynamics of the eagle population on site and introduced territorial conflicts. The layout inherited from the previous developer had eight turbines sited in this area, which is within a Carbon Protected Forest, with very little separation between the forest margin and proposed

turbines. As a result of these and other site constraints, full visibility of all 48 turbines was not achieved, with 8 turbines only partly visible to the nearest IDF Stations located >600m away. As a result, mortalities occurred at these turbines; valuable information was learned about the effective siting of IDF stations and the configuration of settings to enable the system to effectively prevent collisions.

Key lessons from the CHWF IDF system are incorporated into the Proposed Action, including:

- Improved design – a next gen version of IDF which has greater visibility (about 1.6km).
- More IdentiFlight Stations – around 30 IDF units are proposed (subject to final layout), a greater ratio of IDF stations to turbines.
- Siting of IDF stations and Turbines – unlike the CHWF, BWF will be informed by robust, and current eagle data (described below) which will enable both turbines and IDF stations to be appropriately sited.
- Full coverage of Turbines – BWF will allow sufficient clearance around turbines to ensure that IDF stations have full visibility of the turbines they are intended to cover.
- Simulated curtailments – a mobile IDF research unit is in the process of being deployed at the Project Area, which will be used to simulate eagle curtailments at proposed turbine locations, before construction commences.

Subject to confirmation with regulators, the impact assessment (and development of management measures) for the Proposed Action is expected to be informed by a range of surveys and requirements designed to assess risk and inform suitable management measures for eagle species. These may include:

- Turbine exclusion zones in high-risk areas - Exclusion zones of over 1000m around identified eagle nests
- Predicting high risk turbine locations is proposed through the development of a CRM based on eagle-specific utilisation surveys and tracking of eagles (work has started on this; Att_12_Eagle Utilisation Report_Wildspot Consulting).
- Turbine design and operating specifications
- Assessment of emerging technologies to detect and respond to high-risk flights by curtailment
- Increase visibility by coloring one blade black, which has been demonstrated as being successful with eagle species at Smola Wind Farm (Sweden)
- Installing eagle flappers on transmission lines in the area
- Trialing noise deterrents to reduce bird interaction

Eagle GPS tracking

GPS tracking data (University of Tasmania) is being used to supplement data arising from the eagle utilisation monitoring to help inform development of the layout. One eagle is currently being tracked from the pair occupying Nest RND1724, just within the north boundary of Bashan North, and data from one eagle being tracked from a nest outside the eastern boundary of the site on Sustainable Timber Tasmania (STT) land is being obtained under a data sharing agreement with STT.

Eagle Utilisation Monitoring

Based on similar projects, two years of eagle utilisation monitoring has been completed (**Att_12_Eagle Utilisation Report_Wildspot Consulting**).

Eagle Nest activity assessments

Activity assessments can establish baseline productivity to enable a comparison with wind farm operation. Activity assessments can also be used to inform seasonal works constraints within 500 m direct distance and 1 km line of sight of nests. Nest checks have been undertaken for the 2022-23 breeding season (**Att_13_VDC Nest Check Bashan Wind Farm December 2022**) and are scheduled for the 2023-24 season.

Eagle Nest searches

Aerial nest search results only remain valid for two years (due to the potential for new nests to be built), and additional nest surveys may be required to ensure data currency. Aerial searches were conducted by the Forest Practices Authority in late 2024 with no new eagle nests observed (i.e. no additional nests to those shown in **Figure 6, Att_11_Maps_Listed communities_Threatened species_Migratory species**).

Collision Risk Modelling

It is also anticipated a Collision Risk Model (CRM) may be required, which would account for a combination of variables specific to the Proposed Action, such as concentrated areas of activity, the number of flights made within rotorswept height and the number of movements at risk of collision.

Other avifauna species

To understand the movement of other birds across the Proposed Action site,targeted seasonal surveys for migratory birds and general bird surveys (in conjunction with the eagle utilisation surveys have also been carried out to verify species presence and diversity across the Project Area. These seasonal studies will also inform average flight heights of species, their preferred flight paths and key habitats and other important areas. For other avifauna species, suitable habitat for threatened and migratory birds onsite will be buffered with exclusion zones.
Buffer distances will be informed by site-specific studies, one of which is already proposed around the large ‘5 mile marsh’ area at the northern end of Bashan South and has been identified as good eagle and other bird habitat. No wind farm infrastructure is proposed in this area.

