REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either proponent or a decision-maker may refer these works (or Project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a Project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of Project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the Project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the Project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 10MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a Project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002

Couriers

Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	Star of the South Wind Farm Pty Ltd as trustee for Star of the South Trust ('Star of the South')
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Casper Frost Thorhauge Chief Executive Officer Level 30, 55 Collins Street, Melbourne, VIC 3000 cfthorhauge@staroftheSouth.com.au +61(3) 9108 4000 N/A
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	David Hyett Industry Director - Environment AECOM Australia Pty Ltd ('AECOM') Level 11, Tower 2, 727 Collins Street, Docklands VIC 3008 David.Hyett@aecom.com +61 3 9653 1234 N/A
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for Project)	Copenhagen Infrastructure Partners, (CIP) the majority owning parent organisation of Star of the South has identified, developed, constructed and owns a variety of renewable energy generation infrastructure developments around the world. CIP is a pioneer of offshore wind globally with an offshore wind portfolio that spans four continents (Europe, North America, Asia, and Australia). To complement this expertise, Star of the South have engaged suitability qualified consultants to support this referral including: • Offshore wind project development services: Copenhagen Offshore Partners • Approvals advisory services: EnviroME Pty Ltd, Seran Pty Ltd, Ecoknowlogy, and Christine Wyatt • Communication and stakeholder management: Nation Partners • Approvals legal services: White & Case LLP • Approvals lead consultant: AECOM • Offshore approvals consultant: RPS Group • Offshore ecology: RPS Group and Biosis • Onshore ecology: Nature Advisory and AECOM • Aboriginal cultural heritage: Andrew Long and Associates

	• Historic heritage: Lovell Chen • Hydrology: AECOM • Visual: Hansen Partnership

2. Project – brief outline

Project title: Star of the South Offshore Wind Farm Project (the Project)

Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing Project site or investigation area, as well as its regional and local context)

Star of the South Offshore Wind Farm Project (the Project) comprises an offshore wind farm, supporting electricity transmission assets required to transfer energy generated by the wind farm to the existing network, and modifications to ports and harbours required to support the construction and operation of the wind farm.

The proposed offshore wind farm is located between approximately seven and 26 kilometres off the coast of central Gippsland, within Commonwealth waters. In March 2019, the Commonwealth Government granted an Exploration Licence for the conduct of offshore wind energy research and exploration off the coast of Gippsland, Victoria. The proposed boundary of the wind farm is defined by the Exploration Licence Area (the Licence Area) which comprises an area of 496 square kilometres (Figure 1).

The proposed wind farm will transmit electricity, via offshore cables, to shore in the vicinity of Reeves Beach and/or McGaurans Beach. Onshore transmission infrastructure will then transmit electricity from the coast of central Gippsland to the Latrobe Valley through rural areas within the Shire of Wellington and City of Latrobe (Figure 2).

Ports and harbours within close proximity will be required to support construction and operation of the Project. In relation to construction activities, the options presented in this referral are the utilisation of the Port of Hastings, Barry Beach Marine Terminal (BBMT) and Port Anthony. Port of Hastings (Figure 3) is located within the Shire of Mornington Peninsula, and BBMT and Port Anthony are located within the Shire of South Gippsland (Figure 4). BBMT and Port Anthony are immediately adjacent sites and share the same channel. For operational activities, these ports or other existing ports and harbour facilities within the region, could be utilised.

Short Project description (few sentences)**:**

The Project comprises an offshore wind farm, supporting electricity transmission assets required to transfer energy generated by the wind farm to the existing network, and modifications to ports and harbours required to support the construction and operation of the wind farm.

The key components of the Project include:

i. Offshore wind assets which will comprise of:
    - Up to 400 Wind Turbine Generators (WTGs)
    - Substructures each installed on foundations
    - A network of buried or mechanically protected (in areas where burial is not possible), subsea cables connecting strings of WTGs together and connecting the WTGs to the offshore transmission assets.

ii. Offshore transmission assets which will comprise of:

- Up to four Alternating Current (AC) substation platforms collecting the generated electricity and transforming the electricity for transmission to shore. These substations may also be linked to one another via interconnector cables
- Substructures each installed on foundations
- Up to 13 AC subsea export cables, buried or mechanically protected (in areas where burial is not possible), transmitting the electricity from the wind farm to the shore.

iii. Onshore transmission assets which will comprise of:

- Underground cable/combined underground cable and overhead powerlines
- Up to four AC substations
- Connection to the National Electricity Market (NEM) in the Latrobe Valley.

iv. Existing port and harbour modifications to support project construction and operations.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

The aim of the Project is to supply renewable electricity to the National Electricity Market (NEM) to supplement Victorian and Australian energy supply, through the development of a large-scale offshore wind energy facility.

The Project would:

- Supply around 18% of Victoria's electricity needs – powering 1.2 million homes
- Support Victoria's Renewable Energy Target of reaching 50 per cent renewable energy by 2030
- Support initiatives within the Climate Change Act 2017 (Vic) to assist in meeting a greenhouse gas emissions reduction target of net zero emissions by 2050
- Support the Australian Government commitment to achieve its 2030 climate change target, to reduce greenhouse gas emissions by 26 per cent to 28 per cent on 2005 levels by 2030.

In addition, the Project could:

- Support a smooth and orderly transition from retiring coal power plants
- Boost Gippsland's regional economy and Victoria's strong infrastructure agenda
- Contribute to reducing household power bills – improving cost of living
- Create thousands of jobs during construction and hundreds of local ongoing jobs during operation (both direct and indirect) – i.e. apprentices, upskilling transitioning workers from declining industries
- Contribute to protecting against power blackouts – Victoria experiences power outages, particularly on hot days
- Contribute to meeting baseload power needs – offshore wind in Gippsland is strongly correlated to demand based on unique weather patterns.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

The Project seeks to diversify Victoria's energy capability and expand its power generating capacity, which has the potential to power up to 1.2 million homes with clean renewable energy while creating jobs and investment.

One of the key advantages of the proposed location of the Project is its proximity to the existing electricity network. Connection to the existing transmission network would allow energy produced by the wind farm to be transported into the NEM including local Gippsland areas as well as Melbourne and surrounds, the major electricity load centre of Victoria.

Other key factors contributing to the suitability of the siting of the Project include:

- A strong and consistent wind resource
- Relatively shallow water depths thereby conducive to the installation of offshore infrastructure
- Close proximity and ready access to existing transport and port infrastructure
- Surrounding onshore areas with low population density
- Close proximity to the existing electricity network, which has the capacity to transport large volumes of electricity to the Victorian load centre in Melbourne
- Potential to enable local manufacturing in close proximity to the Project, thus contributing significant economic benefits to Gippsland, Victoria and Australia.

By giving consideration to the above factors, minimisation of social and environmental impacts has been central to decision making. The Project will continue to be refined in response to technical, environmental and social impacts being assessed during the development phase.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The design of the Project is evolving based on investigations into technical feasibility and commercial viability and will continue to be refined in response to information gathered, the environmental and social impacts identified, and as a result of the consultation process.

Attached Figures 1 to 4 provide an overview of the 'referral area', within which the Project components are proposed to be located. An early concept illustration of the main project components has been included as Figure 5.

Main project components

Offshore wind assets

Offshore wind assets would comprise:

- up to 400 Wind Turbine Generators (WTGs)
- substructures each installed on foundations, with associated scour protection if required
- a network of buried or mechanically protected (in areas where burial is not possible), subsea cables connecting strings of WTGs together and connecting the WTGs to the offshore transmission assets.

These would be located within the Licence Area in Commonwealth jurisdiction. The ultimate turbine specifications will be determined following site investigations, supply chain and technology considerations and further environmental assessment. Typical parameters of a wind turbine are shown in Figure 6.

Offshore transmission assets

Offshore transmission assets would comprise:

- up to four Alternating Current (AC) substation platforms collecting the generated electricity and transforming the electricity for transmission to shore. These substations may also be linked to one another via interconnector cables
- substructures each installed on foundations, with associated scour protection if required
- up to 13 AC subsea export cables, buried (up to 5 m deep) or mechanically protected (in areas where burial is not possible), transmitting the electricity from the wind farm to the shore.

Export cables would traverse the Licence Area, Commonwealth waters and Victorian coastal waters before connecting to the onshore transmission assets.

Onshore transmission assets

Onshore transmission assets would comprise:

- underground cable/combined underground cable and overhead powerlines
- up to four AC substations
- connection to the National Electricity Market (NEM) in the Latrobe Valley.

The offshore export cables would connect to onshore electrical transmission infrastructure at the transition joint bays, located landward of mean high water springs (MHWS) from the shore crossing site. Two crossing sites have been identified at Reeves Beach and McGaurans Beach. The preferred shore crossing will be selected following further design development and the findings of the transmission corridor assessment.

Currently there are three corridors under consideration as the potential locations for the onshore transmission infrastructure with the final option subject to design development and discussions with project stakeholders. These are shown in Figure 1 as 'western', 'eastern' and 'northern' corridors. The transmission infrastructure is anticipated to be predominantly below ground. A section of overhead transmission line will be required to connect the cable to the network connection point. The extent of overhead transmission line will be known when the design is further progressed. The network connection point is expected to be in the proximity of Loy Yang Power Station and/or Hazelwood Terminal Station.

The western corridor extends from the vicinity of Reeves Beach in north westerly direction for 13 kilometres, traversing the South Gippsland highway, before following road reserve north along Old Rosedale Road for about 24 kilometres. The corridor then follows the existing Basslink Interconnector alignment for the remaining 25 kilometres.

The eastern corridor extends from the vicinity of Reeves Beach in a generally northerly direction for about 30 kilometres through mostly freehold land and the Giffard plantation. The corridor then follows the existing Basslink Interconnector alignment for the remaining 45 kilometres.

The northern corridor extends from the vicinity of McGaurans Beach in generally north westerly direction for about six kilometres through mostly freehold land. It then follows the existing Basslink Interconnector alignment for 56 kilometres.

A width of between approximately three and five kilometres has been included within the referral area for each corridor. Using a wide corridor for the potential electrical transmission routes provides flexibility for route selection, which will be undertaken in response to environmental, land use and topographical constraints, consultations and wind farm design and electrical requirements. It is anticipated that through further design, the onshore transmission route corridor would be reduced to a footprint with a width of less than 100 metres.

Up to four onshore substations are required for transmission, the largest having a footprint of up to a maximum of 400 x 400 metres.

