Aurora Green Offshore Wind Project

Application Number: **03088** Commencement Date: **11/08/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Aurora Green Offshore Wind Project

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 *

01/01/2028

1.1.4 Estimated end date *

31/12/2061

1.2 Proposed Action details

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

Iberdrola Australia OW 2 Pty Limited (**Iberdrola Australia**) proposes to construct and operate the Aurora Green Offshore Wind Project (**the Project**), a renewable energy development to be located off the Gippsland coast of Victoria, Australia.

Aurora Green is a 3 GW offshore wind project being developed by Iberdrola Australia in Gippsland, located 25+ kms from the coast. The Project is proposed offshore from Seaspray/Honeysuckles and Woodside Beach within Commonwealth's offshore wind Gippsland Declared Area OEI-01-2022.

The electricity generated by approximately up to 150 turbines would be transmitted to a connection point onshore, via a transmission system of cables and substations, and would connect into the National Electricity Market to power homes and businesses. With a proposed operational life of 30-40 years, the Project would be developed in stages to align with the development of the industry and supporting infrastructure.

Once complete, it is expected that the delivery of the Project by Iberdrola Australia would provide the following benefits to the State of Victoria and Australia:

- Up to 3 GW of offshore wind power generating capacity
- Clean energy to power up to 2.25 million households
- 600 long-lasting, skilled jobs during operation
- 1800+ jobs during construction
- $8 billion boost to the Victorian economy
- Grow and support local talent through apprenticeships, scholarships and research programs.

Project components would be located within the Referral Area as shown in **Figure 1-1 Project Overview (Att 1 - Project Figures, pg. 1)**, which consists of the following broad investigation areas for locating infrastructure:

- **Offshore wind farm feasibility area** – the area covered by Feasibility Licence FL-012 in the Gippsland Declared Area OEI-01- 2022.
- **Export cable corridor investigation area (offshore)** – the area of the offshore marine environment, within which the offshore portion of the Export Cable Corridor would be defined. This area includes a north-east and a south-west corridor and shore crossing options, with the preferred option and area of interest to be defined and narrowed down as the Project progresses.
- **Export cable corridor investigation area (onshore)** – the area within which the onshore portion of the Export Cable Corridor would be defined. This area generally aligns with the Gippsland Shoreline Renewable Energy Zone (**REZ**). The preferred area of interest onshore will also be narrowed down as the Project progresses.

The following offshore and onshore Project components would be located within this broad Referral Area:

- **Offshore wind farm** (**OWF**)**,** in Commonwealth waters, located between approximately 25 km and 50 km offshore from the towns of Woodside Beach and Seaspray, covering an area of 700 km2, in water depth ranging from approximately 40 m to 60 m. The OWF would comprise up to approximately 150 wind turbines depending on the final design. It also includes inter array cables (**IAC**) and offshore substation(s).
- **Export cable corridor** (**ECC**), to transmit the electricity and data from the turbines to the onshore connection point, encompassing export cables spanning across both Commonwealth and Victorian coastal waters and on land. The cables would make landfall at a shore crossing location (at either Reeves Beach or McGaurans Beach), with the offshore and onshore cable portions connected via underground cable transition joint bays (**TJB**) to be located within approximately 500 m of the shoreline.
- **Onshore connection point**, comprising an onshore substation to be located within the VicGrid Connection Hub located in the Gippsland Shoreline REZ.

- **Operations and maintenance** (**O&M) facility**, to support the ongoing operation and maintenance of the project. The O&M facility shall be located at an existing nearby port. The O&M facility is not part of the Referral Area. Any approvals associated with port upgrades would be done by others.

The delivery of the VicGrid Connection Hub does not form part of this Project. Iberdrola Australia would work with the party ultimately chosen by VicGrid to build, own and operate the transmission infrastructure in Gippsland that will facilitate the connection of offshore wind developments in the region.

Construction

Key construction activities include:

- Offshore Wind Farm
    - Survey, site clearance and installation of ancillary components (e.g., navigational aids, monitoring equipment) and seabed preparation;
    - Installation of offshore foundations and scour protection (as required);
    - Installation of turbine and offshore substation structures on foundations;
    - Laying and burying/protection of inter array cables; and
    - Testing and commissioning of the offshore wind farm infrastructure.
- Export Cable Corridor (offshore)
    - Surveys and site clearance;
    - Preparation of the seabed (including some limited levelling as necessary), within a defined corridor;
    - Installation and possible burying of the cables, subject to ground conditions; and
    - Laying of cable protection (which may include concrete mattressing, rock placement, grout bags, rock filled gabion bags, etc), as required.
- Construction of shore crossing, transmission corridor infrastructure, including the following activities, as required: crossing site excavation, drilling and cable installation, trenching, TJB installation, onshore cable systems and electrical equipment installation;
- Export Cable Corridor (onshore)
    - Preparation of a cable trench within a defined corridor;
        - Surveys and site clearance;
        - Installation of the cables; and
        - Backfilling and laying of cable protection, as required.
    - Establishment of onshore construction sites and upgrades to existing roads, as required, as well as creation of site access and laydown areas;
    - Clearing and preparation of the selected transmission corridor, onshore substation and connection point area (as required);
    - Electrical connection of cables and final system commissioning; and
    - Removal of construction equipment and facilities, and site rehabilitation.
- Onshore Connection Point
    - Construction of the onshore substation and connection point infrastructure;
    - Electrical connection final system commissioning; and
    - Removal of construction equipment and facilities, and site rehabilitation.

Temporary Footprint (during Project construction stage)

Following the siting of infrastructure within the broader Referral Area, the temporary construction footprint would be much smaller (than the investigation area) and would include the area required for all short-term activities to support the construction of the project and installation of the export cables. This includes zones required for cable laying, vessel manoeuvring, landfall works, temporary access routes, construction support areas, safety buffers, and environmental protection measures. The temporary construction footprint would be larger than the permanent infrastructure footprint (i.e., once the construction process is complete,

all temporary infrastructure would be removed, and the temporary footprint rehabilitated). The ECC temporary construction footprint width at this early development stage is anticipated to be up to approximately 200 m.

Operations

Key operations activities during the lifetime of the Project may include:

Offshore Wind Farm

- Inspections and predictive maintenance of turbines, substations, and foundations. This may include:
  - Lubrication and replacement of mechanical components
  - Ongoing electrical system testing
  - Corrosion protection system checks (e.g., cathodic protection, coatings)
  - Cleaning and maintenance of access platforms and safety systems
  - Wind turbine repairs and foundation remedial works, as required

Export Cable Corridor (offshore)

- Undertaking of seabed surveys to:
  - Detect and rectify cable exposure or movement;
  - Monitor for damage from environmental factors or third-party interference.
  - Undertake remedial burial or rock placement if cables become exposed

Export Cable Corridor (onshore) and Onshore Connection Point

- Inspection and maintenance of onshore substation, overhead or underground lines
- Vegetation management along transmission corridors
- Equipment testing and maintenance

Permanent Footprint (during Project operations stage)

The permanent infrastructure footprint would include the area of seabed and land permanently occupied by the installed infrastructure, including turbines (and foundations), inter array cables, substations, export cables, TJB(s) and associated infrastructure and easement(s). The permanent infrastructure footprint would be much smaller than the temporary construction footprint. At this early development stage, the permanent infrastructure footprint for the ECC is anticipated to be less than 100 m wide.

Decommissioning

The proposed operational life of the Project is 30 - 40 years, after which key infrastructure is proposed to be decommissioned. In the event that the operational life is proposed to be extended, the process of re-powering the Project would be subject to any relevant approval processes at the time and the upgrading of project infrastructure, facilities and equipment, as required.

Requirements for decommissioning would be established through the approvals phase for the Project. The principal decommissioning approach for the Project includes the removal of infrastructure above seabed, or ground level, in accordance with the Commonwealth and Victorian regulatory requirements, following cessation of operations. Some infrastructure may be left in-situ, if deemed safe and to be less impactful than its removal. There is also an option to repurpose or reuse the existing infrastructure. This would be approached in consultation with community and the relevant regulatory agencies.

It is anticipated that principal decommissioning activities would include:

- Consultation with key stakeholders and landholders;
- Removal of infrastructure as required;
- Reinstatement/rehabilitation activities; and
- Monitoring, as required.

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

Yes

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

No

1.2.4 Related referral(s)

EPBC Number	Project Title
2024/09968	Aurora Green Offshore Wind Farm Preliminary Surveys
2024/09980	Gippsland Offshore Wind Transmission 2GW Project

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

The Project defined here is not part of a staged development. While the Project is proposed to be developed in phases (nominally 3 phases), all phases are included in the proposed action that is the subject of this referral.

The Project is related to other actions and proposals in the region, as described below.

Aurora Green Offshore Wind Farm Preliminary Surveys, Iberdrola Australia OW2 Pty Ltd (EPBC No. 2024/09968)

Preliminary baseline characterisation surveys for the Project were the subject of a separate EPBC referral in 2024. These surveys are required to collect geotechnical, benthic, archaeological, contamination and geophysical information to inform early project development. The decision on whether the action needs approval was that the proposed action was not a controlled action if undertaken in a particular manner.

Gippsland Offshore Wind Transmission 2GW Project, VicGrid (EPBC No. 2024/09980)

New transmission infrastructure is required in Gippsland to connect future offshore wind energy facilities to the existing transmission network located in the Latrobe Valley. To enable the initial 2 GW of offshore wind generation capacity (by 2032) target of the Victorian Government to be achieved, VicGrid (an administrative office of the Victorian Department of Energy, Environment and Climate Action (**DEECA**)), proposes the Gippsland Offshore Wind Transmission 2 GW Project, which would comprise the construction, operation and decommissioning of a new overhead transmission line from an onshore connection hub (i.e. the VicGrid Connection Hub) in the area of Giffard inland from the Gippsland coast to a grid connection near Loy Yang Power Station in the Latrobe Valley. The Project relies on the VicGrid Connection Hub, in order to have a connection to Victoria's electricity grid and the National Electricity Market.

Ancillary infrastructure

Not included in the Referral Area, but associated with the Project:

- Operations and Maintenance facility, The O&M facility for the Project would be located at a nearby port location, currently assumed to be Barry Beach. The O&M facility is not part of the Referral Area.
- Temporary ancillary infrastructure, to support the construction phase of the Project. This would likely include temporary construction laydown areas, batching plants, access roads, site and personnel facilities, as well as site offices and storage facilities. This includes the use of a construction port(s) where marine operations would be controlled from, such as marshalling, pre-assembly and storage of components during the construction phase. Minor upgrade works may be required to facilitate the anticipated construction traffic. Potential utilities services relocations and/or upgrade works may be required to facilitate the onshore infrastructure. Any associated approvals would be delivered by others.

While the proposed action is relevant to the entirety of the Project, Aurora Green Offshore Wind Project would be developed in phases, as shown by the below indicative timeline:

- 2028 – Project Primary Approvals
- 2029 – Commercial Licence and FID (internal approval to appoint contractors)
- 2030 – 2033: Phase 1: Construction
- 2033 – 2063: Phase 1: Commercial Operation
- 2034 – 2037: Phase 2: Construction
- 2037 – 2067: Phase 2: Commercial Operation
- 2038 – 2040: Phase 3: Construction
- 2040 – 2070: Phase 3: Commercial Operation
- From 2063 – Anticipated decommissioning

The timing provided above is subject to grid availability, approvals and investment decisions.

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

The Project is in both Commonwealth and Victorian jurisdictions, including Commonwealth waters and Victorian waters and land. The following Commonwealth and Victorian approvals and consents would likely to be required, pending finalisation of the Project design and route selection.

PRIMARY APPROVALS

Commonwealth

- Referral under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) (this referral) – for a decision as to whether the Project is a 'controlled action' requiring assessment and approval under the EPBC Act.
- Components of the Project in Commonwealth waters would require licences under the *Offshore Electricity Infrastructure Act 2021* (**OEI Act**) including a Commercial Licence (and associated Management Plan), and Transmission and Infrastructure Licence(s).