Threatened terrestrial fauna

The primary measure to reduce impact to threatened terrestrial fauna is to avoid the loss of habitat critical to their survival, and if this cannot be achieved, minimise the impact of disturbance to those habitats, during the development of the wind farm layout and design of ancillary infrastructure. Surveys will continue to be undertaken during the development phase to identify habitat critical to their survival and avoid/minimise negative impact in these areas.

Dependent on the relative risk posed, roadkill management measures may be required, including minimising the construction of new roads (as far as practicable), applying on lower speed limits within site roads, minimising vehicle movement from dusk to dawn and providing training to all site staff to minimise roadkill risk.

Threatened flora and vegetation communities

The primary mitigation measure for threatened flora and vegetation communities is to fully implement the avoidance and mitigation hierarchy before considering offsets, with the goal of avoiding disturbance to these MNES. Flora and vegetation community related MNES known or likely to occur within the Project Area include Miena Cider Gum (*Eucalyptus gunnii* subsp. *divaricata*), orchid Liawenee Greenhood (*Pterostylis pratensis*) and the state listed Highland *Poa* grassland community. While Highland Poa is not listed as an MNES, it is habitat for both the

Ptunarra Brown Butterfly (*Oreixenica ptunarra*), and Liawanee Greenhood, which are both MNES. A patch of Highland *Poa* has been identified within the Project Area which is currently in the process of being mapped to confirm whether this area qualifies for potential protection under a voluntary covenant or some other measure, subject to support from the relevant landowner, and the extent of the area that could be protected.

The current indicative layout shows a small encroachment into part of this grassland community (approx 2ha based on the 100m radius conservatively allowed for at each turbine), however the intent is to microsite this turbine out of the community. At this stage, it appears an area of at least 15 ha could be protected, and disturbance could be avoided, resulting in a net benefit to MNES. Further discussions with landowners, the Commonwealth and EPA will be undertaken during the EIS preparation phase with this outcome in mind.

Any further surveys required for the EIS will apply the same approach and seek to avoid disturbance to MNES during the development of the wind farm layout and design of ancillary infrastructure.

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

At the time of referral, the residual impact
(after avoidance, management and mitigation measures are developed) for EPBC listed species is not well enough understood to determine whether offsets may be required for the project, however opportunities have been identified for protection of Commonwealth listed species and vegetation communities, potentially as voluntary covenants, which can be excluded from the project infrastructure footprint, regardless of the turbine model finally selected. These include an area of Highland *Poa* Grassland which is in the process of being mapped and surveyed to determine its suitability for protection as possible Ptunarra Brown Butterly (*Oreixenica ptunarra*) and Liawanee Greenhood (*Pterostyis pratensis*) habitat.

Tasmanian Devil is present on site, and to a lesser extent, Eastern Quoll, both of which have been detected by wildlife cameras throughout the Project Area and found to be utilising the existing forestry roads as ecological corridors at night. Dens and scat are progressively being mapped in tandem with ecological surveys to build up an overall picture of terrestrial fauna movements and denning areas.

Should offsets be required for these species under the DCCEEW's EPBC Act Environmental Offsets Policy, much of the forested Bashan South area is considered suitable denning habitat, including many land titles secured for the project which are not suitable for wind farm infrastructure. This provides opportunities for onsite offsets to be established, which is the proponents preferred approach to offsets if impacts cannot be avoided, as it would enable effective management of offset and monitoring requirements.

Regarding eagles, the proponent will liaise further with EPA Tasmania and DCCEEW regarding appropriate exclusion areas, however the approach currently being adopted is based around the following:

- Avoidance of areas of most suitable eagle habitat;
- Checking of known nests annually;
- Searches for any unknown nests;

- GPS tracking of eagle movements to determine flight paths in the vicinity of possible turbine locations;
- Applying a minimum setback of 1km to known eagle nests as an interim measure, and;
- Using all of the above to inform development of the turbine layout, the IdentiFlight layout, and exclusion zones around nests.

Mitigation measures for eagles, including a next generation version of the IdentiFlight system installed at CHWF will be applied, based on lessons from the IdentiFlight trial. These are further discussed in Section 4.1.4.10.

The Proponent is developing an Offset Strategy for the Project and will liaise further with EPA Tasmania and DCCEEW as this strategy is developed.