Existing port and harbour modifications

The Project would use existing port facilities in the region to support construction activities. The ports identified as suitable to support construction are the Port of Hastings, BBMT and Port Anthony. A combination of these existing ports are anticipated to be utilised. The referral areas for BBMT and Port Anthony and Port of Hastings are shown in Figure 3 and Figure 4 respectively. Other existing port and harbour facilities could also support construction activities.

International experience has shown the port should:

- Be close to the wind farm site to ensure optimal transportation, installation and construction activities
- Have sufficient water depths under all tidal conditions suitable for various construction vessel draughts, minimum vessel traffic and or a vessel management plan that allows for project logistics
- Have sufficient quay side facilities and availability at port to ensure optimal transportation, installation and construction activities
- Have sufficient availability of land for potential manufacturing, assembly and storage of key project components
- Provide social benefits associated with local employment.

BBMT and Port Anthony could support the manufacturing, storage and pre-assembly of Wind Turbine Generators (WTGs) (blades, nacelles and towers), with land area available for construction of manufacturing and storage facilities. In their current condition there would be sufficient water depth for the construction vessels that would transport WTGs to the wind farm site. This depends however on ultimate turbine design parameters. Structural improvements to a quay wall may be required however it is anticipated that these works would be undertaken from the landside area.

Port of Hastings is a deep channel port with a minimum water depth of around nine metres. It has existing port facilities in place that require minimal upgrade for project purposes, including a deep draft dedicated quay wall. The port also has available hinterland for the construction and storage facilities. Turbine foundations could be manufactured locally on the port operator's premises for transport to the wind farm site by construction vessels. The existing jetty (a deck on pile structure) may require strengthening and widening which may require some piling works in the water in the immediate vicinity of the existing jetty. Laydown areas may also require strengthening.

Ancillary infrastructure will also be required to support construction activities. These facilities could include:

- Storage facilities for minor components
- Offices with marine coordination and construction administration capabilities
- Staff facilities including car park
- Waste handling and refuelling facilities.

There are a number of existing local ports and harbours (including BBMT, Port Anthony and other regional port and harbour facilities) that have been identified as suitable port areas to support the operation and maintenance of the wind farm. An operation and maintenance port needs to provide sheltered quay side facilities for crew transfer vessels and service operation vessels, as well as berthing facilities. In addition, the area provides available land for the construction of:

- Offices with crew facilities
- Refuelling and spare part storage
- Staff facilities including car park

- Helicopter landing area (if required).

Vessel to vessel transfer of parts may be required during construction and/or operation.

Ancillary components of the Project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Ancillary components may be required to support the Project (such as storage facilities, site offices, and navigation and monitoring devices).

Offshore ancillary devices will be required and which may need to be positioned outside the Licence Area. This includes:

- Safety Aids to Navigation such as navigational buoys
- Metocean measurement devices such as wave buoys and floating Light Detection and Ranging (LiDAR) equipment
- Ecological monitoring devices such as buoyed acoustic monitoring equipment.

Numbers and positions of the offshore ancillary devices will be confirmed during development of the Project and in consultation with the relevant authorities.

The Project would seek to use existing public roads, access points and intersections. These roads, access points and intersections would be upgraded where required to accommodate construction vehicles.

There may be a need for new site access points to be built where suitable existing access points do not exist. The extent and locations of these would be subject to detailed design of the Project, however the Project would seek to use and upgrade existing access points where practicable to minimise disruptions to the road network.

Key construction activities:

Pre-construction preparatory works will be necessary to support the construction phase of the Project. This would include site preparation (both offshore and onshore) such as seabed preparation (i.e. removal of hazards such as Unexploded Ordnance (UXO)) and vegetation clearance, as well as the installation of some ancillary components, such as the Aids to Navigation. Manufacturing of asset components will also commence prior to the construction phase to allow sufficient time for fabrication, testing, certification and pre-assembly.

Construction of the Project is anticipated to involve the following activities:

<u>Offshore wind asset construction</u>

- Installation of foundations at turbine locations and, if required, scour protection
- Installation of substructures onto installed foundations
- Laying, connecting (to substructures once installed) and burying/protection of the subsea electrical cables
- Installation and commissioning of the WTGs once substructures installed
- Coordination of all offshore activities
- Provision of specialist installation vessels and other vessels to support offshore construction such as guard vessels

<u>Offshore transmission asset construction</u>

- Installation of foundations at offshore substation locations and, if required, scour protection
- Installation of substructures onto installed foundations
- Installation and commissioning of the offshore substations once substructures installed
- Export cables installation:

- marking and protecting cable exit points once cable ducting installed (installation onshore to offshore)
- preparing seabed (if required) for export cable installation i.e. trenching
- laying, connecting (to substructures once installed) and burying/protection of the export cables
- cable pull-in from sea to land using trenchless installation technique (subject to further technical feasibility studies)

- Coordination of all offshore activities
- Provision of specialist installation vessels and other vessels to support offshore construction such as guard vessels

Onshore transmission asset construction

Shore crossing construction:

- Preparation of access routes
- Establishment of a temporary shore crossing construction site including site office, hard stand areas and construction compounds (anticipated to be in the order of four hectares and subject to further design detail)
- Transport and storage of cable drums and transport of other construction material
- Excavation of transition pits and temporary storage of excavated materials
- Installation of cable ducts using trenchless installation technique (subject to further technical feasibility studies)
- Pull-in of export cables (offshore to onshore)
- Export and onshore cable jointing at transition pits. Pits backfilled with excavated materials
- Progressive rehabilitation of the shore crossing construction site and landscaping

Transmission asset construction:

- Preparation of road access routes
- Establishment of temporary site offices, hard stand areas and construction compounds
- Transport and storage of cable drums and other construction material
- If underground:
  - Excavation of cable trenches and temporary storage of excavated materials
  - Installation of cable ducts when trenchless method required i.e. under watercourses
  - Construction and installation of joint bays
  - Cable connection and commissioning at substations
  - Reinstatement works
- If overhead:
  - Installation of tower foundations and tower structures on top of foundations
  - Installation of cables and ancillary equipment such as circuit breakers
  - Cable connection and commissioning at substations
  - Reinstatement works
- Transport and storage of transformers and other substation components
- Construction and commissioning of substations
- Cable connection into substations

- Progressive rehabilitation of the substation sites and landscaping

The locations of construction compounds would be defined in response to environmental, land use and topographical constraints, landholder negotiations and technical and operational requirements.

Where sensitive waterway crossing or receptors are identified, trenchless construction methodologies will be investigated to avoid or minimise environmental impacts.

Existing port and harbour modification construction

Construction will involve:

- Use of existing deep channel port for import/transfer of materials
- Use of existing berthing facilities for jack-up vessels
- Preparation works on road access routes to ports location
- Establishment of site offices, hard stand areas and construction compounds
- Minor modifications to the jetty at Port of Hastings (deck on pile structure), which may require some piling in the water to provide for strengthening and widening
- Structural improvements to the BBMT quay wall (if required) undertaken from landside
- Construction of operation and maintenance buildings and facilities
- Progressive rehabilitation of the sites and landscaping.

Key operational activities:

The design and operational life of the Project is indicatively up to 50 years. During this period activities would include:

- Operation and maintenance of on- and offshore infrastructure
- The use and maintenance of onshore buildings and plant
- Ongoing environmental management and monitoring in accordance with relevant approval conditions.

During operations the wind farm will be monitored by a marine coordination centre which is likely to be located in the main operation port. Should major maintenance be required, for example wind turbine generator blade replacement, the marine coordination centre will oversee the activities.

Key decommissioning activities (if applicable):

Decommissioning activities will be further refined as part of ongoing project development. Infrastructure decommissioning would be reviewed in discussion with the transmission system operator and the regulator in the light of any other existing or proposed future use.

At the end of the operation phase of the Project, it is envisaged that offshore structures above the seabed (within Commonwealth jurisdiction) would be removed. The decommissioning activities would principally be a reverse of the construction sequence and involve similar types and numbers of vessels, equipment and management measures. Offshore cabling, either buried or protected, would likely be left in situ to avoid impacts to the environment.

Onshore underground cables would potentially be left in the ground with the cable ends cut, sealed and securely buried as a precautionary measure. Above ground transmission infrastructure such as substation components and towers and cables (if overhead power lines are used), will be dismantled and repurposed wherever feasible. Areas of hardstanding at substation sites will be remediated and other usage found.

Port and harbour facilities are likely to be repurposed for other offshore activities.

Is the Project an element or stage in a larger Project?

☒ No ☐ Yes If yes, please describe: the overall Project strategy for delivery of all stages and components; the concept design for the overall Project; and the intended scheduling of the design and development of Project stages).

No, the Project is not an element or stage in a larger project. However, it noted that only the Project components occurring within Victorian jurisdiction have been included in the referral area.

The proposed Project infrastructure and activities traverse Commonwealth and Victorian jurisdictions. The offshore wind farm assets and portions of the offshore transmission assets are proposed to be located within Commonwealth jurisdiction and therefore these project components (along with the onshore transmission assets and ports) have been referred to the Commonwealth Department of Agriculture, Water and Environment under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ('EPBC Act') to consider the potential for impacts associated with those project elements being installed within Commonwealth waters.

When considered based on their geographic location alone, these project elements are beyond the jurisdiction of the Victorian Government. However, there is the potential for these project elements to result in indirect impacts on the communities within Victoria (such as visual impacts). Therefore, potential indirect impacts of the Project components located within Commonwealth jurisdiction are considered relevant to this referral under the *Environment Effects Act 1978 (Vic)* ('EE Act').

The referral area is shown in Figure 1. The area containing Project elements that are located within Commonwealth waters is shaded in grey to demonstrate that the direct impacts of the Project in that area are beyond the geographic extent of Victorian jurisdiction and are not assessed within this referral.

Is the Project related to any other past, current or mooted proposals in the region?

☒ No ☐ Yes If yes, please identify related proposals.

Star of the South understands Qube Energy Pty Ltd (Qube) is proposing a regional port facility at Barry Beach involving upgrade of the existing Barry Beach Marine Terminal. The planned upgrade involving replacement of the existing wharf and deepening and widening of the channels to accept larger deeper draught vessels has the capacity to support project logistics if available in time. Situated in South Gippsland, this port would maximise local employment opportunities in this region.

What is the estimated capital expenditure for development of the project?