State

- Referral under the *Environment Effects Act 1978* (**EE Act**) to determine whether an assessment under the EE Act is required. This would apply to Project components and activities within Victoria (i.e., onshore and in Victorian coastal waters).
- Planning approval for use and development of land pursuant to the *Planning and Environment Act 1987* (Vic).
- Consent under the *Marine and Coastal Act 2018 (Vic)* for works on marine and coastal Crown land
- Approval of a Cultural Heritage Management Plan pursuant to the *Aboriginal Heritage Act 2006 (Vic).*

SECONDARY CONSENTS

Depending on the final siting and design of project infrastructure and the construction methodology, specific components and activities of the Project may be subject to various secondary consents and compliance requirements, including:

- A sea dumping permit under the *Environment Protection (Sea Dumping) Act 1981* (Cth) in case that dredging/trenching are required
- Permit under the *Underwater Cultural Heritage Act 2018* (Cth) in relation to protected wrecks and/or protection zones
- Permit or consent under the *Heritage Act 2017* (Vic) in relation to registered heritage places
- Leases and licences pursuant to the *Land Act 1958* (Vic)
- Licence pursuant to the *Crown Land (Reserves) Act 1978* (Vic)
- Consent pursuant to the *Road Management Act 2004* (Vic) for works within a road reserve
- Permit pursuant to the *Flora and Fauna Guarantee Act 1988* (Vic) for taking of wildlife and removal of flora species
- Permit pursuant to the *Water Act 1989* (Vic) for works on waterways
- Permit to take (disturb) wildlife under the *Wildlife Act 1975*
- Compliance with requirement of the following legislation:
    - Local laws permit pursuant to *Local Government Act 2020* (Vic)
    - *Catchment and Land Protection Act 1994* (Vic)
    - *Environment Protection Act 2017* (Vic)
    - *Fisheries Act 1995* (Vic)
    - *Marine Safety Act 2010* (Vic)
    - *Underwater Cultural Heritage Act 2018* (Cth)

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. *

Early Engagement (2022 – 2024)

Iberdrola Australia has been engaging and consulting with a growing number of stakeholders since 2022 in preparation of the Feasibility Licence application. Prior to obtaining a Feasibility Licence, early engagement activities were focused on government, traditional owners, regulators, supply chain and key technical and statutory stakeholders. This was followed by engagement with local communities after the Feasibility Licence was awarded in July 2024. Iberdrola Australia has a Gippsland-based engagement and consultation team who have strong knowledge of the region, well-established local relationships, and are accessible to local stakeholders. The team is well equipped to understand the specific needs, concerns and perspectives of communities and can tailor engagement to suit local needs. Engagement with wider stakeholders continues as the Project develops and progresses through feasibility and technical environmental studies.

Continuous Engagement (2024 – ongoing)

Summaries of engagement undertaken with the following groups, as well as a full stakeholder list, is described further in **Att 3 – Stakeholder Engagement Strategy**, which is published on the Aurora Green website.

- State and Federal Government
- Local Government
- Traditional Owners
- Regulators
- Supply chain stakeholders
- Fishing Industry
- Oil and Gas Industry
- Offshore Wind Developer Groups
- Registered Training Organisations
- Other key industry stakeholders
- Gippsland community

Engagement with Traditional Owners

Iberdrola Australia acknowledges the Gunaikurnai people as the Traditional Owners of the Country and Sea where the Project is proposed. In March 2025, Iberdrola Australia and the Gunaikurnai Land and Waters Aboriginal Corporation (**GLaWAC**) entered into a landmark Engagement Agreement that guides the Project partnership to ensure GLaWAC is actively involved in discussions around the feasibility of the Project. Iberdrola Australia is proud to have been the first Gippsland offshore wind developer to achieve this outcome.

In announcing the agreement GLaWAC's CEO, Daniel Miller, said: *"This agreement sets a strong precedent for how offshore wind proponents should engage with Traditional Owners, demonstrating the value of meaningful partnerships based on respect and shared outcomes."*

Engagement with GLaWAC will continue throughout all phases of the Project.

Best Practice Engagement

A range of inclusive and best practice communication tools and engagement methods will be utilised to inform, consult, involve or collaborate with different stakeholders, to share information, and support a cooperative approach to the development of the Project.

Consistent with the IAP2 Public Participation Spectrum, identified stakeholders have been assigned a preliminary grouping according to their current level of involvement and interest in the Project.

Ongoing engagement will consist of the following:

- Ongoing identification of interested persons, organisations, communities and groups.

- Engagement with new interested persons, organisations, communities or groups identified, providing overview of the activities conducted.
- Notification of interested persons, organisation communities or groups in the event of change in activities.
- Feedback and comments received from relevant stakeholders continue to be recorded, assessed and responded to, as required, throughout the life of the Project.

All engagement is undertaken as per the Iberdrola Australia's Community and Stakeholder Engagement Policy – refer to **Att 4 - Community and Stakeholder Engagement Policy.**

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@dcceew.gov.au.

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

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	Level 14, 207 Kent Street, Sydney NSW 2000

Referring party details

Name	Jenny Luk
Job title	Partner
Phone	+61 3 8606 4131
Email	jenny.luk@erm.com
Address	Level 8, 501 Swanston Street, Melbourne VIC 3000

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	97667065689
Organisation name	IBERDROLA AUSTRALIA OW 2 PTY LIMITED
Organisation address	2000 NSW

Person proposing to take the action details

Name	Daniel Machado
Job title	Offshore Wind Senior Manager Environment
Phone	0448 211 661
Email	Daniel.machado@iberdrola.com.au
Address	80 Collins 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. *

Iberdrola Australia has a sound record of responsible environmental management. Previously Infigen Energy, Iberdrola Australia has been operating in the Australian market for over 15 years, successfully developing a number of wind, solar and battery projects. These assets are located across the states of New South Wales, South Australia, Queensland, and Western Australia. Iberdrola Australia is a long-term owner, operator and developer of renewable generation, with renewable and firming assets of a total energy generation capacity of 2.4 GW and a large pipeline of future opportunities with the aim of driving Australia's energy transition.

Iberdrola Australia remain responsible for its assets across their full project lifecycle, with dedicated teams working on the development, construction management, and operation and maintenance of their projects. Iberdrola Australia has experience implementing and complying with both state and Commonwealth environmental approvals and in the environmental management of pre-construction, construction and operations phases of its projects.

There are no current or previous proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against Iberdrola Australia.

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

Iberdrola Australia is part of the Iberdrola Group, and is ultimately owned by Iberdrola, S.A. The Iberdrola Group's policies include the Iberdrola Group Environmental Policy, which the **Iberdrola Australia Environment Policy** is consistent with (**Att 5 – Environment Policy**). These policies establish a framework of reference for integrating the protection and promotion of biodiversity into the Group-level and Iberdrola Australia strategies. This helps to define the principles of conduct for the development of a business model that is sustainable and contributes to a nature-positive society, such that the activities of Iberdrola's companies protect and promote the development and growth of the natural heritage and a global commitment to being "nature positive" by 2030.

The Iberdrola Group Environmental Policy, approved by the Board of Directors of Iberdrola, S.A., outlines the company's commitment to environmental protection and sustainability. It establishes guidelines for integrating environmental concerns into the company's strategy, investments, and operations, emphasising the importance of renewable energy, efficiency, emissions reduction, and digital transformation.

Key points of the policy include:

- Purpose: The policy aims to integrate environmental protection into the company's strategy, investments, and operations, emphasising the importance of renewable energy and environmental management principles.
- Scope of Application: The policy applies to all companies within the Iberdrola Group and investees over which the company has effective control. It also encourages alignment with the policy for companies in which Iberdrola has an interest.
- Main Principles of Conduct: The policy outlines principles such as respect for nature and biodiversity, compliance with legal provisions and environmental standards, promotion of innovation and sustainable technologies, sustainable use of natural capital, and integration of biodiversity protection into the business model.
- Priority Lines of Action: The policy focuses on three priority areas: climate action, protection of biodiversity, and the circular economy, emphasising the application of the main principles of conduct in these areas.

Overall, the policy underscores the Iberdrola Group's commitment to environmental sustainability, legal compliance, innovation, and stakeholder engagement, with a focus on addressing climate change, protecting biodiversity, and promoting circular economy principles.

Iberdrola Australia published its first Sustainability Report in 2024 and again in 2025. The reports outline Iberdrola Australia's approach to climate action including its goal of being nature positive by 2030 and the actions being undertaken to achieve these goals.

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	97667065689
Organisation name	IBERDROLA AUSTRALIA OW 2 PTY LIMITED
Organisation address	2000 NSW

Proposed designated proponent details

Name	Daniel Machado
Job title	Offshore Wind Senior Manager Environment
Phone	0448 211 661
Email	Daniel.machado@iberdrola.com.au
Address	80 Collins 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.

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	Level 14, 207 Kent Street, Sydney NSW 2000
Representative's name	Jenny Luk
Representative's job title	Partner
Phone	+61 3 8606 4131
Email	jenny.luk@erm.com
Address	Level 8, 501 Swanston Street, Melbourne VIC 3000

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	97667065689
Organisation name	IBERDROLA AUSTRALIA OW 2 PTY LIMITED
Organisation address	2000 NSW
Representative's name	Daniel Machado
Representative's job title	Offshore Wind Senior Manager Environment
Phone	0448 211 661
Email	Daniel.machado@iberdrola.com.au
Address	80 Collins 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? *

Yes

1.4.10 Enter purchase order number *

PO234-100037

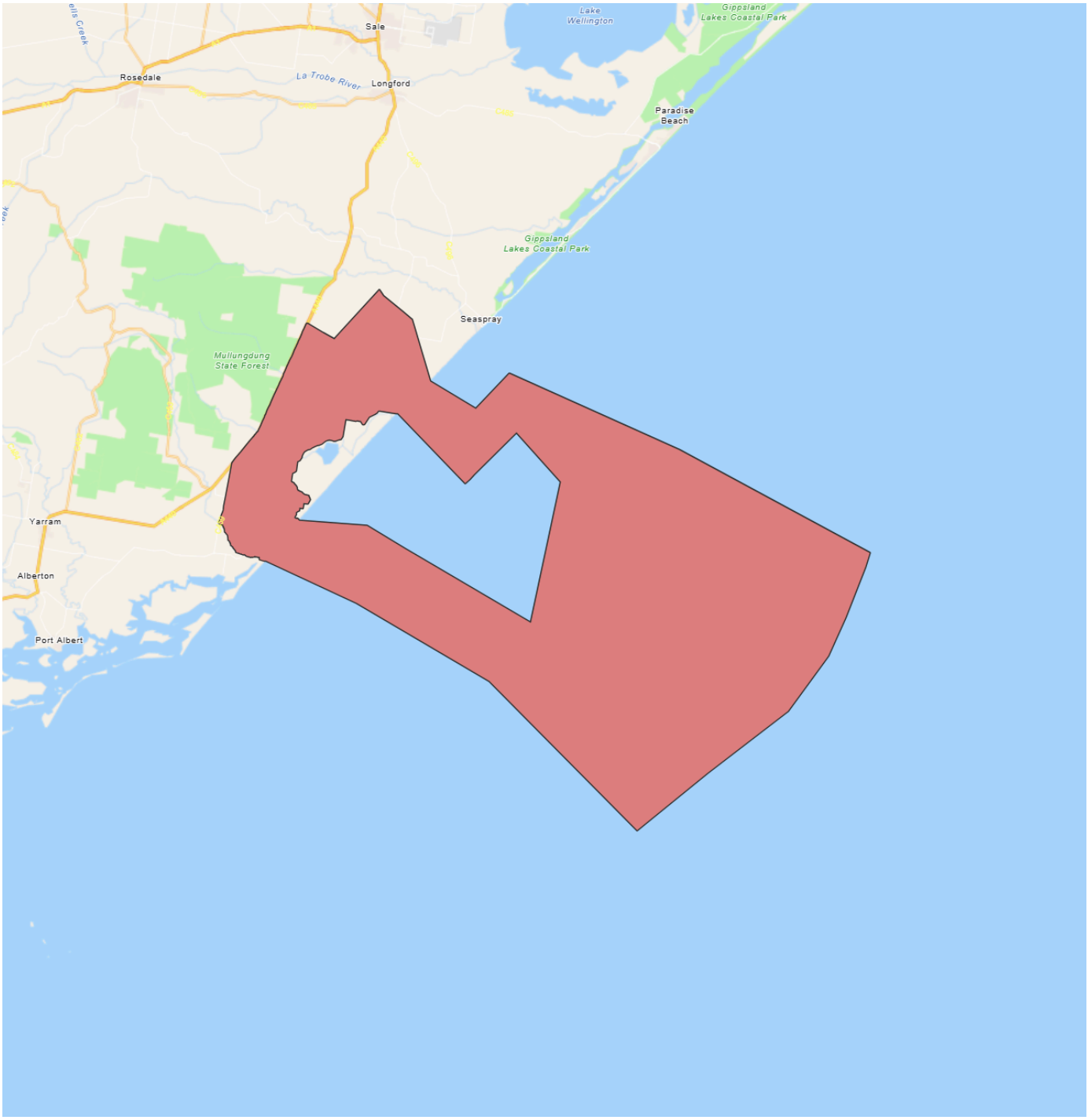
1.4 Payment details: Payment allocation

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

Proposed designated proponent

2. Location

2.1 Project footprint



Project Area: 147567.09 Ha **Disturbance Footprint:** 147567.09 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Between Seaspray/Honeysuckles and Woodside Beach, extending 50 km offshore into Commo

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

Commonwealth Marine

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

Yes

2.2.4 Where is the secondary jurisdiction of the proposed action? *

Victoria

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

The Australian Map Grid coordinates for the Project Referral Area are provided in **Att 2 – Project Coordinates.**

The OWF area is located within Iberdrola Australia's Feasibility License (FL-012) granted under the OEI Act on 15 July 2024 within the Gippsland Declared Area (OEI-01-2022). As part of the development of the Project, Iberdrola Australia would apply to the OIR for a Commercial Licence under the OEI Act to allow for the construction and operation of the Project and a Transmission and Infrastructure Licence under the OEI Act to install and operate transmission infrastructure, including export cables.