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	Common name
Yes	No	Actitis hypoleucos	Common Sandpiper
Yes	No	Apus pacificus	Fork-tailed Swift
Yes	No	Calidris acuminata	Sharp-tailed Sandpiper
Yes	No	Calidris ferruginea	Curlew Sandpiper
Yes	No	Calidris melanotos	Pectoral Sandpiper
Yes	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	No	Hirundapus caudacutus	White-throated Needletail

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

Yes

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

Potential impacts to migratory species include birds colliding with operating turbines, and impacts to habitat extent and quality (e.g., ongoing impacts caused by distrubance vectors such as noise and lighting).

Of the migratory species above, the White-throated Needletail (*Hirundapus caudacutus*) has been observed at the adjoining CHWF and therefore could be expected to be present at the BWF, as has been shown to be the case with the two years of seasonal bird monitoring studies completed (Att_10_Bird Utilisation Report_Wildspot Consulting).

Latham's Snipe (*Gallinago hardwickii*) is likely to occur at some stage in the Project Area and may specifically utilise habitats within and adjacent to the Development Footprint. These habitats include agricultural land (particularly wet soaks and broader drainage flats within pasture), sedgeland and grasslands, open forests, and heathland.

The adjoining CHWF, to date, has detected 879 White Throated Needletail movements, and 8 mortalities have occurred over a period of 5 years of continuous operation (**Table 4**, Att_8_Avifauna_Species_Observations). The remainder of the migratory species above have not been detected beneath turbines at CHWF in a period of five years of intensive carcass monitoring using detection dogs.

The Project Area does not support coastal habitats such as mudflats and wetlands and lacks estuarine deltas and large river confluences that are preferred by many of the migratory species identified in the PMST (Att_5_Protected Matters MNES Search Tool Report). Common Sandpiper (*Actitis hypoleucos*), Sharp-tailed Sandpiper (*Calidris acuminata),* Curlew Sandpiper (*Calidris ferruginea*), and Pectoral Sandpiper (*Calidris melanotos*) have not been recorded as far inland in Tasmania as the Project Area (NVA data and BirdLife records) and there are no recorded observations in the Central Plateau region. No observations have been made of this species during the pre- and post-construction studies for the Cattle Hill Wind Farm or during the point count and bird observation surveys at the Project Area (see Tables 1 and 2, Att_8 and Att_10_Bird Utilisation Report Wildspot Consulting). If present, these species would likely be transient to the area and occur as individuals or in very small groups rather than a large flock. Furthermore, it is not likely to utilise any habitat in the project Area for an extended period.

Based on this, impacts to migratory species are not expected to be significant, however as the level of impact cannot be accurately predicted, and given there is currently no proven mitigation to reduce collisions with any of the above migratory species, the Proposed Action is considered to have a potential direct impact to this species from the commencement of operation of turbines consistent with the precautionary principle.

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

Yes

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

Of the migratory species above, the White-throated Needletail (*Hirundapus caudacutus*) has been observed at the adjoining CHWF and therefore could be expected to be present at the BWF, as has been shown to be the case with the two years of seasonal bird monitoring studies completed

(Att_10_Bird Utilisation Report_Wildspot Consulting).

Latham's Snipe (*Gallinago hardwickii*) is likely to occur at some stage in the Project Area and may specifically utilise habitats within and adjacent to the Development Footprint. These habitats include agricultural land (particularly wet soaks and broader drainage flats within pasture), sedgeland and grasslands, open forests, and heathland.

Given the range of potential impacts to migratory birds, especially of collision risk with turbine blades and associated infrastructure, there is a real chance or possibility of significant impact to at least Latham's Snipe and White-throated Needletail. This is consistent with the precautionary principle, due to relative uncertainty around the ecological values that may occur on site and the potential for significant impact, without detailed footprints and management measures to minimise impacts to these matters.

While it is anticipated that the impact to migratory species could be minimised through the implementation of a range of management measures, given the early stage of the Proposed Action, it is appropriate for the potential impacts of the Proposed Action to be documented and assessed under the EPBC Act.

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

Yes

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

Based on DCCEEW's Significant Impact Guidelines, the Proposed Action has a real chance or possibility of a significant impact to some migratory species, such as White-throated Needletail (*Hirundapus caudacutus*) and Latham's Snipe (*Gallinago hardwickii*).

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

At present, little is known about the timing and duration of many migratory bird species' presence on a wind farm site. This uncertainty complicates the process of developing mitigation strategies to reduce collisions and is an area of interest to bird researchers in Australia, and globally.