The estimated capital expenditure for the development of the Project is approximately between eight and 10 billion dollars.

4. Project alternatives

Brief description of key alternatives considered to date (eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Since the inception of the project, a number of onshore routes and corridors have been investigated to facilitate connection of the offshore windfarm to the Latrobe Valley. Preliminary investigations identified three prudent and feasible corridors for the transmission asset. The corridors will be further refined as the electrical concept progressed together with landholders and community engagement.

Brief description of key alternatives to be further investigated (if known)**:**

N/A

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further Project stages from the scope of the Project for assessment:

The offshore wind farm assets and portions of the offshore transmission assets are proposed to be located within Commonwealth jurisdiction as shown in Figure 1. Direct impacts within that area have been excluded from this referral as they are subject to assessment under the EPBC Act.

Potential indirect impacts of the Project components located within Commonwealth jurisdiction are considered relevant to this referral under the EE Act (e.g. visual impacts).

6. Project implementation

Implementing organisation (ultimately responsible for Project, ie. not contractor):

Star of the South Wind Farm Pty Ltd as trustee for Star of the South Trust

Implementation timeframe:

For indicative purposes, and for the scenario that all construction will take place within one phase, the offshore construction is anticipated to take up to three years and the onshore construction up to five years.

Proposed staging (if applicable):

A number of construction scenarios are currently being considered include 'all construction within one construction phase' and 'construction phased over several stages'.

These scenarios will be evolved based on investigations into technical feasibility and commercial viability and will continue to be refined in response to information gathered, the environmental and social impacts identified, and as a result of the consultation process.

7. Description of proposed site or area of investigation

Has a preferred site for the Project been selected?

☐ No ☒ Yes If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing Project footprint):

The preferred site (referral area) spans the area within which project infrastructure is proposed to be located is divided into three geographic areas for the purposes of this referral as shown in Figure 1 which are:

- Offshore: the referral area from three nautical miles offshore (the extent of Victorian coastal waters) to Reeves Beach and McGaurans Beach
- Onshore: the section of the referral area which extends from the Latrobe Valley to Reeves Beach and McGaurans Beach
- Ports: the sections of the referral areas at Port of Hastings, BMMT and Port Anthony.

Offshore site description

The offshore section of the referral area extends from the extent of the Victorian coastal waters at three nautical miles offshore to the high water mark at the potential shore crossing sites at Reeves Beach and McGaurans Beach. The water depth of the referral area within Victorian jurisdiction ranges from zero to around 20 metres. It is exposed to swell from the south-west through south-east and locally generated wind waves from all directions. Mean significant wave heights are in the order of two to three metres with much larger waves at times of local or remote storms (generating long-range swells). Wave disturbance to the seabed in the offshore deeper parts of the referral area would occur only during extreme wave conditions, while frequent wave disturbance would occur in the inshore, shallower parts of the referral area.

Regional currents are eastward in winter (driven by prevailing westerly winds) and westward in summer (prevailing south-easterly winds). Local metocean conditions are likely to be influenced by winter storms. Ebb and flood tides produce longshore currents of 0.1-0.2 metres per second in the referral area.

Within the offshore section of the referral area, marine habitats range are likely to include:

- Sandy beaches
- Intertidal rocky shores
- Intertidal seagrass
- Intertidal sand and mud flats
- Mangroves and saltmarshes
- Subtidal nearshore rocky reefs with kelp, other macroalgae and epifauna
- Seagrass meadows
- Subtidal soft sediments.

Onshore site description

The three transmission asset corridor options mostly cross freehold agricultural land, privately owned forest plantations and State forest along existing roads and easements. The predominant land uses across the area are agriculture, forestry and conservation.

The geology near the coast in the referral area consists of Quaternary Aged sands, silts and clays of the coastal dune and coastal lagoon deposits. Further inland the geology is dominated by Quaternary Aged sand, gravel and silt of alluvial terrace deposits, and aeolian sands of dune deposits. These inland terrace and dune sediments, together with the silt, sand and gravels of the Haunted Hills Formation make up the majority of the referral area geology. Localised alluvial sediments are also present along some watercourses.

The transmission asset corridor options are located within the Latrobe River and South Gippsland water catchments. The main waterways are Bruthen Creek, Merriman Creek and Latrobe River tributaries, Flynns Creek and Traralgon Creek. Remnant native vegetation in this part of the referral area is considered to be of moderate to high condition in most areas. High-quality and extensive areas of remnant forest and woodland vegetation communities are represented in Mullungdung State Forest, Stradbroke Flora and Fauna Reserve, Merriman Creek Flora and Fauna Reserve, Giffard (Rifle Range) Flora Reserve, Woodside Bushland Reserve and Darriman Bushland Reserve. The key parks and reserves are shown in Figure 2. These areas support a continuous cover of native vegetation and lifeforms characteristic of these ecological vegetation communities (EVCs). In addition, they also contain a number of large trees which are likely to provide important habitat for fauna.

Ports site description

The section of the referral area at the Port of Hastings is shown in Figure 4. The area includes an operational trading port which facilitates the import and export of commodities such as oil, petrol, steel and gas. The referral area also includes some areas of cleared agricultural land, recreational areas, native scrub, woodland and forest and coastal ecosystems.

The referral area at BBMT and Port Anthony is shown in Figure 3. The referral area comprises ports facilities including buildings, access roads and ports infrastructure as well as some areas of native vegetation.

Site area (if known): Approximately 68,000 (hectares) being the referral area, not the project footprint.

Route length (for linear infrastructure) …… (kilometre) **and width** …….. (m)

Current land use and development:

Offshore land uses

Commercial fishing

The following Victorian commercial fisheries could potentially be operational in the referral area:

- Rock Lobster (Eastern Zone) Fishery
- Scallop (Ocean) Fishery
- Wrasse (Ocean) Fishery
- Purse-seine (Ocean) Fishery
- Inshore Trawl Fishery
- Abalone (Central Zone) Fishery
- Ocean General Fishery

Most of the commercial fishing in south-east Victoria (on a volume basis) occurs along the continental shelf and the upper continental slope in Commonwealth waters that are deeper than the referral area.

Recreational fishing

Recreational fishing includes individual fishing, charter fishing vessels, organised fishing competitions and all forms of recreational taking of fish and other marine life, including line fishing, netting, trapping, spear fishing and hand collecting. The bulk of recreational fishing occurs within three nautical miles of the shoreline, notably in bays and estuaries.

Tourism

Commercial tourism operations that could occur within or near the referral area include offshore charter fishing and yacht racing, charter boat hire, nature and whale watching, charter flights and scuba diving tours. There are also a number of areas used for camping near McGaurans Beach and Reeves Beach as well as tourism associated with Ninety Mile Beach.

Shipping

Low levels of shipping activity associated with offshore petroleum infrastructure could occur through the referral area, with higher traffic volume shipping areas located to the south.

Industry operators

The Basslink Interconnector telecommunications cable route traverses the most north-eastern part of the referral area. No other existing infrastructure is known in the referral area.

Onshore land uses

The land uses within the three transmission corridor options under investigation are predominantly agriculture, forestry and conservation as summarised in Table 1.

Table 1 Summary of land uses within each corridor option

Transmission corridor option	Predominant land uses
Western	The Reeves Beach shore crossing site is across public land used for conservation and recreation purposes. The southern end of the corridor beyond the coastal strip is predominantly agricultural land through to north of Woodside. The Old Rosedale Road section of the corridor is through State Forest for around 20 kilometres and land use is largely conservation, with some small blocks used for forestry. The 25 kilometre section between Gormandale-Stradbroke Road and Loy Yang (common to all options) is a mixture of agricultural and forestry land uses until close to Loy Yang where industrial land use predominates. primarily used for agriculture and forestry.
Eastern	The Reeves Beach shore crossing site is across public land used for conservation and recreation purposes. The southern end of the corridor beyond the coastal strip is predominantly agricultural land for 20 kilometres through to the Giffard Plantation. The next section through to Willung is a mixture of agricultural and forestry land uses but also passes close to the Stradbroke Flora and Fauna Reserve and the Merriman Creek Flora Reserve. The 25 kilometre section between Gormandale-Stradbroke Road and Loy Yang (common to all options) is a mixture of agricultural and forestry land uses until close to Loy Yang where industrial land use predominates. predominantly used for agriculture and forestry.
Northern	The McGaurans Beach shore crossing site is across public land used for conservation and recreation purposes. The southern end of the corridor beyond the coastal strip is predominantly agricultural land for 10 kilometres through to the Giffard Plantation. Common with the eastern corridor, the next section through to Willung is a mixture of agricultural and forestry land uses but also passes close to the Stradbroke Flora and Fauna Reserve and the Merriman Creek Flora Reserve. The 25 kilometre section between Gormandale-Stradbroke Road and Loy Yang (common to all options) is a mixture of agricultural and forestry land uses until close to Loy Yang where industrial land use predominates. predominantly used for agriculture and forestry

The proposed site for landside development at the Port of Hastings is currently predominantly used for port and industrial purposes, although it also includes land currently used for agriculture and a parcel of land which is for public recreation use.

The proposed site for landside development at the BBMT and Port Anthony is predominantly currently used for port and industrial purposes, although the site includes vacant land that is undeveloped, some parts covered in vegetation.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The offshore elements occur in Victorian coastal waters up to a depth of 20 metres.

The transmission asset corridor options are located between the shore crossing options at Reeves Beach and McGuarans Beach and the industrial centre at the City of Latrobe. The intervening area has low population density, with land that is primarily used for agriculture, forestry and conservation purposes. It does not contain significant urban development, though includes the township of Woodside, and the rural localities of Giffard and Hiamdale. The coastal fringe is largely undeveloped although there are small settlements at McLoughlins Beach and Woodside Beach and other locations in the vicinity are used for camping.

Significant forestry operations exist to the west of the referral area and a number of conservation reserves exist in the vicinity including the Jack Smith Wildlife Reserve between the two shore crossing location options. Other conservation areas nearby include the Mullungdung Nature Conservation Reserve, Kangaroo Swamp Conservation Reserve and the Stradbroke Flora and Fauna Reserve.

This region contains existing linear infrastructure including the Basslink Interconnector, which overlaps to varying extents with all corridor options and the Saline Wastewater Outfall Pipeline. The nearest registered aerodrome to the Project is at Yarram, approximately 20 kilometres to the west of the referral area.