Land tenure in the onshore portion of the Referral Area is a mix of private freehold and Crown land, including areas for government roads, services and utilities land, parks and reserves, recreation areas and plantations.

Refer to **Figure 1-2 Land Tenure (Att 1 – Project Figures, pg. 2).**

Project land requirements will be secured via negotiation of easements or lease/license agreements applied to private freehold land. Lease/license agreements, easements and/or land transfers will be required with relevant Victorian bodies to enable access to, or tenure of, affected government land, including Crown land for both onshore and offshore areas.

The Referral Area includes reserved land, including Mcloughlins Beach-Seaspray Coastal Reserve, Woodside Beach Wildlife Reserve, Darriman H29 and H33 Bushland Reserves, Woodside H27 and H28 Bushland Reserves, Warrigal Creek Streamside Reserve and Warrigal Creek Water Frontage. These reserved areas are recognised as public land managed for conservation or recreation purposes. The Project will seek to avoid direct impacts to these reserves so far as is reasonably practicable as the Project design develops and progresses through feasibility and technical environmental studies.

Refer to **Figure 1-3 Parks, Reserves, Waterways and Wetlands (Att 1 – Project Figures, pg. 3).**

The Referral Area intersects with the Gunaikurnai Native Title determination, which covers land onshore and coastal waters. Onshore infrastructure and transmission route options would look to avoid, so far as is reasonably practicable, Crown land and Native Title.

3. Existing environment

3.1 Physical description

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

Offshore wind farm feasibility licence area

The OWF would be located within the area of offshore wind Feasibility Licence FL-012, approximately from 25 km to 50 km offshore from Woodside Beach and Seaspray in Bass Strait, approximately 65 km east of Wilsons Promontory. Water depths in the OWF area range from approximately 40 m to 60 m AHD.

Generally, the OWF area comprises of calcareous gravel, sand (sublittoral and muddy sand), and silt with no overlapping Key Ecological Features (**KEFs**). Broad-scale benthic habitat mapping within and adjacent to the OWF area identified that coral, mangrove, seagrass and macroalgae communities are not mapped within this area.

Existing uses of the OWF area and surroundings include commercial shipping activity, petroleum industry activity and commercial fisheries. As part of the Gippsland Declared Area, a number of other feasibility licences for the Gippsland Offshore Wind Area are located near the OWF area, including Star of the South to the west, Great Eastern Offshore Wind to the southwest and Blue Mackerel to the northwest between the OWF area and the coastline.

The primary transport route to and from the OWF area during the construction phase of the Project is subject to further investigation and the outcome of the other related projects. During the operations and maintenance phase of the Project, the primary transport route would be from the O&M facility at an existing port (location to be determined).

Export cable corridor investigation area (offshore)

The ECC investigation area (offshore) is located between the Gippsland coastline and the OWF area. The water depth in this area transitions from 0 m at the shoreline to approximately 40 m at the OWF area. The coastal waters to the north-east contain areas of patch reef, associated with the Ninety Mile Beach Patch Reefs, a DEECA mapped Marine Asset Area. Ninety Mile Beach Marine National Park lies outside but adjacent to the north-eastern boundary of the Referral Area.

Broad-scale benthic habitat mapping within and adjacent to the ECC investigation area (offshore) identified that patches of seagrass meadows, kelp forests and macroalgae communities are mapped to occur along the Victorian coastline to the east and west.

Existing and historical uses of this area are similar to the OWF area, in addition to recreational boating and fishing in inshore areas. The north-east corridor of the ECC investigation area contains the Perch and Dolphin platforms associated with Production Licences VIC/L17 and VIC/L15 for Esso Australia Resources Pty Ltd. Closer to shore, there is potential in the area for unexploded ordnance (**UXO**) related to a former defence air weapons range.

Several existing and proposed pipelines and cables intersect the ECC investigation area (offshore) including the Tasmanian Gas Pipeline, which transports gas from Longford in Victoria, under Bass Strait, to Bell Bay in Tasmania and the Basslink high-voltage direct current (**HVDC**) Interconnector and telecoms cable.

Transport routes to and from the area are similar to those for the OWF area.

Export cable corridor investigation area (onshore)

The ECC investigation (onshore) lies within the Wellington Shire local government area and covers land predominantly zoned as Farming Zone. This area also aligns with the Gippsland Shoreline REZ, as per VicGrid's 2025 Victorian Transmission Plan. The area comprises agricultural properties surrounding the townships of Woodside, Woodside Beach, Darriman and Giffard, as well as a number of reserves including Mcloughlins Beach-Seaspray Coastal Reserve, Woodside Beach Wildlife Reserve, Darriman H29 and H33 Bushland Reserves, Woodside H27 and H28 Bushland Reserves, Warrigal Creek Streamside Reserve and Warrigal Creek Water Frontage. The Referral Area avoids land zoned for conservation associated with the

Jack Smith Lake Wildlife Reserve and residentially zoned land associated with Woodside Beach. Surrounding areas include Mullungdung State Forest to the west and Giffard (Rifle Range) Flora Reserve to the north. The coastline comprises areas of McGaurans Beach, Woodside Beach and Reeves Beach.

Due to historic clearing for agricultural practices, the Referral Area encompasses only around 3,500 ha of remnant native vegetation, which is largely restricted to the various Protected Areas within the Referral Area, isolated pockets of woodland and grassland within the agricultural matrix, as sparse scatter trees, and within road reserves. These areas can be easily avoided or will require removal of a small amount of native vegetation. Modelling of native vegetation extent by DEECA suggests these remnants now only cover approximately 14% of the area.

Fauna habitat within the onshore Referral Area is highly fragmented and includes woodlands and scattered trees, grasslands (primarily on roadsides), aquatic habitats in the form of farm dams, narrow drainage channels, creek lines and minor tributaries, as well as potential large ephemeral wetlands. Most of this habitat is likely of low to moderate quality due to the small size, relative paucity across the landscape, and past and ongoing disturbance, including the introduction of non-native plants and pest animals.

Transport routes to the onshore area would primarily be via South Gippsland Highway. Access routes to the southern part of the area include Cherry Tree Road, Woodside Beach Road, Balloong Road and Reeves Beach Road. Access to the northern part of the area is predominantly via Giffard Road, Giffard West Road and McGaurans Beach Road.

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

Offshore

Existing uses

- Activities in the area include recreational boating, recreational fishing, commercial fisheries, and other recreational users (swimmers, surfers, wind/kite surfers, SCUBA divers, and free divers/spear fishers).
- Fishing is a major attraction for many visitors and local residents, with various opportunities for lake, beach fishing and fishing throughout the region, as well as various charter boat and deep-sea fishing businesses that operate in the region.
- The OWF area and ECC investigation area (offshore) includes 8 commercial fisheries (including Scallop (Ocean) Fishery, Rock Lobster Fishery (Eastern Zone), and Octopus Fishery (Central and Eastern Zones)).
- The Tasmanian Gas Pipeline, which transports gas from Longford in Victoria, under Bass Strait, to Bell Bay in Tasmania intersects the OWF area and offshore ECC investigation area.
- The northern corridor of the ECC investigation area contains Esso's Perch and Dolphin platforms, and the Perch to Dolphin to Shore oil pipeline intersects the offshore ECC investigation area.
- The Basslink HVDC Interconnector and telecoms cable (Telstra/Basslink Telecoms) passes through the ECC offshore and onshore investigation areas.
- The OWF area and ECC investigation area are within DPA R359F, which is associated with defence activities from the East Sale RAAF Base used for air surveillance, Royal Australian Air Force training and may also support navy vessel and submarine activities on occasion.
- There is the potential for UXO to occur within the Referral Area. Two former Air Weapons Ranges are adjacent to the north-east portion of the OWF area and offshore ECC investigation area. One site was used as an Air Weapons Range during WWII and overlaps the ECC investigation area.
- Several offshore oil and gas facilities are located to the north-east of the OWF area and ECC investigation area offshore, many of which are located in the 'Area to be Avoided', an area gazetted under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.

Proposed uses

- In 2024 the Australian Government granted 12 feasibility licences for offshore wind projects off Gippsland's coast in Victoria. As of October 2025, there are 11 active feasibility licences within the Gippsland Declared Area OEI-01-2022, including Iberdrola Australia's Aurora Green Feasibility Licence FL-012. Other offshore wind projects proposed nearby the Aurora Green Feasibility License area include:
    - Star of the South located west of the OWF area.
    - Great Eastern Offshore Wind Farm adjacent (south-west) of the OWF area.
    - Blue Mackerel located inshore (north-west) of the OWF area.
- The OWF area and ECC offshore investigation area are both within a greenhouse gas (**GHG)** Assessment Permit area (G-5-AP), which is held by the Crown in right of Victoria for the CarbonNet project.

Onshore

The onshore portion of the Referral Area consists of predominantly farmland. Other land uses include rural residential land, forestry plantation, various parks and reserves (Mcloughlins Beach-Seaspray Coastal Reserve, Woodside Beach Wildlife Reserve, Darriman H29 and H33 Bushland Reserves, Woodside H27 and H28 Bushland Reserves, Warrigal Creek Streamside Reserve and Warrigal Creek Water Frontage), road corridors and Crown Land. Townships in the Referral Area include Woodside, Woodside Beach, Darriman and Giffard. Activities within the onshore Referral Area include recreational use of reserves and beaches.

The Referral Area incorporates most of VicGrid's proposed Gippsland Shoreline REZ, which identifies the area where proposed offshore wind farms off the coast of Gippsland will connect to the electricity grid. The exact connection location is currently unknown; to be determined by VicGrid.

Refer to **Figure 1-2 Land Tenure** and **Figure 1-3 Parks, Reserves, Waterways and Wetlands (Att 1 – Project Figures, pg. 2-3).**

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

Offshore

The Referral Area includes Biologically Important Areas (**BIA**) for the following species:

- White Shark (breeding and nursery area)
- Southern Right Whale (migration and reproduction)
- Pygmy Blue Whale (foraging)
- Albatross species: Black-browed Albatross, Bullers Albatross, Campbell Albatross, Indian Yellow-nosed Albatross, Shy Albatross and Wandering Albatross (foraging)
- Petrel species: Common Diving-petrel and White-faced Storm-petrel (foraging)
- Short-tailed Shearwater (foraging)

There are no KEFs overlapping the Referral Area. The nearest KEF is the upwelling east of Eden located approximately 60 km to the north-east.

There are no Australian Marine Parks (**AMP**) located in the Referral Area. The closest AMP is the Beagle Marine Park, which is located approximately 38 km south-west of the Referral Area.

The Referral Area avoids Ninety Mile Beach Marine National Park, which lies directly adjacent to the Referral Area. The park forms a square and extends along the coastline and offshore for approximately 5 km within Victorian state waters.

Onshore

The onshore portion of the Referral Area is located in South Gippsland in the Gippsland Plain Bioregion. Areas of higher ecological value are represented by a number of conservation reserves. The Referral Area contains a number of parcels of public land, considered likely to be of ecological value, including:

- Fresh-water Swamp, Woodside Beach Wildlife Reserve
- Warrigal Creek Streamside Reserve
- Darriman H29 and H33 Bushland Reserves
- Woodside H27 and H28 Bushland Reserves
- Mcloughlins Beach-Seaspray Coastal Reserve
- Giffard (Rifle Range) Flora Reserve.

The Project will seek to avoid direct impacts to these Protected Areas so far as is reasonably practicable as the Project design develops and progresses through feasibility and technical environmental studies.

Other areas of higher ecological value located outside of but within 10 km of the Referral Area include:

- Jack Smith Lake Wildlife Reserve (abuts the Referral Area)
- Nooramunga Marine and Coastal Park (abuts the Referral Area)
- Corner Inlet Ramsar Site (abuts the Referral Area)
- Gippsland Lakes Coastal Park
- Lake Denison Wildlife Reserve
- Mullungdung State Forest
- Mullungdung Flora and Fauna Reserve
- Kangaroo Swamp Nature Conservation Reserve
- Stradbroke Flora and Fauna Reserve
- Woodside H25 and H26 Bushland Reserves
- Giffard H30 and H31 Bushland Reserves
- Seaspray Reserves
- Holey Plains State Park
- Bruthen Flora Reserve
- Woodside Flora Reserve
- Tarra Tarra Bushland Reserve

In relation to visual and landscape values and sensitives, there are no areas of National Landscape Significance, however there are features of State, regional and local significance within the Referral Area. Refer to **Att 8 – Preliminary Landscape and Visual Appraisal.**

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

Offshore

Water depth in the OWF area ranges from approximately 40 m to 60 m below AHD. The majority of the OWF area has a relatively flat sea floor (slope of generally less than 0.25°) and is generally sloping towards deeper water in a south-easterly direction. The sea floor gradient remains relatively consistent throughout the OWF area and there are no apparent significant bathymetric features.