Though not designed to protect these species, application of the IdentiFlight system at CHWF has shown it has significant potential to help close some of the existing knowledge gaps, based on preliminary review of the data associated with non-eagle bird species captured by IdentiFlight inadvertently in the process of tracking eagles. To date over one million non-eagle bird movements have been captured, each tagged with specific flight details including the exact time, location, and height above ground relative to surveyed data points.

As an initiative to better understand bird species movements one of the next generation IdentiFlight units which would ultimately be used as part of the final IdentiFlight layout, has been pre-ordered, and programmed to bias collection of data for small species, such as White Throated Needletail (*Hirundapus caudacutus*). This IDF unit would be reprogrammed to curtail turbines for eagles during construction of the wind farm, if it is approved. In the interim, the proposed use of IdentiFlight to collect small species data will be the first application of the IdentiFlight technology for research purposes in Australia and is expected to generate data of interest to bird researchers, other wind farms, and regulators. It is hoped that enough data can be collected to enable development of new neural networks for other Australian and Tasmanian birds in addition to the Wedge Tailed Eagle and White Bellied Sea Eagle networks contributed to the industry via the CHWF project. If this can be done, the exact movement of these species within a wind farm could be accurately known and distinguished from other birds.

Though not directly a mitigation measure in its current proposed form, this research is considered of high importance in understanding bird species movements in the interest of reducing collisions for target species, including migratory species, and may ultimately enable alternative mitigation measures to be developed.

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

At the time of referral, after avoidance, management and mitigation measures are applied for migratory species the residual impact is not well enough understood to determine whether offsets may be required. However, opportunities for formal offsets have already been identified for the protection of Commonwealth listed species and vegetation communities in the Project Area, potentially as voluntary covenants, which can be excluded from the project infrastructure footprint, regardless of the turbine model finally selected.

Should offsets be required for migratory species under the DCCEEW's EPBC Act Environmental Offsets Policy, the size of the Project Area provides opportunities for onsite offsets to be established, which is the proponents preferred approach to offsets if impacts cannot be avoided, as it would enable effective management of offset and monitoring requirements. The Proponent is developing an Offset Strategy for the Project and will liaise further with EPA Tasmania and DCCEEW as this strategy is developed.

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. *

No nuclear related activities are included in the Proposed 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. *

There are no Commonwealth Marine Areas within or adjacent to the Project Area so the likelihood of a direct impact is nil.

The likelihood of any indirect consequence caused by downstream or adjacency impacts to a Commonwealth Marine Area is nil.

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 Marine Park does not occur within or adjacent to the Project Area.

The likelihood of any impact, direct or indirect, from the Proposed Action on the GBMP is nil.

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 is not a coal seam gas (CSG) 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 are no Commonwealth Lands within or adjacent to the Project Area.

The Proposed Action has no direct and/or indirect impact on any 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.

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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 overseas Commonwealth Heritage places impacted by the Proposed Action.

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)
- Migratory Species (S20)

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)
- 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. *

Several alternative sites were investigated while selecting the site, with sites considered around the Great Lakes, Liawanee, and other locations. While these sites were deemed viable for development in terms of wind resources, grid access etc., they were generally ruled out based on potential to disturb the character of the Central Highlands due to high visibility of turbines in close proximity to public places such as the Great Lake and the Central Plateau Wilderness Area.

The preferred site, adjacent to CHWF, presented an opportunity for a project with much lower visibility of turbines, further from major roads, highways and public areas, which was considered more compatible with the surrounding area.

Goldwind identified the Project Area as suitable based on its extensive experience developing projects across Australia but more particularly through the development, construction, operation and maintenance of the adjoining CHWF in the Central Highlands. The area selected for the Project has a long history of use for renewable energy dating back to the early 1900s, when Tasmania's first Hydro Electric Power Station, Waddamana Power Station, was developed in 1914. Associated developments include the development of the TasNetworks electricity network / powerline corridor which crosses through the proposed Bashan site, diversion of the Ouse River to create man-made lakes including Lake Echo and Dee Lagoon, and construction of the Lake Echo Power Station. The Waddamana Power Station operated until its closure in the 1960s and is now a heritage museum, with access via Waddamana Power trail, now a tourist route.