The main arterial road passing through the referral area is the South Gippsland Highway. The Hyland Highway provides a north-west connection from the South Gippsland Highway to Gormandale. Primary and secondary roads, many unsealed, provide access to other localities.

The Port of Hastings is in the Mornington Peninsula Shire Council west of the onshore transmission corridors. The port has existing infrastructure within the Western Port Ramsar site,

an area with significant ecological values. The operating port includes industrial facilities at Long Island Point and the surrounding land to the north-west of these facilities is used for grazing. The site is around six kilometres from the township of Hastings and is accessed via Bayview Road.

BBMT and Port Anthony are adjacent port sites within the South Gippsland Shire Council within the boundary of the Corner Inlet Ramsar site, which has significant ecological values. The port sites are bordered to the north and east by agricultural land. The site is around six kilometres south of the South Gippsland Highway and is accessed via Barry Road.

Planning context (eg. strategic planning, zoning & overlays, management plans):

The transmission corridors under consideration, BBMT and Port Anthony are subject to the Latrobe, Wellington and South Gippsland Planning Schemes. The Port of Hastings is subject to the Mornington Peninsula Planning Scheme.

Planning Policy Framework

The key clauses of the Planning Policy Framework (PPF) that will be considered for the Project include but are not limited those in Table 2.

Table 2 Key clauses of the PPF relevant to the Project

Planning Policy Framework Key Clauses	
Clause 11 **Settlement**	Given that proposed location of the transmission corridor and ports transverse townships and settlements, *Clauses 11.03-4 – Coastal Settlement* will need to be considered. This clause plans for, and protects coastal settlements, regional and local places.
Clause 12 **Environmental and Landscape values**	*Clause 12.01-1 Protection of Biodiversity* and *Clause 12.01-2 Native Vegetation Management* are relevant when considering the project responses to biodiversity values and native vegetation impacts. Given the location of the Project in a coastal environment in part, *Clause 12.02 -Coastal Values* and its subclauses require consideration.
Clause 13 **Environmental Risks and Amenity**	Development of the ports and transmission line corridors will consider how they respond to *Clause 13.01-2 Coastal Inundation and Erosion*, *Clause 13.02 Bushfire* and *Clause 13.07-1 Land Use Compatibility*.
Clause 14 **Natural Resource Management**	Give the transmission corridors transverse agricultural land, the Project will need to consider response to *Clause 14.01-1 Protection of Agricultural land.*
Clause 15 **Built Environment and Heritage**	Siting of project infrastructure will consider existing Historic and Aboriginal Cultural Heritage in accordance with *Clause 15.03 Heritage*.
Clause 17 **Economic Development**	The project assessment will consider response to *Clause 17.04-22 Coastal and Maritime Tourism and Recreation*.
Clause 18 **Transport**	When considering the location and function of port facilities to support the Project, *Clause 18.03 Ports* will be considered.
Clause 19 **Infrastructure**	The siting and design of the transmission assets will consider *Clause 19.01-Energy*, which includes consideration of energy supply, renewable energy and pipeline infrastructure.

Local Planning Policy Framework

Table 3 below provides a summary of the key local planning policy clauses that are relevant to the Project.

Table 3 Local Planning Policy Framework Key Clauses

Local Planning Policy Framework Key Clauses	
Wellington Shire	Most of the transmissions corridor land and shore crossing locations under consideration is located within the Shire of Wellington. The Project will need to consider the policy and objectives of the Vision for Wellington Shire set out in *Clause 21.03 Vision - Strategic Framework*. Consideration will also be given to *Clause 21.12 Coastal Areas Strategic Framework, Clause 21.13 - Environment and Landscape Values, Clause 21.14 - Environmental Risk, Clause 21.15 Natural Resource Management and Clause 21.19 Infrastructure.*

Latrobe Shire	Part of the transmissions corridor under consideration is located within the La Trobe Shire. The Project will need to consider the policy and objectives of the Vision for La Trobe as well as *Clause 21.03 Environmental and Landscape Values, Clause 21.04 Environmental Risks, Clause 21.05 Natural Resource Management, and Clause 21.09 Local Areas.*
South Gippsland	BBMT and Port Anthony are located within South Gippsland Shire. The Project will need to consider the policy and objectives of the Vision for South Gippsland Shire contained with Clause 21.04, as well as *Clause 21.06 Environmental and Landscape Values, Clause 21.07 Environmental Risks, Clause 21.08 Natural Resource Management, and Clause 21.13 Infrastructure*
Mornington Peninsula Shire	The Port of Hastings is located within Mornington Peninsula Shire. The Project will need to consider the policy and objectives of the Vision for Mornington Peninsula Shire contained in *Clause 21.03*, as well as *Clause 21.08 Foreshore and Coastal Areas, Clause 21.10 Managing Port Area Development.*

Land Use Terms

The *utility installation* land use term will apply to the transmission line proposed to connect the Project to the electricity network. As no portion of the wind turbines used to generate power are located on land, the land use term relating to wind energy facilities is not relevant to this project.

Planning Permit Requirements for the Project

The following tables provide an overview of the relevant zones and overlays applicable to each of the transmission corridor options and Ports. The location of the zones and overlays within the referral area are shown in Figures 7 – 12.

Table 4 Planning Zones within Referral Area Extent – Transmission Corridors and Ports

Zone	Northern Corridor	Eastern Corridor	Western Corridor	BBMT and Port Anthony	Port of Hastings
Farming Zone	✓	✓	✓	X	X
Farming Zone – Schedule 1	✓	✓	✓	X	X
Industrial 1 Zone	✓	✓	✓	✓	X
Industrial 2 Zone	✓	✓	✓	X	X
Public Conservation and Resource Zone	✓	✓	✓	✓	X
Public Park and Recreation Zone	✓	✓	✓	X	X
Public Use Zone – Service and Utility	X	X	✓	X	✓
Public Use Zone – Education	✓	✓	✓	X	X
Public Use Zone – Transport	X	X	X	X	✓
Public Use Zone – Other Public Use	X	X	X	X	✓
Port Zone	X	X	X	X	✓
Road Zone – Category 1	✓	✓	✓	X	✓
Road Zone – Category 2	✓	✓	✓	X	✓
Rural Living Zone – Schedule 1	✓	✓	✓	X	X
Rural Living Zone – Schedule 2	X	X	✓	X	X
Special Use Zone – Schedule 1	✓	✓	✓	✓	✓
Special Use Zone – Schedule 3	X	X	X	✓	X
Township Zone	X	X	✓	X	X

Table 5 Planning Scheme Overlays within Referral Area Extent – Transmission Corridors and Ports

Overlay	Northern Corridor	Eastern Corridor	Western Corridor	BBMT and Port Anthony	Port of Hastings
Design and Development Overlay – Schedule 1	✓	✓	✓	X	X
Environmental Significance Overlay – Schedule 1	✓	✓	✓	X	X
Environmental Significance Overlay – Schedule 2	✓	✓	✓	X	X
Environmental Significance Overlay – Schedule 3	X	X	X	✓	X
Floodway Overlay	✓	✓	✓	X	X
Heritage Overlay (HO117)	X	X	✓	X	X
Land Subject to Inundation Overlay	✓	✓	✓	✓	✓
Bushfire Management Overlay	✓	✓	✓	✓	✓
Specific Controls Overlay – Schedule 2	✓	✓	✓	X	X
State Resource Overlay – Schedule 1	✓	✓	✓	X	X
Vegetation Protection Overlay	X	X	✓	X	X
Public Acquisition Overlay 2	X	X	X	X	✓

Transmission corridors

A summary of the key zones applicable to the transmission corridors is as follows:

- Western corridor comprises 63% Farming Zone, 24% Public Conservation and Resource Zone, 9% Special Use Zone and under 2% Road Zone.
- Eastern corridor comprises 80% Farming Zone, 8% Special Use Zone, 7% Public Conservation and Resource Zone and under 2% Road Zone.
- Northern corridor comprises 80% Farming Zone, 9% Special Use Zone, 8% Public Conservation and Resource Zone and under 2% Road Zone.

Less than 1% of the land within any of the corridors comprises Township Zone, Industrial Zone, Public Use Zone, Public Park and Recreation Zone and Rural Living Zone.

Of the area referred for each transmission corridor, the proportion covered by overlays includes:

- Western corridor; 48% State Resource Overlay, 17% Special Controls Overlay and under 2% Land Subject to Inundation Overlay.
- Eastern corridor; 30% State Resource Overlay, 25% Special Controls Overlay, and under 3% Land Subject to Inundation Overlay.
- Northern corridor; 34% State Resource Overlay, 39% Special Controls Overlay, and under 3% Land Subject to Inundation Overlay.

Over 55% of all transmission corridor land is located within a Bushfire Overlay, and under 2.5% of all corridors are overlain by an Environmental Significance Overlay.

Ports

BBMT and Port Anthony

The land included in the referral area at BBMT and Port Anthony is primarily zoned as Industrial Zone (96%) with some Special Use Zone (3%).

An Environmental Significance Overlay covers 99% of the area being referred at BBMT and Port Anthony. A Bushfire Management Overlay also covers 78% of the area being referred and a Land Subject to Inundation Overlay covers 16% of the area.

Port of Hastings

The land included in the referral area at Port of Hastings is primarily zoned as Special Use Zone (94%), with some Public Use Zone (5%) and Port Zone (1.5%).

A Land Subject to Inundation Overlay and Bushfire Management Overlay each cover 30% of the area being referred at Port of Hastings.

Particular Provisions

Clause	Permit Requirement	Permit Trigger
Clause 52.02 ***Easements, restrictions and reserves***	A permit is required to create, vary or remove an easement or restriction or vary or remove a condition an easement in a Crown grant.	Possible - subject to more information and detailed design plans.
Clause 52.05 ***Signs***	Clause 52.05 specifies categories for sign control. Zone provisions specify the category of sign control that applies to the zone. • A Section 1 sign may be constructed or put up for display without a permit, but all the conditions opposite the sign must be met. • A Section 2 sign requires a permit. • A Section 3 sign is prohibited.	Possible - subject to more information and detailed design plans.
Clause 52.06 ***Car Parking***	A permit is required to: • Reduce the number of car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay. • Provide some or all the car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay on another site. • Provide more than the maximum parking provision specified in a schedule to the Parking Overlay	Possible - subject to more information and detailed design plans.
Clause 52.17 ***Native Vegetation***	• A permit is required to remove, destroy or lop native vegetation, including dead native vegetation. Exemptions apply.	Likely
Clause 52.29 ***Land adjacent to a Road Zone Category 1, or a Public Acquisition Overlay for a Category 1 Road***	A permit is required to create or alter access, or to subdivide land adjacent to: • A road in a Road Zone, Category 1. • Land in a Public Acquisition Overlay if the purpose of acquisition is for a Category 1 road. * Clause 52.29 does not only apply to physical alterations to access, but to any change in the use or intensification of the land that would alter the nature of traffic either in terms of volume, frequency or type. A referral to the Roads Corporation would be required.	Possible. The application of this Clause is quite liberal, affecting any physical change, including creating or altering access and deleting existing access, and any change to the use or development which may result in traffic changes in terms of volume, frequency or type of traffic, whether it is an increase or a reduction.