From the shoreline to the OWF area (over approximately 25 km), the water depth transitions at a relatively steady gradient offshore from with a relatively featureless profile from 0 m at the shoreline to approximately 40 m at the shore-facing boundary of the OWF area.

Onshore

The onshore Referral Area is mostly comprised of large agricultural properties across predominantly flat terrain within the Gippsland Plains bioregion. The Gippsland Plains bioregion is generally under 200 m above sea level and so consists of low elevation. Most of the Referral Area has an elevation of between 0 m at the coast and 30 m above sea level. Land around the VicGrid Connection Hub area near Giffard is approximately up to 50 m above sea level.

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.

Offshore

A Preliminary Marine Assessment was undertaken **(Att 6 – Preliminary Marine Assessment)** to provide an initial characterisation of the existing marine ecological values in or within the vicinity of the offshore portion of the Referral Area.

The Commonwealth waters of the Referral Area are within the South-east Marine Region (**SEMR**) of Bass Strait. The Referral Area comprises calcareous gravel, sand, and silt with no overlapping KEFs. Benthic and planktonic communities within the Referral Area are expected to be representative of the SEMR. Pelagic and demersal fish populations within the Referral Area are expected to be representative of the Southeast Shelf Transition within the SEMR. Coral, mangrove, seagrass and macroalgae communities are not mapped within the Referral Area, however, seagrass meadows, kelp forests and macroalgae communities occur along the Victorian coastline to the east and west of the Referral Area.

The following MNES were identified as having the potential to occur within the offshore portion of the Referral Area:

- 55 EPBC listed threatened species (4x critically endangered, 15x endangered, 36x vulnerable), including:
    - 3 fish and shark species (Whale Shark, White Shark, Australian Grayling)
    - 4 cetacean species (Blue Whale, Southern Right Whale, Fin Whale, Sei Whale)
    - 3 marine turtle species (Leatherback Turtle, Loggerhead Turtle, Green Turtle)
    - 45 bird species (4 land birds, 16 shorebirds and 25 seabirds)
- 72 EPBC listed migratory species, including:
    - 23 migratory seabird species
    - 28 migratory shorebird species
    - 5 migratory land bird species
    - 7migratory whale species
    - 1 migratory dolphin species
    - 3 migratory turtle species
    - 5 migratory fish and shark species
- The Project is also mostly located within the Commonwealth Marine area.

Onshore

A Preliminary Terrestrial Ecology Assessment was undertaken (**Att 7 – Terrestrial Ecological Desktop Assessment**) to characterise the ecological values within and surrounding (up to 10 km around) the Referral Area. The landscape surrounding the Referral Area is of a similar land use with cleared agricultural areas, but there is also significant remnant vegetation, wetlands, and protected areas of high biodiversity value (outside of the Referral Area). Of note in the wider area are the Mullungdung Nature Conservation Reserve to the north-west, Jack Smith Lake Wildlife Reserve to the south-east, and the Gippsland Lakes and Corner Inlet Ramsar sites to the north-east and south-west respectively. These protected areas represent areas of high ecological value due primarily to their isolation and relative size making them unique for the region. The Referral Area avoids these protected areas.

The following MNES were identified in the desktop review as having the potential to occur within the onshore portion of the Referral Area:

- 10 flora species listed as threatened under the EPBC Act
- 34 fauna species listed as threatened under the EPBC Act (including 17 that were also identified in the offshore portion of the Referral Area)
- 22 migratory fauna species protected under the EPBC Act (including 20 that were also identified in the offshore portion of the Referral Area)
- 2 listed Threatened Ecological Communities (**TECs**).

Ten (10) flora species listed as threatened under the EPBC Act are either known to occur or are considered to have the potential to occur within the onshore portion of the Referral Area. Of these, records exist within the Referral Area for the following species:

- Matted Flax-lily (*Dianella amoena*)

Thirty-four (34) fauna species listed as threatened under the EPBC Act are either known to occur or are considered to have the potential to occur within the onshore portion of the Referral Area, including:

- 25 bird species (23 of which were also included in the marine assessment results)
- 4 mammal species (Grey-headed Flying-fox, New Holland Mouse, Southern Greater Glider, Yellow-bellied Glider)
- 1 fish species (Dwarf galaxias)
- 3 amphibian species (Green and golden bell frog, Growling grass frog, Martin's toadlet)
- 1 reptile (Swamp skink).

Of these, records exist within the Referral Area for the following 21 species:

- Australasian Bittern (*Botaurus poiciloptilus*)
- Australian Painted-snipe (*Rostratula australis*)
- Bar-tailed Godwit (*Limosa lapponica*)
- Black-tailed Godwit (*Limosa limosa*)
- Blue-winged Parrot (*Neophema chrysostoma*)
- Common Greenshank (*Tringa nebularia*)
- Curlew Sandpiper (*Calidris ferruginea*)
- Eastern Curlew (*Numenius madagascariensis*)
- Fairy Tern (*Sternula nereis nereis*)
- Gang-gang Cockatoo (*Callocephalon fimbriatum*)
- Grey Plover (*Pluvialis squatarola*)
- Growling Grass Frog (*Litoria raniformis*)
- Hooded Plover (*Thinornis cucullatus*)
- Latham's Snipe (*Gallinago hardwickii*)
- Lesser Sand Plover (*Charadrius mongolus*)
- Orange-bellied Parrot (*Neophema chrysogaster*)
- Red Knot (*Calidris canutus*)
- Ruddy Turnstone (*Arenaria interpres*)
- Sharp-tailed Sandpiper (*Calidris acuminata*)
- Terek Sandpiper (*Xenus cinereus*)
- White-throated Needletail (*Hirundapus caudacutus*).

Twenty-two (22) listed migratory fauna species protected under the EPBC Act are known to occur or have the potential to occur within the onshore portion Referral Area (all of which were also included in the marine assessment results).

Two (2) listed TECs under the EPBC Act are considered likely to occur within the Referral Area:

- Natural Damp Grassland of the Victorian Coastal Plains
- Subtropical and Temperate Coastal Saltmarsh.

The preliminary desktop search results for offshore and onshore include some species that have been counted multiple times (e.g., in the onshore and the offshore results and those listed as both threatened and migratory species under the EPBC Act).

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

Given the historical land use and associated disturbance, most of the Referral Area is unlikely to support native vegetation. Modelling of native vegetation extent by DEECA suggests these remnants now only cover approximately 14% of the total onshore Referral Area. Where native vegetation is present, it is likely to primarily occur in moderate to small sized patches in reserves, narrow road reserves and along drainage channels. These areas can be easily avoided or will require removal of a small amount of native vegetation.

All native vegetation in the onshore Referral Area is likely representative of Ecological Vegetation Classes (**EVCs**) that have a Biodiversity Conservation Status (**BCS**) of the following: Depleted (90.50 ha or 0.39%), Least Concern (382.14 ha or 1.64%), Endangered (164.37 ha or 0.71%), and Vulnerable (2,484.66 ha or 10.69%).

Seagrass and algae are present in coastal waters near the offshore Referral Area and may potentially be considered native vegetation. However, the native vegetation requirements under the Victorian Planning Provisions apply only to onshore environments and do not extend offshore.

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 World Heritage Properties within nor in close proximity to the Referral Area. The nearest World Heritage Property is the Royal Exhibition Building and Carlton Gardens, Carlton, Melbourne (Place ID 105143), located approximately 190 km north-west of the Referral Area western boundary.

There are no National Heritage Places in the vicinity of the Referral Area. The nearest National Heritage Place is the Australian Alps National Parks and Reserves (Place ID 105891), with the closest section located approximately 70 km north-east of the Referral Area.

The closest Commonwealth Heritage Place is Wilsons Promontory Lighthouse (Place ID 105375), which is located approximately 80 km south-west of the nearest point of the Referral Area.

There are 4 registered Australasian Underwater Cultural Heritage Database (**AUCHD**) shipwreck sites within the offshore portion of the Referral Area:

- Magnolia (AUCHD ID 6386)
- Sarah (AUCHD ID 6589)
- City of Hobart (AUCHD ID 6066)
- Unidentified 22 miles south-east of Seaspray (AUCHD ID 6700), registered at the same coordinates as City of Hobart

Refer to the Preliminary Heritage Assessment report **(Att 9, Section 4.1.3, pg. 27 and Section 4.2.1, pg. 30).**

Geophysical surveys for the Project (conducted in early 2025) have found unknown shipwreck sites within the OWF feasibility licence area. These findings have been notified to DCCEEW through the AUCHD notification process, and will be subject to further maritime archaeological assessment, which may indicate other wrecks in the Referral Area not listed above.

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

A preliminary assessment of Indigenous heritage values was undertaken (**Att 9 – Preliminary Heritage Assessment**).

The onshore and offshore portions of the Referral Area are within the lands and seas of the Gunaikurnai People, and GLaWAC is the Registered Aboriginal Party (**RAP**) relevant to the Referral Area.

Coastal areas of south-east Australia, including the Bass Strait coastal zone, were amongst the most densely populated First Nation regions. Tangible cultural values are represented by a high number of Victorian Aboriginal Heritage Register (**VAHR**) sites within the onshore Referral Area, with discrete clusters of registered sites representing efforts of previous cultural heritage assessment work likely tied to other infrastructure and development projects.

There are 172 VAHR sites recorded within the Referral Area and a further 87 in a surrounding 1 km buffer zone. The material type, distribution patterns and occurrence of archaeological site types in the Referral Area reflects the coastal environment of the area. Shell middens are the most common site type. Aboriginal Ancestral Remains also indicates the presence of sandy soil substrate (the preferred interment soil type), but also the sacred site and economic values embedded in the cultural landscape.

The land adjacent to the coast and waterways has potential to contain unknown Indigenous cultural heritage. A search of the Register of the National Estate (non-statutory) identified five recorded places in Indigenous and Natural place categories, all of which are conservation areas: Jack Smith Lake State Game Reserve, Gippsland Lakes Coastal Park, Marilyns Beach Area, Jack Smith Lake Area, Gippsland Lakes Area). In addition, three massacre sites were identified within the Referral Area, one of which is also listed as Victorian Heritage Inventory (**VHI**) H8321-0005.

There is potential for Indigenous underwater cultural heritage (submerged landscapes) and values relating to Sea Country to occur within the offshore portion of the Referral Area. First Nations People of the South-east Marine Region (Victoria), including GLaWAC, have a strong cultural and spiritual connection to the marine environment, and the use and management of coastal species that are part of ocean ecosystems. First Nations people's physical relationship with the offshore environment of Bass Strait would have been based on travel through what are now "submerged land bridges" or islands, between the mainland and Tasmania. In April 2021, the Australian Government committed funding as part of the Oceans Leadership Package to the Sea Country Indigenous Protection Area (**IPA**) Program. The program seeks to increase the area of sea in IPAs to strengthen the conservation and protection of Australia's unique marine and coastal environments. Following an open grant round in 2021, ten successful Sea Country IPA consultation projects were announced in May 2022, which included GLaWAC. At the time of preparation of this referral, progress for the preparation and lodgement of a Sea Country IPA is still underway.

Cultural values would be identified in consultation with GLaWAC as knowledge holders who can speak for Land and Sea Country associated with the Referral Area.

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. *

Offshore

Currents within Bass Strait vary seasonally and are mainly driven by tides, wind, geostrophic flow, incident continental shelf waves and density driven flows, which lead to the formation of sea level anomalies and pressure gradients at either end of the strait. The summer current system prevails for approximately a third of the year formed from prevailing southerly winds. For the remainder of the year, westerly winds cause predominantly eastwards flows with variations around islands and localised morphological features. Several current systems occur within and in the vicinity of the Referral Area and broader Bass Strait.

The offshore portion of the Referral Area are influenced by the warmer and saltier waters of the South Australian Current, the East Australian Current and sub-Antarctic Surface Water. The seawater temperatures range from approximately 13°C in winter to 18°C in summer.

Onshore

The main waterways within the onshore portion of the Referral Area are Merriman Creek and Bruthen Creek. The catchment for Bruthen Creek is linked to Corner Inlet Ramsar wetland. A number of smaller drainage lines are also present within the onshore Referral Area draining into Jack Smith Lake.