The CHWF has continued Waddamana's association with renewable energy, and its presence has contributed to the rejuvenation of the once thriving Waddamana Village, now an accommodation village. Tours of Waddamana Museum now incorporate reference to the CHWF in discussing the history of renewable energy in this area, with CHWF turbines providing the perfect visual backdrop. Visitors to the museum or accommodation facilities at Waddamana can often witness turbines 6, 7, 8, and 9 shutting down and starting up under the protective eye of the IdentiFlight™ system as Wedge-tailed Eagles fly past these turbines.

The CHWF has shown that a wind farm in this area can be successfully integrated into both the community and the environment. Goldwind believes another wind farm in the same area will continue the area's legacy of renewable energy in Tasmania.

In addition to the historical use for power generation, the site is considered suitable for development of a wind farm for the following reasons:

- The area is relatively remote with a low population density;
- The wind farm location does not intersect with any world heritage or sensitive areas;
- The site is within the candidate Renewable Energy Zone (REZ) identified by AEMO as suitable for co-location of multiple renewable energy projects and would provide a significant contribution to the 2030 and 2040 Tasmanian renewable energy targets;
- Several TasNetworks transmission lines run through the site that provide an excellent direct access to the Tasmanian electricity network without the need for any major augmentation to connect to the network;
- The area has a proven and strong wind resource;
- The area has a number of existing land uses compatible with the proposed use;
- Landowner participation – all landowners with occupied dwellings in the area are participants in the Project;

- Environmental Impact – much of the site has been previously disturbed or modified, and the vegetation and habitat is of low to moderate quality with manageable impacts;
- Efficiency of construction – the site has an existing network of forestry roads, and delivery of components will utilise the access developed for the adjoining CHWF; and
- Lessons learned from the development of the adjoining CHWF can be incorporated into the Project, which shares many of the same species, vegetation, underlying geology and natural values to enhance project outcomes.

Goldwind believes the proposed Project should not be highly contentious and is seeking open dialogue and feedback from surrounding communities.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_1_Land Tenure.pdf Land tenure of the Project Area with land title outlines and ownership	01/11/2024	No	High
#2.	Document	Att_2_General Location of Bashan Wind Farm.pdf General location maps for the Bashan Wind Farm	30/09/2024	No	High
#3.	Document	Att_7_Turbine Product Specifications Brochure.pdf Technical specifications of GWA wind turbines	31/10/2024	No	High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_1_Land Tenure.pdf Land tenure of the Project Area with land title outlines and ownership	01/11/2024	No	High
#2.	Document	Att_2_General Location of Bashan Wind Farm.pdf General location maps for the Bashan Wind Farm	30/09/2024	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_3_Existing Environment.pdf Map showing the existing environment of the Project Area such as topography and land use	31/10/2024	No	Medium

#2.	Document	Att_4_Land System Information.pdf Land System (NRE Tas) information including geology, soils, and associated vegetation and land use constraints	31/10/2024	Yes	High
#3.	Document	Att_5_Protected Matters MNES Search Tool Report.pdf Protected Matters MNES Search Report accessed through the interactive MNES webtool on the DCCEEW webpage	26/01/2024	Yes	High
#4.	Document	Att_6_NVA Search Report.pdf A Natural Values Atlas Report obtained from the Natural Values Atlas database maintained by the Tasmanian Department of Natural Resources and Environment	26/01/2024	Yes	High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_3_Existing Environment.pdf Map showing the existing environment of the Project Area such as topography and land use	31/10/2024	Yes	Medium

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_6_NVA Search Report.pdf A Natural Values Atlas Report obtained from the Natural Values Atlas database maintained by the Tasmanian Department of Natural Resources and Environment	26/01/2024	Yes	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_10_Bird Utilisation Report_Wildspot Consulting.pdf Bird utilisation study which documents bird usage at the Bashan Wind Farm site	31/10/2024	Yes	High
#2.	Document	Att_11_Maps_Listed communities_Threatened species_Migratory species.pdf Habitat locations and known occurrences for selected listed flora and fauna species	31/10/2024	Yes	High
#3.	Document				

		Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 1.pdf Ecological assessments of proposed WTG locations based on Layout V11 of the Bashan Wind Farm	31/07/2024	1.24	High
#4.	Document	Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 2.pdf Ecological assessments of proposed WTG locations based on Layout V11 of the Bashan Wind Farm Part 2	31/07/2024	1.24	High
#5.	Document	Att_14_Bashan Wind Farm WTG ecological assessments_Layout 11_Part 3.pdf Ecological assessments of proposed WTG locations based on Layout V11 of the Bashan Wind Farm Part 3	31/07/2024	1.24	High
#6.	Document	Att_2_General Location of Bashan Wind Farm.pdf General location maps for the Bashan Wind Farm	30/09/2024	1.24	High
#7.	Document	Att_3_Existing Environment.pdf Map showing the existing environment of the Project Area such as topography and land use	31/10/2024	1.24	Medium
#8.	Document	Att_5_Protected Matters MNES Search Tool Report.pdf Protected Matters MNES Search Report accessed through the interactive MNES webtool on the DCCEEW webpage	26/01/2024	1.24	High
#9.	Document	Att_6_NVA Search Report.pdf A Natural Values Atlas Report obtained from the Natural Values Atlas database maintained by the Tasmanian Department of Natural Resources and Environment	26/01/2024	1.24	High
#10.	Document	Att_8_Avifauna_Species_Observations.pdf Summary of bird observations from CHWF and Bashan Wind Farm and recorded mortalities from CHWF	11/02/2024	1.24	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidenc
#1.	Document	Att_2_General Location of Bashan Wind Farm.pdf General location maps for the Bashan Wind Farm	30/09/2024	1.24	High
#2.	Document	Att_3_Existing Environment.pdf Map showing the existing environment of the Project Area such as topography and land use	31/10/2024	1.24	Medium

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_3_Existing Environment.pdf Map showing the existing environment of the Project Area such as topography and land use	31/10/2024	Yes	Medium

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	Sensitivity	Confidence
#1.	Document	Att_10_Bird Utilisation Report_Wildspot Consulting.pdf Bird utilisation study which documents bird usage at the Bashan Wind Farm site	31/10/2024	Yes	High
#2.	Document	Att_11_Maps_Listed communities_Threatened species_Migratory species.pdf Habitat locations and known occurrences for selected listed flora and fauna species	31/10/2024	Yes	High
#3.	Document	Att_5_Protected Matters MNES Search Tool Report.pdf Protected Matters MNES Search Report accessed through the interactive MNES webtool on the DCCEEW webpage	26/01/2024	Yes	High
#4.	Document	Att_6_NVA Search Report.pdf A Natural Values Atlas Report obtained from the Natural Values Atlas database maintained by the Tasmanian Department of Natural Resources and Environment	26/01/2024	Yes	High
#5.	Document	Att_9_MNES_Assessment_Listed communities_Threatened species_Migratory species.pdf Listed ecological community and threatened and migratory species habitat and occurrence assessment	31/10/2024	Yes	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_12_Eagle Utilisation Report_Wildspot Consulting.pdf Eagle utilisation study which documents WTE/WBSE usage at the Bashan Wind Farm site	31/10/2024	Yes	High
#2.	Document				

		Att_13_VDC Nest Check Bashan Wind Farm December 2022.pdf Eagle nest check status for nests at Bashan Wind Farm for the 2022-23 breeding season	30/11/2023	23	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_10_Bird Utilisation Report_Wildspot Consulting.pdf Bird utilisation study which documents bird usage at the Bashan Wind Farm site	31/10/2024	24	High
#2.	Document	Att_8_Avifauna_Species_Observations.pdf Summary of bird observations from CHWF and Bashan Wind Farm and recorded mortalities from CHWF	11/02/2024	24	High

4.1.5.5 (Migratory Species) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_10_Bird Utilisation Report_Wildspot Consulting.pdf Bird utilisation study which documents bird usage at the Bashan Wind Farm site	31/10/2024	24	High

5.2 Declarations

Completed Referring party's declaration

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

Name	Richard Barnes
Job title	Principal Planner and Ecologist
Phone	0438588695
Email	rwbarnes73@gmail.com
Address	PO Box 171 Brighton TAS 7030

☑ 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, **Richard Barnes**, 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	680340381
Organisation name	BASHAN WIND FARM PTY LTD
Organisation address	Suite 02, Level 25 100 Barangaroo Avenue Barangaroo, NSW, 2000
Representative's name	David Rogers
Representative's job title	Development Manager
Phone	+61 0459 863 50
Email	davidrogers@goldwindaustralia.com
Address	Level 4, North Tower Building, 485 La Trobe Street, Melbourne, VIC 3000

☑ 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, **David Rogers of BASHAN 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, **David Rogers of BASHAN 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. *