Local government area(s):

Onshore:

- Latrobe City Council
- Wellington Shire Council

Ports:

- Port of Hastings – Mornington Peninsula Shire Council
- BBMT and Port Anthony – South Gippsland Shire Council

8. Existing environment

Overview of key environmental assets/sensitivities in Project area and vicinity
(cf. general description of Project site/study area under section 7)**:**

A number of preliminary environmental assessments have been undertaken to document the key environment assets and sensitivities within the referral area, as well as to identify and outline potential impacts from the Project. The assessments are included as attachments to this referral as:

- Attachment 1 – Preliminary marine ecology report
- Attachment 2 – Preliminary onshore ecology assessment
- Attachment 3 – Preliminary assessment of Aboriginal cultural heritage
- Attachment 4 – Preliminary hydrology assessment
- Attachment 5 – Preliminary visual appraisal.

Offshore environment

The environment in and around the offshore section of the referral area includes a number of key environmental assets and sensitivities including Ramsar wetland sites, Victorian marine protected areas, Victorian marine assets, Biologically Important Areas (BIAs) and a diverse range of flora and fauna including fish, marine reptiles, marine mammals, marine invertebrates and bird species. To inform the EES referral, a preliminary marine ecological investigation has been undertaken and this is provided at Attachment 1.

Ramsar wetland sites

Three Ramsar wetland sites are located in the Gippsland region that are relevant:

- Western Port
- Corner Inlet
- Gippsland Lakes

Victorian Marine Protected Areas

The Corner Inlet Marine and Coastal Park covers 28,500 ha and is located almost entirely within the Corner Inlet Ramsar site boundary and encompasses the Corner Inlet Marine National Park.

The Nooramunga Marine and Coastal Park covers an area of 30,170 ha to the south-west of the referral area. The Nooramunga Marine and Coastal Park is a significant white mangrove and saltmarsh area. The Ninety Mile Beach Marine and Coastal Park covers an area of 2,750 hectares to the north-east of the referral area and supports an exceptionally high diversity of marine invertebrates.

Victorian Marine Assets

There are five Victorian marine assets identified in the Gippsland region near the referral area:

- Corner Inlet/Nooramunga mudflat environment
- Corner Inlet *posidonia* habitat and Corner Inlet to Nooramunga Zostera habitat
- Wilsons Promontory southern islands
- Wilsons Promontory deep water habitats
- Corner Inlet mangroves.

The Corner Inlet mangroves are considered of bioregional significance, while the remainder are of Victorian significance.

Biologically Important Areas

Biologically Important Areas (BIAs) are areas where aggregations of individuals of a species are known to display biologically important behaviour such as breeding, foraging, resting or migration as administered by the Department of Agriculture, Water and the Environment. Relevant to species listed under the *Flora and Fauna Guarantee Act (Vic)* (FFG Act) that overlap the referral area are:

- Great White Shark: a breeding (nursery area) BIA and a distribution BIA for the Great White Shark overlap with the referral area.
- Pygmy Blue Whale: one possible foraging area BIA and one distribution and migration BIA overlap with the referral area. These BIAs extend from the Perth Canyon in Western Australia, along the southern coast of Australia to offshore of Eden and Merimbula in New South Wales.
- Southern Right Whale: the migration and resting on migration BIA and distribution BIA overlap with the referral area.
- Birds: foraging BIA for the Shy Albatross overlaps with the referral area.

Further information on key environmental assets and sensitivities for the offshore environment is provided in section 4.3 of Attachment 1.

Onshore environment

To inform the EES referral, a preliminary onshore ecological investigation has been undertaken and this is provided at Attachment 2.

The environment for the onshore section of the referral area generally includes some areas of high-quality vegetation in reserves and parks, a diverse range of flora and fauna as well as coastal complexes.

The highest quality remnant forest and woodland communities are represented in Mullungdung State Forest, Stradbroke Flora and Fauna Reserve, Merriman Creek Flora and Fauna Reserve, Giffard (Rifle Range) Flora Reserve, Woodside Bushland Reserve, Darriman Bushland Reserve. These areas support a continuous cover of native vegetation and lifeforms characteristic of the mosaic of ecological vegetation classes (EVCs) modelled to occur in the referral area. In addition, they also contain a number of large trees which are likely to provide important habitat for fauna.

Outside these areas, moderate to high quality remnant woodland and forest communities are also present in smaller reserves, private land, linear roadside verges and streamside reserves. These smaller areas also support moderate to high quality vegetation and generally contain at least two vegetation strata and large trees. Agricultural land, while largely cleared, also provides low to moderate habitat and landscape connectivity value in the referral area through the presence of scattered trees in paddocks and small patches of native canopy trees.

Coastal complexes at Reeves Beach and Jack Smith Lake encompass a number of vegetation communities of moderate to high quality.

High-quality aquatic values are represented across 20 named waterways and many wetlands within the referral area. Named waterways of interest to the corridors include Flynns Creek, Monkey Creek, Little Monkey Creek, Bruthen Creek and Merriman Creek. Waterbodies of interest to the corridors include coastal estuarine wetlands such as Jack Smith Lake, wetland swamps, ephemeral wetlands associated within the lowland plains and wetlands at the headwaters of named waterways. There are also man-made waterbodies associated with Loy Yang Power Station.

Ports environments

BBMT, Port Anthony and the Port of Hastings contain communities typical of the coastal complex along their associated shorelines. The areas surrounding both ports have been subject to a significant level of disturbance, although some remnant native vegetation remains. BBMT and Port Anthony is surrounded by a mix of agricultural land uses and some scattered remnants of native vegetation reflective of the EVCs present in the coastal lowlands and swampy flats of the referral area. The Port of Hastings is surrounded by industrial, urban, and some agricultural land uses, with potential patches of remnant native vegetation reflective of the typical EVCs present in the coastal lowlands and swampy flats.

Named waterways of interest to the Port of Hastings include Olivers Creek and Kings Creek. There are no named waterways of interest to BBMT and Port Anthony. Wetlands associated with the ports include Western Port Ramsar Wetland and the Corner Inlet.

Further information on key environmental assets and sensitivities for the onshore environment is provided in section 7 of Attachment 2.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☐ No ☒ Yes If yes, please provide details.

Figure 2, Figure 3 and Figure 4 illustrate the Crown land parks and reserves within the referral area. In addition to these are road reserves which are not shown. However most of the onshore project components including substations are proposed on freehold land. The Crown land parcels directly affected by the Project will be confirmed during further design refinement. Crown land agreements, leases or licenses would then be established with the State.

Current land tenure (provide plan, if practicable):

Most of the onshore project components are proposed on freehold land. Nevertheless, there are a number of parcels on Crown land within the referral area and the key locations of these are shown in Figure 2, Figure 3 and Figure 4.

Intended land tenure (tenure over or access to Project land):

For the private freehold land required for the onshore transmission assets, this would be either purchased, leased or secured via easement through commercial agreements with individual landowners. Relevant lease and licence arrangements would be established with the State for project elements on Crown land after planning approvals are obtained.

For areas of the seabed within Victorian coastal waters, a lease or a licence would be established with the State to occupy these areas after planning approvals are obtained.

Regarding the ports, Regarding the ports, land and facilities would be leased or licensed from port operators during construction and operations.

Other interests in affected land (eg. easements, native title claims):

Within the referral area, a number of easements exists. In particular, the existing easements for the Basslink Interconnector and the Saline Wastewater Outfall Pipeline could be intersected or paralleled. The Basslink Interconnector easement is generally approximately 55 metres wide and extends from the Gippsland Coast near Giffard to Hazelwood, a distance of approximately 80 kilometres. The infrastructure within this easement is largely overhead electricity transmission with earth return and fibre optic cable suspended in catenary.

The Saline Wastewater Outfall Pipeline easement also extends from the Gippsland Coast near Giffard to Hazelwood. This easement is generally around 20 metres wide and about 80 kilometres in length. This easement contains a combination of steel and reinforced concrete pipe varying in diameter from 600 millimetres (mm) diameter to 1050 mm diameter.

One native title determination exists in parts of the referral area. The determination on the case ‘Mullett on behalf of the Gunai/Kurnai People v State of Victoria’ - VCD2010/001 - Gunai/Kurnai People was made on 22 October 2010. The determination was made for land within the following local government areas:

- Latrobe City
- South Gippsland Shire
- Wellington Shire

10. Required approvals

State and Commonwealth approvals required for Project components (if known):

Commonwealth
The proposal is being referred under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* ('EPBC Act') for a decision as to whether it is a 'controlled action' requiring approval under the EPBC Act.

State
The proposal will require the following primary approvals:

- Planning permit approval in the form of a Planning Permit or Planning Scheme Amendment (PS) for use and development of land and native vegetation removal pursuant to the *Planning and Environment Act 1987 (Vic)*
- Approval of a Cultural Heritage Management Plan (CHMP) pursuant to the *Aboriginal Heritage Act 2006 (Vic)*.
- Consents under the *Marine and Coastal Act 2018 (Vic)* for works on marine and coastal Crown land.

The proposal may also require the following secondary approvals:

- Consents pursuant to the *Road Management Act 2004 (Vic)* for works within a road reserve
- Permit pursuant to the *Water Act 1989 (Vic)* for works affecting waterways
- Permit or consent under the *Heritage Act 2017 (Vic)* for management of impacts to historic heritage
- Permit pursuant to the *Flora and Fauna Guarantee Act 1988 (Vic)* for removal of flora species
- Authorisation pursuant to the *Wildlife Act 1975 (Vic)* for taking of wildlife
- Licence pursuant to the *Catchment and Land Protection Act 1994 (Vic)* for removal of soil that is likely to contain any part of a noxious weed
- Consents pursuant to the *Country Fire Authority Act 1958 (Vic)* for works during total fire ban.