There are 2 Ramsar sites in the vicinity of the Referral Area: Gippsland Lakes and Corner Inlet. The Gippsland Lakes Ramsar Site is approximately 8 km north-east of the Referral Area along the Gippsland coastline and the Corner Inlet Ramsar Site boundary abuts the south-western extent of the Referral Area for approximately 0.6 km.

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	Yes	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

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

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

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

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

No

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

There are no World Heritage sites within or near the Referral Area.

4.1.2 National Heritage

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

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

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

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

No

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

There are no National Heritage sites within or near the Referral Area.

4.1.3 Ramsar Wetland

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

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

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

Direct impact	Indirect impact	Ramsar wetland
No	No	Corner Inlet
No	No	Gippsland Lakes

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 2 Ramsar sites in the vicinity of the Referral Area: Gippsland Lakes and Corner Inlet. The Gippsland Lakes Ramsar Site is approximately 8 km north-east of the Referral Area along the Gippsland coastline and the Corner Inlet Ramsar Site boundary abuts the south-western extent of the Referral Area for approximately 0.6 km.

Impacts to Gippsland Lakes Ramsar Site are considered unlikely given the distance (8 km to the north-east) from potential works and the lack of hydrological connectivity to the Referral Area.

Corner Inlet Ramsar Site is outside the Referral Area. Its northern most boundary is located adjacent to the Referral Area where the Offshore ECC investigation area meets the Onshore ECC investigation area (at the south-western boundary of the Referral Area).

A preliminary assessment of potential impacts to Corner Inlet Ramsar Site was undertaken in the Preliminary Marine Assessment **(Att 6, Section 5.2.4, pg. 125 to 127)** and Terrestrial Ecology Desktop Assessment **(Att 7, Section 3.7.3, pg. 63 to 64).** Both assessments found that impacts to the Ramsar Site are unlikely.

The Referral Area represents a broad investigation area for siting infrastructure and provides two options for routing of the ECC, a north-eastern option and a south-western option and corresponding options for potential shore crossing locations at either McGaurans Beach or Reeves Beach, respectively. No project infrastructure would be located within the Ramsar Site and no direct impacts are expected.

Should the north-eastern ECC and McGaurans Beach crossing location option be selected, following the outcome of further environmental and technical investigations onshore and offshore and further design development, the nearest infrastructure would be located greater than 15 km from the Ramsar Site.

Should the south-western ECC and Reeves Beach crossing location option be selected, any indirect construction related impacts associated with installation of the export cables can be managed through application of standard construction environmental management measures such as those required for compliance with other legislation (e.g., the *Victorian Environment Protection Act 2017*). This includes measures for erosion and sediment control, waste and wastewater management, contaminated land and groundwater management (including for potential acid sulfate soils) and measures for surface water management. Potential indirect impacts from offshore works during cable installation are also considered manageable through standard environmental management measures. Potential water quality impacts would be managed in accordance with Australian and international maritime legislation (e.g., MARPOL) and, given the dynamic open coast and ocean environment of the Referral Area (i.e., a highly dispersive environment due to prevailing tides, currents and waves), any discharges and spills are expected to rapidly disperse relatively close to the point of discharge, hence, any effects would be temporary and highly localised. Potential impacts from invasive marine species would be managed in accordance with legislated biosecurity requirements, including compliance with the *Commonwealth Biosecurity Act 2015*.

With these standard measures in place, potential environmental impacts to the Ramsar site associated with the Project and construction activities such as cable installation are expected to be highly localised and temporary. Indirect impacts to the Ramsar Site are not expected.

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
Yes	No	Amphibromus fluitans	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass
No	No	Antechinus minimus maritimus	Swamp Antechinus (mainland)
No	No	Anthochaera phrygia	Regent Honeyeater
Yes	Yes	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
Yes	Yes	Botaurus poiciloptilus	Australasian Bittern
Yes	No	Caladenia tessellata	Thick-lipped Spider-orchid, Daddy Long-legs
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris tenuirostris	Great Knot
Yes	No	Callocephalon fimbriatum	Gang-gang Cockatoo
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
No	No	Caretta caretta	Loggerhead Turtle
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
Yes	Yes	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
No	No	Chelonia mydas	Green Turtle

Direct impact	Indirect impact	Species	Common name
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
Yes	No	Commersonia prostrata	Dwarf Kerrawang
No	No	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
Yes	Yes	Dianella amoena	Matted Flax-lily
Yes	Yes	Diomedea antipodensis	Antipodean Albatross
Yes	Yes	Diomedea antipodensis gibsoni	Gibson's Albatross
Yes	Yes	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
Yes	Yes	Diomedea sanfordi	Northern Royal Albatross
Yes	No	Dodonaea procumbens	Trailing Hop-bush
Yes	Yes	Eubalaena australis	Southern Right Whale
No	No	Falco hypoleucos	Grey Falcon
Yes	Yes	Fregetta grallaria grallaria	White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian)
Yes	Yes	Galaxiella pusilla	Eastern Dwarf Galaxias, Dwarf Galaxias
Yes	Yes	Galeorhinus galeus	School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Glycine latrobeana	Clover Glycine, Purple Clover
No	No	Grantiella picta	Painted Honeyeater
Yes	Yes	Halobaena caerulea	Blue Petrel
No	No	Hirundapus caudacutus	White-throated Needletail
No	No	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)
Yes	No	Lathamus discolor	Swift Parrot
No	No	Lepidium hyssopifolium	Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Limosa lapponica baueri	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
Yes	No	Lissolepis coventryi	Swamp Skink, Eastern Mourning Skink
Yes	No	Litoria aurea	Green and Golden Bell Frog
Yes	No	Litoria raniformis	Southern Bell Frog, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
Yes	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Macronectes halli	Northern Giant Petrel
No	No	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
Yes	Yes	Neophema chrysogaster	Orange-bellied Parrot
Yes	Yes	Neophema chrysostoma	Blue-winged Parrot
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
Yes	Yes	Pachyptila turtur subantarctica	Fairy Prion (southern)
Yes	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
Yes	Yes	Phoebetria fusca	Sooty Albatross
Yes	Yes	Pluvialis squatarola	Grey Plover
No	No	Potorous tridactylus trisulcatus	Long-nosed Potoroo (southern mainland)
Yes	No	Prasophyllum spicatum	Dense Leek-orchid
Yes	Yes	Prototroctes maraena	Australian Grayling
Yes	No	Pseudomys novaehollandiae	New Holland Mouse, Pookila
Yes	Yes	Pterodroma leucoptera leucoptera	Gould's Petrel, Australian Gould's Petrel
Yes	Yes	Pteropus poliocephalus	Grey-headed Flying-fox
Yes	No	Pterostylis chlorogramma	Green-striped Greenhood
No	No	Pycnoptilus floccosus	Pilotbird
No	No	Rhincodon typus	Whale Shark

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Rostratula australis	Australian Painted Snipe
No	No	Senecio psilocarpus	Swamp Fireweed, Smooth-fruited Groundsel
No	No	Seriolella brama	Blue Warehou
No	No	Stagonopleura guttata	Diamond Firetail
Yes	Yes	Sternula albifrons	Little Tern
Yes	Yes	Sternula nereis nereis	Australian Fairy Tern
Yes	Yes	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
Yes	Yes	Thalassarche bulleri platei	Northern Buller's Albatross, Pacific Albatross
Yes	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
Yes	Yes	Thalassarche chrysostoma	Grey-headed Albatross
Yes	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
Yes	Yes	Thalassarche salvini	Salvin's Albatross
Yes	Yes	Thalassarche steadi	White-capped Albatross
No	No	Thelymitra matthewsii	Spiral Sun-orchid
No	No	Thesium australe	Austral Toadflax, Toadflax
Yes	Yes	Thinornis cucullatus cucullatus	Eastern Hooded Plover, Eastern Hooded Plover
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
Yes	Yes	Uperoleia martini	Martin's Toadlet
Yes	Yes	Xenus cinereus	Terek Sandpiper
No	No	Xerochrysum palustre	Swamp Everlasting, Swamp Paper Daisy

Ecological communities

Direct impact	Indirect impact	Ecological community
Yes	Yes	Natural Damp Grassland of the Victorian Coastal Plains

Direct impact	Indirect impact	Ecological community
Yes	Yes	Subtropical and Temperate Coastal Saltmarsh

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

Yes

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

The Preliminary Marine Assessment Report (ERM, 2025) and Preliminary Ecology Assessment Report (ERM, 2025) identify potential impacts to threatened species and ecological communities. Refer to the Preliminary Marine Assessment Report **(Att 6, Section 5.2.1, pg. 92 to 122)** and Terrestrial Ecological Desktop Assessment **(Att 7, Section 3.4.1, pg. 26 to 32, Section 3.5.3, pg. 36 to 56 and Section 3.6, pg. 57 to 61).**

The volume of protected matters to be potentially impacted, directly or indirectly, is expected to be reduced greatly once the preferred export cable route alignment is identified.

Listed threatened species and communities with the potential to be impacted are listed below.

Offshore

Birds:

- Curlew Sandpiper *(Calidris ferruginea)*
- Eastern Curlew (*Numenius madagascariensis)*
- Orange-bellied parrot (*Neophema chrysogaster)*
- Swift parrot (*Lathamus discolor)*
- Gould's Petrel (*Pterodroma leucoptera leucoptera)*
- Southern Giant-Petrel (*Macronectes giganteus)*
- Grey-headed Albatross (*Thalassarche chrysostoma)*
- Northern Royal Albatross (*Diomedea sanfordi)*
- Shy Albatross (*Thalassarche cauta)*
- Nunivak Bar-tailed Godwit (*Limosa lapponica baueri)*
- Black-tailed Godwit (*Limosa limosa)*
- Lesser Sand Plover (*Charadrius mongolus)*
- Common Greenshank (*Tringa nebularia)*
- Australasian Bittern *(Botaurus poiciloptilus)*
- Australian Painted Snipe (*Rostratula australis)*
- Hooded Plover (*Thinornis cucullatus)*
- Blue Petrel (*Halobaena caerulea)*
- Northern Giant Petrel (*Macronectes halli)*
- White-bellied Storm-petrel (*Fregetta grallaria grallaria)*
- Fairy Prion (southern) (*Pachyptila turtur subantarctica)*
- Sooty Shearwater (*Ardenna grisea)*
- Antipodean Albatross (*Diomedea antipodensis)*
- Black-browed Albatross (*Thalassarche melanophris)*
- Buller's Albatross (*Thalassarche bulleri)*
- Campbell Albatross (*Thalassarche impavida)*
- Gibson's Albatross (*Diomedea antipodensis gibsoni)*
- Indian Yellow-nosed Albatross (*Thalassarche carteri)*
- Northern Buller's Albatross (*Thalassarche bulleri platei)*
- Salvin's Albatross (*Thalassarche salvini)*
- Sooty Albatross (*Phoebetria fusca)*
- Southern Royal Albatross (*Diomedea epomophora)*
- Wandering Albatross *(Diomedea exulans)*
- White-capped Albatross (*Thalassarche steadi)*
- Australian Fairy Tern (*Sternula nereis nereis)*
- Little Tern (*Sternula albifrons)*
- Sharp-tailed Sandpiper (*Calidris acuminata)*
- Great Knot (*Calidris tenuirostris)*
- Red Knot (*Calidris canutus)*
- Greater Sand Plover (*Charadrius leschenaultia)*

- Grey Plover (*Pluvialis squatarola)*
- Latham's Snipe (*Gallinago hardwickii)*
- Ruddy Turnstone (*Arenaria interpres)*
- Terek Sandpiper (*Xenus cinereus)*
- Blue-winged Parrot (*Neophema chrysostoma)*
- White-throated Needletail (*Hirundapus caudacutus)*

Marine mammals:

- Blue Whale (*Balaenoptera musculus)*
- Southern Right Whale (*Eubalaena australis)*
- Fin Whale (*Balaenoptera physalus)*
- Sei Whale *(Balaenoptera borealis)*

Marine Turtles:

- Leatherback Turtle *(Dermochelys coriacea)*
- Loggerhead Turtle (*Caretta caretta)*
- Green Turtle (*Chelonia mydas)*

Fish and Sharks:

- Whale Shark (*Rhincodon typus)*
- White Shark (*Carcharodon carcharias)*
- Australian Grayling (*Prototroctes maraena)*

Onshore

Flora:

- River Swamp Wallaby-grass (*Amphibromus fluitans)*
- Eastern Spider Orchid (*Caladenia orientalis)*
- Thick-lipped Spider-orchid (*Caladenia tessellate)*
- Dwarf Kerrawang (*Commersonia prostrata)*
- Trailing Hop-bush (*Dodonaea procumbens)*
- Maroon Leek-orchid (*Prasophyllum frenchii)*
- Dense Leek-orchid (*Prasophyllum spicatum)*
- Green-striped Greenhood (*Pterostylis chlorogramma)*
- Metallic Sun-orchid (*Thelymitra epipactoides)*
- Matted Flax-lily (*Dianella amoena)*