It is acknowledged that amendments are proposed to the FFG Act (to take effect on 1 June 2020). These amendments will be considered in environmental investigations undertaken after this date.

Have any applications for approval been lodged?

☒ No ☐ Yes If yes, please provide details.

Approval agency consultation (agencies with whom the proposal has been discussed):

- Department of Agriculture, Water and Environment (Commonwealth)
- Department of Environment, Land, Water and Planning
- West Gippsland Catchment Management Authority
- Gurnaikurnai Land and Waters Aboriginal Corporation.

Other agencies consulted:

Star of the South has commenced consultation with the following other agencies and government departments:

- Department of Industry, Science, Energy and Resources (Commonwealth)
- Department of Defence (Commonwealth)
- National Offshore Petroleum Safety and Environmental Management Authority

- Wellington Shire Council
- South Gippsland Shire Council
- Latrobe City Council
- Country Fire Authority
- Port of Hastings Development Authority
- Gippsland Port Authority
- Parks Victoria
- Transport for Victoria
- Transport Safety Victoria
- VicRoads.

A full list of stakeholders that Star of the South has commenced consultation with is provided in section 20.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

Offshore ecology

A preliminary assessment was undertaken of the potential impacts on marine ecology and this is provided in the Preliminary marine ecology report as Attachment 1.

The marine environment between the shoreline and the three nautical mile limit of Victorian coastal waters has water depth of up to 20 metres. The identified Victorian Marine Protected Areas in the vicinity of the Project (the Corner Inlet Marine and Coastal Park, the Nooramunga Marine and Coastal Park and the Ninety Mile Beach Marine and Coastal Park) are beyond the referral area and therefore would not be directly affected by the Project. Similarly, the Victorian marine assets at Corner Inlet and Wilsons Promontory would not be affected.

The marine environment within the offshore section of the referral area includes a number of benthic habitats and contains a diverse range of flora and fauna including fish, marine reptiles, marine mammals, marine invertebrates and various bird species. There is potential for FFG Act-listed species to occur within the referral area and the referral area overlaps with some BIAs as discussed in section 8.

The preliminary assessment of offshore ecology has identified a number of FFG Act-listed species that have been determined to be likely or possible to occur within the referral area. These include 11 marine invertebrates, three fish (Great White Shark, Australian Grayling and Southern Bluefin Tuna), one marine mammal (Humpback whale) and 13 bird species (predominantly albatross', petrels and terns).

Potential environmental effects within Victorian coastal waters

During the installation, operations and decommissioning phases, activities within Victorian coastal waters would primarily comprise vessel movements, export cable installation, maintenance and decommissioning and the export cable shore crossing. Potential environmental effects on receptors in Victorian coastal waters include:

- Seabed modification and disturbance (local to the export cables) on marine fauna and prey species
- Increased turbidity and suspended sediment (local to the export cables and shore crossing) on marine fauna and prey species
- Displacement and disturbance to marine fauna and prey species from habitat disturbance, underwater noise, vessel disturbance and electromagnetic fields
- Changes to water quality from planned and unplanned vessel discharges and spills
- Changes to community composition from the introduction of invasive marine species
- Disruption to existing water-based recreation and commercial activities such as shipping and navigation, tourism and other marine users.

Potential indirect environmental effects from infrastructure in Commonwealth waters

Construction, operation and decommissioning activities of offshore infrastructure within Commonwealth waters may have indirect impacts on receptors in Victorian coastal waters, onshore receptors and FFG Act-listed species that occur in Commonwealth waters. Sources of potential impact include vessel movements and installation, operation and decommissioning of offshore infrastructure including foundations, turbines, substations and export cables.

Potential effects from activities in Commonwealth waters that may have indirect effects on Victorian receptors include:

- Seabed modification and disturbance on marine fauna and prey species
- Increased turbidity and suspended sediment on marine fauna and prey species
- Displacement and disturbance to marine fauna and prey species from habitat disturbance, underwater noise (particularly from installation of foundations), vessel disturbance and electromagnetic fields
- Collison risk, displacement and barrier effects for various bird species
- Changes to wave and current regime around offshore infrastructure on coastal processes
- Changes to water quality from planned and unplanned vessel discharges and spills
- Changes to community composition from the introduction of invasive marine species
- Impacts on marine species from artificial lighting on vessels and offshore infrastructure
- Disruption to existing water-based recreation and commercial activities such as shipping and navigation, tourism and other marine users.

Impacts associated with activities and infrastructure in Commonwealth waters would be assessed through the EPBC process.

Overview of potentially significant environmental effects

Legislative and standard control measures will be implemented for activities within Victorian and Commonwealth waters. Geophysical, geotechnical and benthic surveys would inform the location and micro-siting of infrastructure to avoid sensitive habitats where possible. Engineering design would also consider environmental conditions and any mitigation required over the life of the Project.

With the implementation of legislative and standard control measures, the potential for significant environmental effects to offshore ecology in Victorian coastal waters is determined to be unlikely, however there is uncertainty regarding the baseline environment as the Project is in preliminary stages of investigations. Benthic, fish, marine mammal and seabird and shorebird baseline surveys are planned or underway and will provide further information to address the current uncertainty in the baseline environment. The baseline surveys will inform the impact assessment to assess the potential impacts on the environment and marine species.

Further information on potentially significant environmental effects for the offshore environment is provided in section 7 of Attachment 1.

Onshore ecology

A preliminary flora and fauna assessment has been undertaken and is provided at Attachment 2. The preliminary flora and fauna assessment included a desktop review and a preliminary field assessment of the referral area. The desktop review included a database search of a five-kilometre 'study area' to obtain relevant flora and fauna records and a review of past reports relevant to the referral area. The preliminary field assessment was undertaken in January 2020 to ground-truth desktop information and to broadly characterise the vegetation communities present to inform the likelihood assessment for threatened flora, fauna and ecological communities.

Native vegetation

The Project is located within the Gippsland Plain Bioregion. Three FFG-listed communities are either known to occur or are likely to occur within the referral area being; Plains Grassland (South Gippsland), Forest Red Gum Grassy Woodland and Herb-rich Plains Grassy Wetland (West Gippsland).

Based on a desktop review and a preliminary field assessment, a range of EVCs may be present within the referral area, that encompasses the three transmission corridor options. The EVCs

present may include a number that are designated as endangered in the bioregion being; Floodplain Riparian Woodland, Damp Forest, Swamp Scrub, Plains Grassy Woodland, Swampy Riparian Woodland, Creekline Herb-rich Woodland, Plains Grassland Creekline, Herb-rich Woodland, Grassy Woodland, and Swamp Scrub/Plains Grassy Mosaic and Gully Woodland.

The primary impact on native vegetation will be due to the clearing required to facilitate the construction of the onshore transmission assets. The extent of native vegetation to be cleared won't be determined until a preferred corridor is chosen and the associated construction footprint is specified. The referral area allows for three options of corridor locations between approximately three and five kilometres in width to enable flexibility in the project design.

The locations and extent of the FFG Act-listed ecological communities are not currently known and field surveys are proposed to characterise their occurrence. These surveys will inform design decisions and enable a full assessment of potential impacts

The actual amount of native vegetation to be cleared will be determined once the design is refined, applying the principles of avoiding and minimising vegetation loss to the extent practicable. It is expected that the construction footprint will be less than 100 metres wide and consideration would be given to modifying construction techniques in any highly sensitive locations to minimise effects on vegetation. Native vegetation losses would need to be offset in accordance with DELWP requirements. A full assessment of the impacts on native vegetation and a determination of the associated vegetation offset requirements will be undertaken once the design is further progressed.

Threatened flora

Detailed flora surveys have not yet been carried out. A database review was undertaken to identify threatened species recorded in the vicinity of the Project. Based on the results, the following nine flora species listed as threatened under the FFG Act or on the Advisory List of Rare or Threatened Plants in Victoria (DEPI, 2014) are considered possible or likely to occur within the referral area:

- Dwarf Kerrawang *Commersonia prostrata*
- Matted Flax-lily *Dianella amoena*
- Strzelecki Gum *Eucalyptus strzeleckii*
- Maroon-Leek orchid *Maroon Leek-orchid*
- Green-striped Greenhood *Pterostylis chlorogramma*
- Metallic Sun-orchid *Thelymitra epipactoides*
- Spiral Sun-orchid *Thelymitra matthewsii*
- Swamp Everlasting *Xerochrysum palustre*
- Winter Sun-orchid *Thelymitra hiemalis*.

The referral area supports a range of habitats suitable for these listed species including near-coastal communities, wetlands and waterbodies, grasslands and grassy woodlands, heathy woodlands and forests. Important populations of Dwarf Kerrawang and Green-striped Greenhood are known to occur within Giffard (Rifle Range) Flora Reserve and Mullungdung State Forest respectively.

Potential impacts on FFG-listed flora species are most likely to arise from the clearing of vegetation for construction of the transmission assets. Informed by the findings of planned flora surveys, direct impacts on these species would be minimised through the corridor selection process and by careful micro-siting of the transmission alignment within the preferred corridor.

Other threats to FFG-listed flora associated with construction included the introduction of weeds, pests and pathogens. These indirect effects would be addressed through the development and implementation of a construction environmental management plan (CEMP) to prevent these types of impacts. The significance of residual impacts on FFG-listed flora will be subject to future assessment.

Threatened fauna

Detailed fauna surveys have not yet been undertaken. The database review identified 34 fauna species listed as threatened under the FFG Act or listed on the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE, 2013) that are considered possible or likely to occur within the referral area. This list includes 20 birds, nine mammals, two amphibians, one reptile and two fish.

An assessment was undertaken to determine which of these species had the highest proportion of habitat within the referral area according to DELWP habitat importance modelling and so have greater potential to be impacted by the Project. These species were determined to be:

- Martins Toadlet *Uperoleia martini*
- Southern Toadlet *Pseudophryne semimarmorata*
- New Holland Mouse *Pseudomys novaehollandiae*
- Dwarf Galaxias *Galaxiella pusilla*
- Grey Goshawk *Accipiter novaehollandiae*
- Swamp Skink *Lissolepis coventryi*
- Chestnut-rumped Heathwren *Calamanthus pyrrhopygius*.