Threatened ecological communities:

- Natural Damp Grassland of the Victorian Coastal Plains
- Subtropical and Temperate Coastal Saltmarsh

Fauna:

- Sooty Shearwater (*Ardenna grisea)*
- Ruddy Turnstone (*Arenaria interpres)*
- Australasian Bittern (*Botaurus poiciloptilus)*
- Sharp-tailed Sandpiper (*Calidris acuminata*)
- Red Knot (*Calidris canutus)*
- Curlew Sandpiper (*Calidris ferruginea)*
- Great Knot (*Calidris tenuirostris)*
- Gang-gang Cockatoo (*Callocephalon fimbriatum)*
- Greater Sand Plover (*Charadrius leschenaultia)*
- Lesser Sand Plover (*Charadrius mongolus)*

- Dwarf Galaxias (*Galaxiella pusilla)*
- Latham's Snipe (*Gallinago hardwickii*)
- White-throated Needletail (*Hirundapus caudacutus)*
- Swift Parrot (*Lathamus discolor)*
- Bar-tailed Godwit (*Limosa lapponica)*
- Black-tailed Godwit (*Limosa limosa)*
- Swamp Skink (*Lissolepis coventryi)*
- Green and Golden Bell Frog (*Litoria aurea)*
- Growling Grass Frog (*Litoria raniformis)*
- Orange-bellied Parrot (*Neophema chrysogaster)*
- Blue-winged Parrot (*Neophema chrysostoma)*
- Eastern Curlew (*Numenius madagascariensis)*
- Southern Greater Glider *(Petauroides volans)*
- Yellow-bellied Glider (*Petaurus australis australis)*
- Grey Plover (*Pluvialis squatarola)*
- New Holland Mouse (*Pseudomys novaehollandiae)*
- Grey-headed Flying-fox (*Pteropus poliocephalus)*
- Pilotbird (*Pycnoptilus floccosus)*
- Australian Painted-snipe (*Rostratula australis)*
- Fairy Tern (*Sternula nereis)*
- Hooded Plover (*Thinornis cucullatus)*
- Common Greenshank (*Tringa nebularia)*
- Martin's Toadlet (*Uperoleia martini)*
- Terek Sandpiper (*Xenus cinereus)*

A summary of the potential impacts based on the current Referral Area is provided below. These will be assessed through the impact assessment process and best practice mitigation and management measures identified and applied to ensure impacts are avoided or reduced to acceptable levels.

Marine

Potential sources of direct impacts to listed Threatened Species and TECs include:

- Offshore turbines pose collision risks and migration barriers for birds. The impact depends on bird abundance, their use of the site for migration or foraging, typical flight heights, avoidance behaviors, and population sizes.
- Vessel noise, presence and lighting associated with vessel movements resulting in temporary behavioural disturbance to marine fauna, including fishes, marine mammals and birds.
- Vessel collision resulting in potential blunt or sharp force trauma to marine fauna, including fishes, marine mammals and birds
- Potential risk of introduction of IMS or diseases to threatened marine fauna, including fishes, marine mammals and birds – this risk is low with implementation of biofouling management and ballast water management plans. There are also no known IMS known to impact the threatened species present in the project area.

Terrestrial Ecology

Potential sources of direct impacts to listed Threatened Species and TECs include:

- Clearing and levelling of sites, excavations and general construction activities result in direct loss of habitat and/species, fragmentation of habitats and communities.
- Maintenance activities during operations (e.g. access track vegetation clearance) result in accidental and direct loss of habitat and/species.
- Night lighting, noise and vibration associated with construction and operational activities result in disturbance to fauna habitat and/or direct loss of fauna species.

Potential sources of indirect impacts to listed Threatened Species and TECs include:

- Accidental spills, erosion and sedimentation, and dust pollution due to construction activities causes a decline in water quality and quality of soils, resulting in the long-term decline or loss over time of species numbers and native vegetation area.
- Vehicular movements during construction and operations introduces and/or spreads weeds, pest species or pathogens, resulting in long-term decline or loss over time of species numbers and native vegetation area.

With the introduction of construction and operational management and mitigation measures, the potential impacts described above are likely to be avoided or reduced. Where effects on threatened species and communities cannot be avoided, appropriate environmental management measures in both construction and operations would be detailed in the Project's construction and operational environmental management plans. Specific mitigation measures may be developed to address any residual impacts, which would also be offset in accordance with the EPBC Act Environmental Offsets Policy.

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. *

The Preliminary Marine Assessment **(Att 6, Section 5.2.1, pg. 92 to 122)** found that there is potential for the Project to have a significant impact in relation to the following significant impact criteria for listed threatened species:

- The Project has the potential to lead to a long-term decrease in the size of a population of threatened birds. The Referral Area is used by various bird species for foraging and migration and the operating wind turbines may pose a potential barrier effect and collision risks. Due to the threatened status of these species and uncertainties about their presence, foraging behaviours, and flight heights, impacts are assessed at this preliminary stage as potentially significant.
- The Project has the potential to interfere with the recovery of threatened birds species. Recovery plans for listed bird species highlight marine pollution, invasive species, debris, human disturbance, habitat loss, turbine collisions, artificial light, water quality deterioration, and nesting site disturbance as major threats. Noting that the Project has the potential for significant impacts on the size of a population of a species, the Project could also potentially have some adverse effects on the recovery of threatened bird species.
- The Project has the potential to reduce the area of occupancy of threatened marine mammal species. One of the key Project aspects with the potential to impact the area of occupancy of listed threatened marine mammals is underwater noise, with noise from construction, decommissioning, and vessel activities potentially leading to behavioural avoidance and changes, reducing occupancy areas for threatened marine mammals.

Further Project design development will occur to identify a preferred export cable corridor as well as offshore wind farm layout and components selection and design, which would enable and inform field surveys and detailed impact assessments to be completed. Following design refinement, the potential number of species affected, areas of disturbance and associated impacts are expected to be significantly reduced, however, there is still potential for significant impacts to MNES. Where impacts cannot be avoided, management measures would be applied and/or Project specific mitigation measures would be developed and applied, so far as is reasonably practicable, to reduce these to acceptable levels.

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

Yes

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

The Project has identified potential direct and indirect significant impacts to listed threatened species and communities, as outlined in the Preliminary Marine Assessment (**Att 6, Section 5.2.1, pg. 92 to 122**) and Terrestrial Ecology Desktop Assessment(**Att 7, Section 3.4.1, pg. 26 to 32, Section 3.5.3, pg. 37 to 56 and Section 3.6, pg. 57 to 60**).

These assessments are only preliminary and further assessment is required through the impact assessment process, with the identification of avoidance, minimisation and mitigation measures to ensure impacts are reduced to acceptable levels. While the potential number of species affected are expected to be reduced once the cable route is selected and through micro-siting around sensitive areas, the potential for significant impacts to occur remains. Therefore, at this preliminary stage, the proposed action is considered a ‘controlled action’.

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

The Project is committed to best-practice environmental management in design, construction, operations and decommissioning. The proposed Referral Area allows the Project the flexibility to adopt the principles of avoidance and minimisation of adverse environment impacts. Potential impacts to listed threated species and communities would be minimised through adoption of the following indicative list of management measures.

Offshore

- Marine fauna surveys would be undertaken to better characterise noise-sensitive species that utilise the Referral Area at different times of year.
- Project infrastructure layout, cable routes and shore crossing sites would be selected to avoid or minimise disturbance to sensitive habitats
- Acoustic modelling would assess the potential effects of underwater noise, including the use of noise abatement systems such as bubble curtains.
- Development of and adherence to an agreed Marine Mammal Mitigation Protocol (**MMMP**) would be undertaken to mitigate potential impacts from underwater noise on marine mammals and fish.
- Underwater noise management procedures for impulsive sources (pile driving) would include:
    - Observation and shutdown zones
    - Soft-start procedures
    - Shutdown procedures
    - Nighttime / low visibility procedures.
- Baseline bird surveys would be conducted to better characterise the species that utilise the OWF area at different times of year, including data on flight paths and flight heights.
- Collision risk modelling and a collision risk assessment would be undertaken to inform design and mitigation strategies.
- Marine mammal baseline surveys would be undertaken to better understand the marine mammal species that utilise the Referral Area at different times of year.
- The Project would Implement monitoring studies that are informed by the baseline studies and designed to verify predictions made during the assessment.
- Application of EPBC Regulations 2000, Part 8, Division 8.1 for vessel speeds and approach distances for marine mammals.

Onshore

- Utilising the outcomes of detailed native vegetation and targeted flora and fauna assessments of the Referral Area to inform the final Project footprint in response to identified biodiversity constraints.
- Seeking to avoid, to the extent practicable, locations containing EPBC threatened communities, species and their relevant habitat, including through the avoidance of protected areas within the Referral Area. Where avoidance is not possible, appropriate spatial and temporal mitigation measures would be used to minimise impacts, such as implementing restricted areas, implementing controls during sensitive life-stages for priority shorebird habitats during shoreline construction activities and consideration of migration patterns of other birds found to utilise habitat in the Referral Area.
- To the extent practicable, co-locating Project infrastructure with existing infrastructure easements or within previously cleared land.
- Designing the project to consider micro-siting of infrastructure to minimize impacts to vegetation, particularly in areas with high Habitat Importance Map values for individual species, reducing or eliminating the need for offsets.
- Employ trenchless crossing methods such as Horizontal Directional Drilling (**HDD**) where practicable beneath areas of sensitive habitats, beach landings, and when crossing waterways.

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

The potential for impacts to threatened species and ecological communities will be determined through further impact assessment, following additional baseline survey work and design development to avoid and minimise any potential impacts.

Offsets to address any residual impacts to listed threatened species and communities would be developed and implemented in accordance with the requirements of applicable Victorian and Commonwealth guidelines, including the EPBC Act Environmental Offsets Policy (Department of Sustainability, Environment, Water, Population and Communities, October 2012).

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	Yes	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift
Yes	Yes	Ardenna carneipes	Flesh-footed Shearwater, Fleshy-footed Shearwater
Yes	Yes	Ardenna grisea	Sooty Shearwater
Yes	Yes	Arenaria interpres	Ruddy Turnstone
Yes	Yes	Balaenoptera borealis	Sei Whale
Yes	Yes	Balaenoptera musculus	Blue Whale
Yes	Yes	Balaenoptera physalus	Fin Whale
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris alba	Sanderling
Yes	Yes	Calidris canutus	Red Knot, Knot
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
Yes	Yes	Calidris melanotos	Pectoral Sandpiper
Yes	Yes	Calidris pugnax	Ruff
Yes	Yes	Calidris ruficollis	Red-necked Stint
Yes	Yes	Calidris tenuirostris	Great Knot
Yes	Yes	Caperea marginata	Pygmy Right Whale
No	No	Carcharias taurus	Grey Nurse Shark
Yes	Yes	Carcharodon carcharias	White Shark, Great White Shark
No	No	Caretta caretta	Loggerhead Turtle
Yes	Yes	Charadrius bicinctus	Double-banded Plover
Yes	Yes	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Charadrius mongolus	Lesser Sand Plover, Mongolian Plover
No	No	Charadrius veredus	Oriental Plover, Oriental Dotterel
No	No	Chelonia mydas	Green Turtle
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
Yes	Yes	Diomedea antipodensis	Antipodean Albatross
Yes	Yes	Diomedea epomophora	Southern Royal Albatross
Yes	Yes	Diomedea exulans	Wandering Albatross
Yes	Yes	Diomedea sanfordi	Northern Royal Albatross
Yes	Yes	Eubalaena australis	Southern Right Whale
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Gallinago megala	Swinhoe's Snipe
Yes	Yes	Gallinago stenura	Pin-tailed Snipe
No	No	Hirundapus caudacutus	White-throated Needletail
Yes	Yes	Isurus oxyrinchus	Shortfin Mako, Mako Shark
Yes	Yes	Lagenorhynchus obscurus	Dusky Dolphin
Yes	Yes	Lamna nasus	Porbeagle, Mackerel Shark
Yes	Yes	Limosa lapponica	Bar-tailed Godwit
Yes	Yes	Limosa limosa	Black-tailed Godwit
Yes	Yes	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Macronectes halli	Northern Giant Petrel
Yes	Yes	Megaptera novaeangliae	Humpback Whale
No	No	Motacilla flava	Yellow Wagtail
Yes	Yes	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
Yes	Yes	Numenius minutus	Little Curlew, Little Whimbrel
Yes	Yes	Numenius phaeopus	Whimbrel
Yes	Yes	Orcinus orca	Killer Whale, Orca

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Pandion haliaetus	Osprey
Yes	Yes	Phoebetria fusca	Sooty Albatross
No	No	Pluvialis fulva	Pacific Golden Plover
Yes	Yes	Pluvialis squatarola	Grey Plover
No	No	Rhincodon typus	Whale Shark
Yes	Yes	Sternula albifrons	Little Tern
Yes	Yes	Thalassarche bulleri	Buller's Albatross, Pacific Albatross
Yes	Yes	Thalassarche carteri	Indian Yellow-nosed Albatross
Yes	Yes	Thalassarche cauta	Shy Albatross
Yes	Yes	Thalassarche chrysostoma	Grey-headed Albatross
Yes	Yes	Thalassarche impavida	Campbell Albatross, Campbell Black-browed Albatross
Yes	Yes	Thalassarche melanophris	Black-browed Albatross
Yes	Yes	Thalassarche salvini	Salvin's Albatross
Yes	Yes	Thalassarche steadi	White-capped Albatross
No	No	Tringa brevipes	Grey-tailed Tattler
No	No	Tringa glareola	Wood Sandpiper
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank
No	No	Tringa stagnatilis	Marsh Sandpiper, Little Greenshank
Yes	Yes	Xenus cinereus	Terek Sandpiper

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. *

The Preliminary Marine Assessment **(Att 6, Section 5.2.2, pg. 118 to 122)** and Preliminary Ecology Desktop Assessment **(Att 7, Section 3.5.3, pg. 39 to 40)** identify potential impacts to migratory species and ecological communities.