Potential impacts on fauna species are also most likely to arise from the clearing of vegetation for construction of the transmission assets where that vegetation provides habitat for those species. Targeted surveys are planned for threatened species that are possible or likely to occur in the referral area and this will assist with the identification of habitats. It is likely that impacts to high value habitats could be avoided or minimised through preferred corridor selection and detailed design of the onshore transmission assets. The significance of residual impacts on threatened fauna will be subject to future assessment.

FFG-listed threatening processes

The preliminary flora and fauna assessment has evaluated the potential for the Project to exacerbate the following FFG-listed threatening processes:

- Alteration to the natural flow of rivers and streams
- Degradation of native riparian vegetation along Victorian rivers and streams
- Habitat fragmentation as a threatening process for fauna in Victoria
- Increase in sediment input into Victorian rivers and streams due to human activities
- Input of petroleum and related products into Victorian marine and estuarine environments
- Invasion of native vegetation by ‘environmental weeds’
- Loss of hollow-bearing trees from Victorian native forests
- The spread of *Phytophthora cinnamomi* from infected sites into parks and reserves, including roadsides under the control of a state or local government authority
- Use of *Phythophthora*-infected gravel in construction of roads, bridges and reservoirs
- Wetland loss and degradation as a result of change in water regime, dredging, draining, filling and grazing.

From the evaluation it was concluded that the threatening processes could be effectively managed through the selection of construction techniques or through the development and implementation of a CEMP containing procedures to monitor and control these threats. A more detailed assessment of the FFG-listed threatening processes will be undertaken when the design and construction approach is further developed.

Further information on potentially significant environmental effects for the onshore environment is provided in section 8.2 of Attachment 2.

Aboriginal cultural heritage

To inform the EES referral, a preliminary Aboriginal cultural heritage assessment has been undertaken and is provided at Attachment 3.

Potential impacts to known and presently unknown tangible and intangible Aboriginal cultural heritage and heritage values resulting from project-related activities likely include physical disturbance of the ground surface through vegetation clearance, topsoil stripping, subsoil trench excavation, the creation of facilities and laydown areas.

The majority of the previously registered Aboriginal places within the referral area comprises of artefact scatters, with higher density artefact scatters generally found in proximity to water courses, and a number of shell middens located in proximity to the coastline. Other Aboriginal place types present include one Aboriginal ancestral remains (burial), low-density artefact distributions (LDADs), object collections, scarred trees, one artefact scatter/object collection and an artefact scatter/earth feature/shell midden.

The preliminary site predictive model results indicated that the highest likelihood for identifying previously unregistered Aboriginal heritage artefact scatters would occur on Sandstone, Haunted Hills and volcanics, dune and terrace deposits, sloping ground of less than 5 degrees and within close proximity to water. Further, ancestral remains would most likely occur on dune deposits, coastal lagoon, swamp and lake deposits and sloping ground of less than 5 degrees and shell middens on coastal dune deposits, sloping ground of less than 5 degrees and proximity to water.

The use of trenchless construction methods will minimise impacts on Aboriginal cultural heritage in the sensitive coastal dune environments at the shore crossing location. However, the likelihood of impacts to Aboriginal cultural heritage and heritage values remains almost certain given that open trenching is the primary construction method proposed to install the transmission assets.

Accordingly a CHMP will be prepared in accordance with the *Aboriginal Heritage Act 2006 (Vic)* to fully assess the potential impacts and to identify management measures to address any significant effects on Aboriginal cultural heritage.

Further information on the Aboriginal cultural heritage values within the referral area is provided in section 5, section 6 and section 7 of Attachment 3.

Historic heritage

A database review was undertaken of historic heritage places in the referral area including the Victorian Heritage Register and Inventory, National Heritage List and Commonwealth Heritage List and Local Council Heritage Overlays and Planning Schemes. The following registered places were found:

- Goodwood Sawmill Site (Listed in the Victorian Heritage Register and Inventory and Heritage Overlay)
- Dunrobin (Victorian Heritage Inventory)
- Traralgon South (Victorian Heritage Inventory))
- Denham Road Farmhouse (Victorian Heritage Inventory).

It is anticipated that direct impacts to these places would be avoided through the design and alignment selection processes. Adoption of sensitive construction techniques in the vicinity of these places if required would further avoid the potential for impacts.

Based on a review of heritage databases, no shipwrecks are known to exist within the referral area. Further investigations are proposed to verify the absence of shipwrecks within marine areas. In the event that any new site is found, it is envisaged that export cables could be positioned to avoid such locations.

Hydrology

A preliminary hydrology assessment has been undertaken and is provided as Attachment 4.

The three transmission corridor options are located within an area that contains around 20 designated waterways from within the Latrobe River and South Gippsland catchments. The main waterways within the area are Merriman Creek which starts near Balook and flows more than 80 kilometres to the coast at Seaspray and Bruthen Creek which originates near Carrajong Lower and reaches its estuary around 30 kilometres away near McLoughlins Beach. The Bruthen Creek sub-catchment is linked to the Corner Inlet Ramsar site. The remainder of the named waterways are tributaries of the Latrobe River, Merriman Creek or Bruthen Creek or smaller streams.

Potential impacts could include removal of habitat, sedimentation, reduced water quality and disturbance of water flows. Any effects on waterway flows and water quality would be expected to be temporary and of short duration.

Effects on waterways can be minimised by selection of a route which avoids waterway crossings wherever possible. Where waterway crossings are unavoidable, potential impacts could be minimised by mitigation measures including use of trenchless construction methods where important ecological values exist along riparian corridors. Best-practice construction activities would be adopted throughout the Project and implemented in accordance with a CEMP.

For the proposed construction and operation port sites, where landside development is proposed, limited surface water features exist. The Port of Hastings site and the BBMT and Port Anthony site have existing infrastructure within the Western Port and Corner Inlet Ramsar sites respectively.

although very limited works are proposed within these marine environments and significant impacts on these sites are unlikely. Similar to construction for the onshore transmission assets, works at the port sites would be undertaken in accordance with a CEMP established to monitor and control potential impacts of the works.

Within Victorian coastal waters it is proposed to install export cable on the seabed and to construct a shore crossing using a trenchless construction method to install cable conduits. These activities would involve disturbance of the seabed and this may have temporary localised effects on marine water quality. Changes to water quality arising from seabed disturbance and any associated use of drilling muds would be minimised through the implementation of a CEMP for the works, as would be required for the *Marine and Coastal Act 2018* approval.

Further information about the hydrology of the referral area provided in section 5, section 6 and section 7 of Attachment 4.

Landscape and visual

The offshore wind farm will be located between seven and 26 kilometres from the Victorian coast and is expected to be visible from some coastal locations under certain conditions. A preliminary visual appraisal of this project component has been undertaken for the wind farm and this is provided at Attachment 5.

The preliminary assessment identifies that the wind farm would be visible from representative locations at Woodside Beach and Sealers Cove (Wilsons Promontory). The significance of the potential impacts will be evaluated as part of a comprehensive seascape, landscape and visual assessment of the Project.

Views may be possible from landscapes of State importance at Ninety Mile Beach, Nooramunga Coast and Islands and Wilsons Promontory under certain conditions. However, the visual changes are expected to be minor from Wilsons Promontory locations such as Five Mile Beach

and Sealers Cove as these places are 25 to 30 kilometres from the western edge of the wind farm.

The onshore transmission lines for the Project are proposed to be predominately underground, and therefore visual impacts of the infrastructure would be minimised. Overhead lines would most likely be used to facilitate connection to the preferred connection point. The extent of overhead transmission line will be known when the design is further progressed. The proposed substations are another potential source of visual impact and siting decisions will be made giving consideration to visual amenity. A full assessment of the potential visual impacts of the onshore transmission assets will be undertaken when the design is further progressed.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the Project?

☐ NYD ☐ No ☒ Yes If yes, answer the following questions and attach details.

Native vegetation clearing would be required to facilitate the construction of the onshore transmission assets necessary to connect the wind farm to the wider electricity network. The extent of native vegetation clearance won't be determined until a preferred corridor is chosen, the actual alignment is determined and construction techniques (and the associated construction footprint) are specified.

The referral area allows for three options of corridor locations between approximately three and five kilometres in width to enable flexibility in the project design. The actual amount of native vegetation likely to require clearing will be determined as the design is refined, applying the principles of avoiding and minimising vegetation loss where possible. It is likely that the required construction footprint will be less than 100 metres wide and it will be within this area that native vegetation is likely to be impacted. Edge effects and fragmentation may also cause impacts on adjacent areas of native vegetation.

Further information on potential impacts on native vegetation is provided in section 8.2 of Attachment 2.

What investigation of native vegetation in the Project area has been done? (briefly describe)

Preliminary native vegetation investigations have been completed. Preliminary investigations were intended to broadly characterise the vegetation communities within the referral area to inform the likelihood assessment for threatened flora, fauna and ecological communities. The outcomes of the preliminary assessment are provided in section 7 of Attachment 2.

Detailed native vegetation mapping and vegetation quality assessments will commence in 2020 as the Project progresses and once a preferred corridor is selected.

What is the maximum area of native vegetation that may need to be cleared?

☒ NYD Estimated area …….(hectares)

A preferred transmission asset corridor and construction footprint are yet to be determined for the project and targeted surveys are scheduled for later this year, therefore the maximum area of native vegetation to be removed is uncertain. Based on an assumed 50 metres wide construction footprint, and using the available DELWP vegetation mapping data, the amount of native vegetation requiring removal is estimated to range from around 50 to 150 hectares. It is anticipated that once the detailed surveys are undertaken for the project, more accurate data will demonstrate that this number could be significantly reduced. With avoidance and minimisation during the project development process, there is potential for vegetation losses to be reduced further, with any native vegetation required to be removed offset accordingly.

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A ……. approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☐ NYD ☒ Preliminary/detailed assessment completed. If assessed, please list.

Based on the initial desktop review and preliminary site assessment, there are a number of EVCs which may be within the referral area as shown in Table 5. It is likely that some of these EVCs may be affected due to vegetation clearing which would be required to facilitate the construction of the onshore transmission assets, however the amount of potential vegetation loss is not yet known yet.