The volume of protected matters impacted, direct and/or indirect, is expected to be reduced greatly once the preferred export cable route alignment is identified.

Listed migratory species with the potential to be impacted are listed below.

Offshore

Sea Birds:

- Sooty Shearwater *(Ardenna grisea)*
- Flesh-footed Shearwater (*Ardenna carneipes)*
- Antipodean Albatross (*Diomedea antipodensis)*
- Southern Royal Albatross (*Diomedea epomophora)*
- Wandering Albatross (*Diomedea exulans)*
- Northern Royal Albatross (*Diomedea sanfordi)*
- Caspian Tern (*Hydroprogne caspia)*
- Australian Gull-billed Tern (*Gelochelidon macrotarsa)*
- Southern Giant-Petrel (*Macronectes giganteus)*
- Northern Giant Petrel (*Macronectes halli)*
- Eastern Curlew (*Numenius madagascariensis)*
- Sooty Albatross (*Phoebetria fusca)*
- Little Tern (*Sternula albifrons)*
- Buller's Albatross (*Thalassarche bulleri)*
- Indian Yellow-nosed (Albatross *Thalassarche carteri)*
- Shy Albatross (*Thalassarche cauta)*
- Grey-headed Albatross (Thalassarche chrysostoma)
- Campbell Albatross (*Thalassarche impavida)*
- Black-browed Albatross (*Thalassarche melanophris)*
- Salvin's Albatross (*Thalassarche salvini)*
- White-capped Albatross (*Thalassarche steadi)*
- Short-tailed Shearwater *(Puffinus tenuirostris)*
- Greater Crested Tern (*Thalasseus bergii)*

Shore birds:

- Common Sandpiper (*Actitis hypoleucos)*
- Swinhoe's Snipe (*Gallinago megala)*
- Pin-tailed Snipe (*Gallinago stenura)*
- Sharp-tailed Sandpiper(*Calidris acuminata)*
- Bar-tailed Godwit (*Limosa lapponica)*
- Black-tailed Godwit (*Limosa limosa)*
- Common Greenshank (*Tringa nebularia)*
- Great Knot (*Calidris tenuirostris)*
- Red Knot (*Calidris canutus)*
- Curlew Sandpiper (*Calidris ferruginea)*
- Pectoral Sandpiper (*Calidris melanotos)*
- Whimbrel (*Numenius phaeopus)*
- Greater Sand Plover (Charadrius *leschenaultia)*
- Double-banded Plover (*Charadrius bicinctus)*
- Grey Plover (*Pluvialis squatarola)*
- Oriental Plover (*Charadrius veredus)*

- Latham's Snipe (*Gallinago hardwickii)*
- Lesser Sand Plover (*Charadrius mongolus)*
- Pacific Golden Plover (*Pluvialis fulva)*
- Ruddy Turnstone (*Arenaria interpres)*
- Terek Sandpiper (*Xenus cinereus)*
- Marsh Sandpiper (*Tringa stagnatilis)*
- Wood Sandpiper (*Tringa glareola)*
- Sanderling (*Calidris alba)*
- Ruff (*Calidris pugnax)*
- Grey-tailed Tattler (*Tringa brevipes)*
- Red-necked Stint (*Calidris ruficollis)*
- Little Curlew (*Numenius minutus)*

Land birds:

- White-bellied Sea-eagle (*Heliaeetus leucogaster)*
- Osprey (*Pandion haliaetus)*
- Fork-tailed Swift (*Apus pacificus)*
- White-throated Needletail (*Hirundapus caudacutus)*
- Yellow Wagtail (*Motacilla flava)*

Marine Mammals:

- Blue Whale (*Balaenoptera musculus)*
- Southern Right Whale (*Eubalaena australis)*
- Fin Whale (*Balaenoptera physalus)*
- Sei Whale (*Balaenoptera borealis)*
- Pygmy Right Whale (*Caperea marginata)*
- Killer Whale (*Orcinus orca)*
- Humpback Whale (*Megaptera novaeangliae)*
- Dusky Dolphin (*Lagenorhynchus obscurus)*

Turtles:

- Leatherback Turtle (*Dermochelys coriacea)*
- Loggerhead Turtle (*Caretta caretta)*
- Green Turtle (*Chelonia mydas)*

Fish and Sharks:

- White Shark (*Carcharodon carcharias)*
- Grey Nurse Shark (*Carcharias taurus)*
- Shortfin Mako (*Isurus oxyrinchus)*
- Porbeagle (*Lamna nasus)*
- Whale Shark (*Rhincodon typus)*

Onshore

Birds:

- Common Sandpiper (*Actitis hypoleucos)*
- Ruddy Turnstone (*Arenaria interpres)*
- Sooty Shearwater (*Ardenna grisea*)
- Sharp-tailed Sandpiper (*Calidris acuminata)*
- Red Knot (*Calidris canutus)*
- Great Knot (*Calidris tenuirostris)*
- Double-banded Plover *(Charadrius leschenaultia*)

- Greater Sand Plover (*Charadrius leschenaultia)*
- Lesser Sand Plover (*Charadrius mongolus)*
- Latham's Snipe (*Gallinago hardwickii)*
- White-throated Needletail (*Hirundapus caudacutus)*
- Caspian Tern (*Hydroprogne caspia)*
- Bar-tailed Godwit (*Limosa lapponica)*
- Black-tailed Godwit (*Limosa limosa)*
- Eastern Curlew (*Numenius madagascariensis)*
- Whimbrel (*Numenius phaeopus)*
- Grey Plover (*Pluvialis squatarola)*
- Little Tern (*Sternula albifrons)*
- Grey-tailed Tattler (*Tringa brevipes)*
- Common Greenshank (*Tringa nebularia)*
- Marsh Sandpiper (*Tringa stagnatilis)*
- Terek Sandpiper (*Xenus cinereus)*

Potential direct and indirect impact pathways for migratory species are summarised below:

Marine

Potential sources of direct and indirect impacts to listed Migratory Species include:

- Offshore turbines pose collision risks and migration barriers for birds. The impact depends on bird abundance, their use of the site for migration or foraging, typical flight heights, avoidance behaviours, and population sizes.
- Vessel noise, presence and lighting associated with vessel movements resulting in temporary behavioural disturbance to marine fauna, including fishes, marine mammals and birds.
- Vessel collision resulting in potential blunt or sharp force trauma to marine fauna, including fishes, marine mammals and birds
- The presence of offshore wind turbines and offshore substations can alter local and regional water flow patterns and can modify sediment transport by creating areas of erosion and deposition around the foundation structures.
- Seabed disturbance would occur due to seabed preparation, the placement of equipment and cable installation/ protection work. This can produce localised plume generation and short-term increases in turbidity and sedimentation typically within the immediate disturbance area.
- Potential risk of introduction of IMS or diseases to threatened marine fauna, including fishes, marine mammals and birds – this risk is low with implementation of biofouling management and ballast water management plans.
- Depending on the type and amount of electrical current a cable carries, the cable design, and the proximity of an organism to a cable, EMF emitted by a subsea power cable can have variable effects on marine life that occupy habitats along a cable route. The unplanned discharge of solid wastes can result in mortality to fauna, either through contamination or physical injury depending on the nature of the waste.

Terrestrial Ecology

Potential sources of direct impacts to listed Threatened Species and TECs include:

- Clearing and levelling of sites, excavations and general construction activities result in direct loss of habitat and/species, fragmentation of habitats and communities.
- Maintenance activities during operations (e.g. access track vegetation clearance) result in accidental and direct loss of habitat and/species.
- Night lighting, noise and vibration associated with construction and operational activities result in disturbance to fauna habitat and/or direct loss of fauna species.

Potential sources of indirect impacts to listed Threatened Species and TECs include:

- Accidental spills, erosion and sedimentation, and dust pollution due to construction activities causes a decline in water quality and quality of soils, resulting in the long-term decline or loss over time of species numbers and native vegetation area.
- Vehicular movements during construction and operations introduces and/or spreads weeds, pest species or pathogens, resulting in long-term decline or loss over time of species numbers and native vegetation area.

With the introduction of construction and operational management and mitigation measures, the impacts described above are likely to be avoided or reduced. Where effects on migratory species cannot be avoided, appropriate environmental management measures in both construction and operations would be detailed in the Project's construction and operational environmental management plans. Specific mitigation measures may be developed to address any residual impacts, which would also be offset in accordance with the EPBC Act Environmental Offsets Policy.

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. *

The assessments (**Att 6 – Preliminary Marine Assessment (Section 5.2.2, pg. 118 to 122)** and **Att 7 – Terrestrial Ecological Desktop Assessment (Section 3.5.3, pg. 39 to 40))** found that there is potential for the Project to have a significant impact in relation to the following significant impact criteria for listed migratory species:

- The Project has the potential to modify, destroy or isolate an area of important habitat for a migratory species. The Referral Area supports various migratory seabirds, shorebirds, and land birds. The Referral Area is used by these species for foraging and migration and the presence of operating Wind turbines presents a potential barrier effect and risk of collision to these species. The potential impact on species, including the magnitude of impacts, are uncertain at this stage. Further assessments and bird surveys would clarify species usage throughout the year. Due to uncertainties regarding migratory bird presence and behaviour, the Project is assessed at this preliminary stage as having the potential for significant impacts
- The Project has the potential to disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory bird species, mammal species and fish and shark species. There is the potential for disruption to migratory seabirds (e.g. albatrosses, petrels, and shearwaters), migratory shorebirds (e.g. sandpipers, plovers and godwits) and migratory land birds (e.g. parrots and raptors), resulting from operating turbines potentially causing collision risk, displacement, and/or a barrier to migration, seabed/shoreline disturbance, light emissions and fuel or chemical spills. Marine mammals, including pygmy blue, southern right, and humpback whales, could face disruptions in breeding, foraging, migration, and resting due to underwater noise, barrier effects, vessel interactions, and spills. Fish and sharks, particularly white sharks, could be impacted by underwater noise in breeding areas, turbine presence, seabed disturbances, hydrodynamic changes, light emissions, electromagnetic fields, and spills.

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. *

The Project has identified potential direct and indirect significant impacts to listed migratory species, as outlined in the Preliminary Marine Assessment **(Att 6, Section 5.2.2, pg. 118 to 122**) and Terrestrial Ecological Desktop Assessment (**Att 7, Section 3.5.3, pg. 39**).

These assessments are only preliminary and further assessment is required through the impact assessment process and avoidance, minimisation and mitigation measures to ensure impacts are reduced to acceptable levels. While the potential number of species affected are expected to be reduced once the cable route is selected and through micro-siting around sensitive areas, the potential for significant impacts to occur remains. Therefore, at this preliminary stage, the proposed action is considered a ‘controlled action’.

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. *

The Project is committed to best-practice environmental management in detailed design, construction and operations. The proposed Referral Area allows the Project the flexibility to avoid, mitigate and offset to minimise the potential of adverse environmental impacts, and will adopt the same avoidance and mitigation measures as outlined in section 4.1.4.9, where relevant, including the indicative list of measures as follows.

Marine:

- Marine fauna surveys would be undertaken to better characterise noise-sensitive species that utilise the Referral Area at different times of year.
- Acoustic modelling would assess the potential effects of underwater noise, including the use of noise abatement systems such as bubble curtains.
- Development of and adherence to an agreed MMMP would be undertaken to mitigate potential impacts from underwater noise on marine mammals and fish.
- Underwater noise management procedures for impulsive sources (pile driving) would include:
    - Observation and shutdown zones
    - Soft-start procedures
    - Shutdown procedures
    - Nighttime / low visibility procedures.
- Baseline bird surveys would be conducted to better characterise the species that utilise the OWF area at different times of year, including data on flight paths and flight heights.
- Collision risk modelling and a collision risk assessment would be undertaken to inform design and mitigation strategies.
- Marine mammal baseline surveys would be undertaken to better understand the marine mammal species that utilise the Referral Area at different times of year.
- Implement monitoring studies that are informed by the baseline studies and designed to verify predictions made during the assessment.
- EMF desktop study to be undertaken.
- As far as reasonably practicable, consider effects on migratory species in project design.
- Project infrastructure layout, cable routes and shore crossing sites would be selected to avoid or minimise disturbance to sensitive habitats.
- Application of EPBC Regulations 2000, Part 8, Division 8.1 for vessel speeds and approach distances for marine mammals.
- Subject to marine fauna survey outcomes additional mitigation would be considered where practicable, such as adaptive management procedures for sensitive species and life stages.

Terrestrial Ecology:

- Flora and fauna field assessments (including targeted seasonal surveys, where required) would be undertaken within the Referral Area to inform project design development, as well as to contextualise the extent and condition of native vegetation, the type, condition, and connectivity of fauna habitat, and the potential presence of threatened species and ecological communities within the area where direct and indirect impacts may occur.
- Design development would be informed by ecology findings to avoid and minimise impacts in the final Project design, including infrastructure siting and construction methodology.
- No-go zones and/or controls during sensitive life-stages would be implemented where relevant for priority shorebird habitats during shoreline construction activities, including consideration of migration patterns of other birds found to utilise habitat in the Referral Area.
- To the extent practicable, project infrastructure would be co-located with existing easements or on previously cleared land.
- Employ trenchless crossing methods such as HDD where practicable would be considered to reduce impacts to dune vegetation and integrity and to protect adjacent saltmarsh vegetation as well as habitat for threatened fauna.

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

The potential for impacts to listed migratory species will be determined through further assessment, following additional baseline survey work and design development to avoid and minimise any potential impacts.

Offsets to address any residual impacts to listed migratory species would be developed and implemented in accordance with the requirements of applicable Commonwealth guidelines, including the EPBC Act Environmental Offsets Policy (Department of Sustainability, Environment, Water, Population and Communities, October 2012).

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. *

There are no Nuclear actions proposed as part of this 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? *

Yes

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

The protection of the Commonwealth Marine Area includes the protection of its habitats, the functioning or integrity of its marine ecosystems, and populations of marine species. The Preliminary Marine Assessment **(Att 6, Section 5.2.3, pg. 122 to 125)** has assessed the Project against the significant impact criteria for the Commonwealth Marine Area.

Potential sources of direct impacts to species and ecological communities in the Commonwealth Marine Area associated with Project activities in the OWF area and the ECC include:

- Habitat and ecosystem integrity –
    - Habitat modification and disturbance due to direct disturbance from wind turbine and offshore substation foundations and installation of cabling on the seabed, as well as suspended sediments, sediment deposition and/or scour around installed foundations.
    - Seabed disturbance may result in adverse impacts on marine ecosystem functioning or integrity in the Commonwealth Marine Area.
    - Benthic habitat surveys would be undertaken, and the locations of foundations, cables and other infrastructure would be micro-sited to avoid or minimise disturbance to sensitive habitats and communities.
- Marine species and marine mammals –
    - Physical presence of Project infrastructure may have potential disruption to seabirds, migratory shorebirds and landbirds (e.g. albatrosses, petrels, and shearwaters), and migratory shorebirds (e.g. sandpipers, plovers and godwits), resulting in risk of collision with operating turbines, displacement, and/or a barrier to migration.
    - Underwater noise associated with construction and decommissioning may result in injury, auditory impairment (permanent threshold shift [**PTS**] and temporary threshold shift [**TTS**]), behavioural and masking effects to marine fauna. Underwater noise disturbance may also potentially disrupt breeding, foraging, migration or resting behaviours.
    - Marine species baseline surveys would be undertaken to better understand the marine species that utilise the Referral Area at different times of year and so far as is reasonably practicable, the Project will consider effects on species in Project design.

Potential sources of indirect impacts on the Commonwealth Marine Area associated with activities in the offshore Referral Area include:

- Water quality –
    - Vessel discharges, the suspension of seabed sediments and a possible unplanned fuel or chemical spill may result in changes to water quality, which may impact biodiversity.
    - Any planned discharges will comply with relevant maritime legislation including the International Convention for the Prevention of Pollution from Ships (**MARPOL**) requirements.
- Pollutants/chemicals –
    - Unplanned fuel or chemical spills, while highly unlikely, have the potential to result in harmful substances accumulating in the marine environment and impacting biodiversity.
- Heritage values –

There are four registered shipwrecks within the Referral Area, two are within the OWF area (City of Hobart / Unidentified Shipwreck), and two are in the ECC investigation area (Magnolia and Sarah). One of these, Sarah, is located within Victorian coastal waters. The placement of infrastructure and associated seabed activities would be designed to avoid impacts to known maritime and cultural heritage.

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

Yes

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

The Preliminary Marine Assessment **(Att 6, Section 5.2.3, pg. 122 to 125**) identifies potential impacts to Commonwealth Marine Areas.

The assessment found that there is potential for the Project to have a significant impact on the Commonwealth marine area, specifically on a population of a marine bird species or marine mammal species including its lifecycle. Seabirds (e.g., albatrosses, petrels), migratory shorebirds (e.g., sandpipers), and landbirds could face risks from turbine operations, including collisions and displacement. Other potential impacts include migration barriers, alongside seabed disturbances, light emissions, and spills. Marine mammals could be affected by underwater noise, disrupting breeding and foraging, along with displacement and vessel interactions. Fish and sharks, particularly white sharks, cold be impacted by underwater noise, turbine presence, seabed disturbances, hydrodynamic changes, light emissions, electromagnetic fields, and spills.

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

Yes

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

The Project has identified potential direct and indirect significant impacts to the Commonwealth Marine Area. This assessment is only preliminary and further assessment is required through the impact assessment process and avoidance, minimisation and mitigation measures to ensure impacts are reduced to acceptable levels. While the potential areas, habitats and number of species affected are expected to be reduced once the cable route is selected and through micro-siting around sensitive areas, the potential for significant impacts to occur remains. Therefore, at this preliminary stage, the proposed action is considered a ‘controlled action’.

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

At this preliminary stage, the following measures are indicatively proposed to inform avoidance and minimisation of potential impacts:

- Geophysical, geotechnical and benthic surveys to identify and avoid sensitive features
- Modelling to assess hydrodynamic impacts to seafloor habitats and coastal geomorphological processes
- Cable route selection to avoid sensitive features where practical
- Treatment and management of CASS as per the ‘Guidelines for the dredging of acid sulfate soil sediments and associated dredge spoil management’ (Simpson et al., 2018)
- Micro-siting and selection of cable routes and shore crossing site to avoid or minimise disturbance to TECs and other sensitive habitats where practical.
- Micro-siting of project infrastructure to avoid disturbance to historic shipwrecks and sites of cultural heritage significance.
- Marine fauna surveys would be undertaken to better characterise noise-sensitive species that utilise the Referral Area at different times of year.
- Acoustic modelling would assess the potential effects of underwater noise, including the use of noise abatement systems such as bubble curtains.
- Development of and adherence to an agreed MMMP would be undertaken to mitigate potential impacts from underwater noise on marine mammals and fish.
- Underwater noise management procedures for impulsive sources (pile driving) would include:
    - Observation and shutdown zones
    - Soft-start procedures
    - Shutdown procedures
    - Nighttime / low visibility procedures.
- Baseline bird surveys would be conducted to better characterise the species that utilise the OWF area at different times of year, including data on flight paths and flight heights.
- Collision risk modelling and a collision risk assessment would be undertaken to inform design and mitigation strategies.
- Marine mammal baseline surveys would be undertaken to better understand the marine mammal species that utilise the Referral Area at different times of year.
- Implement monitoring studies that are informed by the baseline studies and designed to verify predictions made during the assessment.
- As far as reasonably practicable, consider effects on migratory species in project design.
- Project infrastructure layout, cable routes and shore crossing sites would be selected to avoid or minimise disturbance to sensitive habitats.
- Application of EPBC Regulations 2000, Part 8, Division 8.1 for vessel speeds and approach distances for marine mammals.
- Subject to marine fauna survey outcomes, additional mitigation would be considered where practicable, such as adaptive management procedures for sensitive species and life stages.
- Further refinement of the sensitivity mapping will assist in the design of terrestrial and marine siting footprints and infrastructure routes, to avoid of areas of cultural, historic, natural, or underwater heritage sensitivity.

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

Proposed offsets are to be determined based on the residual impacts of the Project. Offsets to address any residual impacts to the Commonwealth marine area would be developed and implemented in accordance with the requirements of applicable Commonwealth guidelines, including the EPBC Act Environmental Offsets Policy (Department of Sustainability, Environment, Water, Population and Communities, October 2012).

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 Project is located in Victoria.

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 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. *

The proposed action will avoid direct and/or indirect impact to 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 recognised overseas Commonwealth Heritage places within the Referral Area or that will be affected 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)
- Commonwealth Marine Area (S23)

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)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

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

No

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

The proposed action must be undertaken within the Feasibility Licence Area (FL-012), and the proposed VicGrid's Gippsland Shoreline REZ and Connection Hub areas. Within these constraints, the Referral Area represents a broad investigation area for further investigation of potential infrastructure locations.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Project Figures.pdf Aurora Offshore Wind Farm Project Figures	04/09/2025	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att3_Stakeholder Engagement Strategy.pdf Stakeholder Engagement Strategy for the Project	20/06/2025	No	High
#2.	Document	Att4_Community and Stakeholder Engagement Policy.pdf Iberdrola Community and Stakeholder Engagement Policy	27/04/2023	No	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att5_Environment Policy.pdf Iberdrola Environment Policy	01/10/2022	No	High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Project Figures.pdf Aurora Offshore Wind Farm Project Figures	03/09/2025	No	High
#2.	Document	Att2_Project GDA94 Coordinates.pdf Referral area coordinates in GDA94	04/09/2025	No	High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Project Figures.pdf Aurora Offshore Wind Farm Project Figures	03/09/2025	No	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att8_Preliminary Landscape and Visual Impact Appraisal.pdf	09/09/2025	No	High

Landscape and Visual Impact Appraisal

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	07/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	07/10/2025	No	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att9_Preliminary Heritage Assessment (redacted).pdf Heritage Assessment - redacted	07/10/2025	No	High
#2.	Document	Att9_Preliminary Heritage Assessment (unredacted).pdf Heritage Assessment - unredacted	07/10/2025	Yes	High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att9_Preliminary Heritage Assessment (redacted).pdf Heritage Assessment - redacted	06/10/2025	No	High
#2.	Document	Att9_Preliminary Heritage Assessment (unredacted).pdf Heritage Assessment - unredacted	06/10/2025	Yes	High

4.1.3.3 (Ramsar Wetland) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	High

4.1.4.8 (Threatened Species and Ecological Communities) Why you think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	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	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	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	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	High

4.1.5.8 (Migratory Species) Why you think your proposed action is a controlled action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High
#2.	Document	Att7_Terrestrial Ecological Desktop Assessment.pdf Terrestrial Ecological Desktop Assessment	06/10/2025	No	High

4.1.7.2 (Commonwealth Marine Area) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High

4.1.7.5 (Commonwealth Marine Area) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att6_Preliminary Marine Assessment.pdf Preliminary Marine Assessment	06/10/2025	No	High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	12002773248
Organisation name	ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED
Organisation address	Level 14, 207 Kent Street, Sydney NSW 2000
Representative's name	Jenny Luk
Representative's job title	Partner
Phone	+61 3 8606 4131
Email	jenny.luk@erm.com
Address	Level 8, 501 Swanston Street, Melbourne VIC 3000

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

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Jenny Luk of ENVIRONMENTAL RESOURCES MANAGEMENT AUSTRALIA PTY LIMITED**, 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. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

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	97667065689
Organisation name	IBERDROLA AUSTRALIA OW 2 PTY LIMITED
Organisation address	2000 NSW
Representative's name	Daniel Machado

Representative's job title	Offshore Wind Senior Manager Environment
Phone	0448 211 661
Email	Daniel.machado@iberdrola.com.au
Address	80 Collins Street, Melbourne VIC 3000

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

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Daniel Machado of IBERDROLA AUSTRALIA OW 2 PTY LIMITED**, 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. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

✔ 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. *

☑ Check this box to confirm these are the correct identification details. *

☑ I, **Daniel Machado of IBERDROLA AUSTRALIA OW 2 PTY LIMITED**, 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. *

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