Table 5 EVCs which may be affected by the Project

EVC	EVC bioregional status	Corridor	Named conservation areas and areas of interest within the referral area
Coastal Dune Scrub/Coastal Dune Grassland Mosaic (EVC 1)	Depleted	Western, eastern, northern	Coastal areas at McGaurans Beach and Reeves Beach
Coast Banksia Woodland (EVC 2)	Vulnerable	Western, eastern, northern	Jack Smith Lake Wildlife Reserve, Reeves Beach
Damp Sands Herb-rich Woodland (EVC 3)	Vulnerable	Western, eastern,	Northern section of Old Rosedale Road within Mullungdung State Forest
Coastal Saltmarsh (EVC 9)	Least Concern	Western, eastern, northern	Jack Smith Lake (western side of section 3) Reeves Beach between primary and secondary dunes. Estuarine waterway in private land north of Reeves Beach.
Estuarine Wetland (EVC 10)	Least concern	Western, eastern, northern	Jack Smith Lake, Reeves Beach
Lowland Forest (EVC 16)	Vulnerable	Western, eastern, northern	Mullungdung State Forest
Riparian Forest (EVC 18)	Vulnerable	Eastern	Warrigal Creek, Northern end of Four Mile Creek Road
Grassy Dry Forest (EVC 22)	Least Concern	Eastern	Darriman Bushland Reserve/Woodside H28 Bushland Reserve
Floodplain Riparian Woodland (EVC 21)	Endangered	Eastern, northern	Riparian vegetation associated with Jack River
Damp Forest (EVC 29)	Endangered	Western, eastern, northern	Holey Plains State Park
Heathy Woodland (EVC 48)	Least concern	Western, eastern, northern	Mullungdung State Forest, Merriman Creek Flora Reserve, Stradbroke Flora and Fauna Reserve
Swamp Scrub (EVC 53)	Endangered	Western, eastern, northern, Port of Hastings, BBMT and Port Anthony	Inland of Jack Smith Lake. Smaller sections represented in Section 5.
Plains Grassy Woodland (EVC 55)	Endangered	Northern	Giffard West Road
Swampy Riparian Woodland (EVC 83)	Endangered	Western, eastern, northern	Small sections to the south of Holey Plains State Park and further west near Hiamdale
Plains Grassland (EVC 132) *includes South Gippsland Plains Grassland 132_62)	Endangered	Western, eastern	Stringybark Lane
Sedge Wetland (EVC 136)	Vulnerable	Western, eastern, northern	Mullungdung State Forest and Stradbroke Flora and Fauna Reserve
Mangrove Shrubland (EVC 140)	Least concern	Port of Hastings, BBMT and Port Anthony	Small areas within both ports sites
Plains Grassy Forest (EVC 151)	Vulnerable	Western, eastern	Stringybark Lane (Plains Grassy Forest and Natural Damp Grassland Community), Darriman Bushland Reserve, Woodside cemetery
Creekline Herb-rich Woodland (EVC 164)	Endangered	Western	Mullungdung State Forest
Grassy Woodland (EVC 175)	Endangered	Port of Hastings	Small areas within the referral area at Port of Hastings
Riparian Scrub (EVC 191)	Vulnerable	Northern, Port of Hastings	Corner of Tower Road and Anderson Track where Monkey Creek runs under the Basslink Interconnector alignment. Small areas within Port of Hastings
Swamp Scrub/Plains Grassland Mosaic (EVC 687)	Endangered	Western, eastern, BBMT and Port Anthony	Small areas behind Reeves Beach and small areas in vegetated areas behind BBMT
Lowland Forest/Heathy Woodland Mosaic (EVC 698)	Vulnerable	Western, eastern, northern	Larger patch near McGaurans Beach

Clay Heathland (EVC 7) / Damp Heathy Woodland (EVC 703)	Depleted Vulnerable	Western, eastern	Private land adjoining Andersons Road/Konroad B). Smaller areas also present within Stradbroke Flora and Fauna Reserve
Gully Woodland (EVC 902)	Endangered	Western, eastern, northern	Junction of Monkey Creek and the South Gippsland Highway

Further information on EVCs that may be impacted by the Project is provided in section 8.2 of Attachment 2.

Have potential vegetation offsets been identified as yet?

☒ NYD ☒ Yes If yes, please briefly describe.

Other information/comments? (eg. accuracy of information)

Refer to Attachment 2 – Preliminary onshore ecology assessment.

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the Project area have been done?
(provide overview here and attach details of method and results of any surveys for the Project & describe their accuracy)

Offshore ecology

A preliminary marine ecology assessment was undertaken in relation to the proposed Project which included a desktop review of literature and information sources relevant to the referral area to inform the baseline. These included scientific papers, publications from relevant authorities, regional datasets, scientific databases and environmental assessments from other projects.

The method and results of the preliminary marine ecology assessment are provided in the Preliminary marine ecology report as Attachment 1.

Baseline surveys are planned or underway for benthic ecology, fish ecology, marine mammals and seabirds and shorebirds to provide baseline data on the existing offshore environment. The baseline survey data will also be used to inform the impact assessment.

Further information on planned surveys for offshore ecology is provided in section 4.4 of Attachment 1.

Onshore ecology

A preliminary flora and fauna assessment was undertaken in relation to the proposed Project which included:

- A desktop review which included a database searches to obtain relevant flora and fauna records and a review of past reports relevant to the referral area
- A preliminary field assessment undertaken in January 2020 to broadly characterise the vegetation communities present. The high-level vegetation assessment informed the likelihood of occurrence assessment for flora, fauna and ecological communities listed under the EPBC Act and the FFG Act.

The method and results of the preliminary flora and fauna assessment are provided in Attachment 2. Detailed flora and fauna surveys have not yet been completed. A program for targeted flora and fauna species is currently being developed and will be refined once a preferred corridor has been selected. The survey program will be undertaken to determine the potential impacts to threatened species. Habitat loss and impacts on species associated with the 2019/2020 bushfires will be considered as part of the ongoing assessments for the Project.

Have any threatened or migratory species or listed communities been recorded from the local area?

☐ NYD ☐ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the Project site or nearby.

Offshore ecology

A preliminary assessment of the marine environment has identified a number of FFG Act-listed species that have been determined to be likely or possible to occur within the referral area. These include 11 marine invertebrates, three fish (Great White Shark, Australian Grayling and Southern Bluefin Tuna), one marine mammal (Humpback Whale) and 13 bird species (predominantly albatross', petrels and terns). These are presented in Table 6. The likelihood of occurrence assessment for offshore fauna is provided in section 4.3 of Attachment 1.

Baseline surveys are planned or underway for benthic ecology, fish ecology, marine mammals and seabirds and shorebirds to further inform the existing environment for threatened and migratory species.

Table 6 Offshore threatened species

Common name	Scientific name	Listing status		BIA within referred area	Likelihood of occurrence
		EPBC Act	FFG Act		
Marine invertebrates					
Brittle Star	*Amphiura triscacantha*		L	No	Possible
Sea-cucumber	*Apsolidium densum*		L	No	Possible
Sea-cucumber	*Apsolidium handrecki*		L	No	Possible
Brittle star	*Ophiocomina australis*		L	No	Possible
Sea-cucumber	*Pentocnus bursatus*		L	No	Possible
Sea-cucumber	*Thyone nigra*		L	No	Possible
Sea-cucumber	*Trochodota shepherdi*		L	No	Possible
Stalked hydroid species	*Ralpharia coccinea*		L	No	Possible
Chiton species	*Bassethullia glypta*		L	No	Possible
Marine Opisthobranch	*Platydoris galbana*		L	No	Possible
Marine Opisthobranch	*Rhodope species*		L	No	Possible
Fish					
Great White Shark	*Carcharodon carcharias*	VU, M	L	Yes	Likely
Australian Grayling	*Prototroctes maraena*	VU	L	No	Possible (larval and juvenile stage only)
Southern Bluefin Tuna	*Thunnus maccoyii*	CD	L	No	Possible
Marine mammals					
Humpback Whale	*Megaptera novaeangliae*	VU, M	L	No	Possible
Birds					
Shy Albatross	*Thalassarche cauta*	VU, M	L	Yes	Likely
Buller's Albatross	*Thalassarche bulleri*	VU, M	L	No	Likely
Sooty Albatross	*Phoebetria fusca*	VU, M	L	No	Possible
Southern Royal Albatross	*Diomedea epomophora*	VU, M	L	No	Likely
Wandering Albatross	*Diomedea exulans*	VU, M	L	No	Likely
Indian Yellow-nosed Albatross	*Thalassarche carteri*	VU, M	L	No	Likely
Southern Giant-petrel	*Macronectes gigantus*	EN, M	L	No	Likely
Northern Giant-petrel	*Macronectes halli*	VU, M	L	No	Likely
Little Tern	*Sternula albifrons*	M	L	No	Possible
Caspian Tern	*Sterna caspia*	M	L	No	Possible

Fairy Tern	*Sterna nereis nereis*	VU	L	No	Possible
Hooded Plover	*Thinornis cucullatus cucullatus*	VU,M	L	No	Likely
White-throated Needletail	*Hirundapus caudacutus*	VU, M	L	No	Likely

EN – endangered; VU – vulnerable; M – migratory; CD – Conservation dependent

Onshore ecology

FFG Act-listed threatened ecological communities

Three ecological communities listed under the FFG Act are either known to occur or are considered likely to occur within the referral area. These are:

- Plains Grassland (South Gippsland) Community. The Plains Grassland (South Gippsland) Community is described in the community description as occurring in the Yarram region between Seaspray and Welshpool. Additionally, the community has been described as occurring in the Darriman Bushland Reserve, Woodside Cemetery and roadside patches along Stringybark Lane which traverses the western and eastern corridors.
- Forest Red Gum Grassy Woodland Community. A single occurrence of a modified Forest Red Gum Grassy Woodland Community was observed within the referral area on Giffard Road in the southern extent of the northern corridor. This patch of woodland was characterised by a remnant stand of Forest Red Gum *Eucalyptus tereticornis* but lacked the mid-storey and understorey components of the community. It is likely that occurrences of the community occur on private land adjacent to Giffard Road, Giffard and therefore, the community is considered likely to occur within the referral area.
- Herb-rich Plains Grassy Wetland (West Gippsland) Community. This community was recorded within the Port of Hastings in 2015. It is therefore likely that this community is present within the Port of Hastings referral area.

Threatened onshore flora

Preliminary investigations identified 11 threatened flora species listed under the EPBC Act, FFG Act or on the Advisory List of Rare or Threatened Plants in Victoria which have been determined to be considered likely (more probable than not that the species or community could occur in any year and within the study area) or possible (equally probable that the species or community could or could not occur in any year and within the referral area) to occur within the referral area as shown in Table 7. Given the size of the referral area and diversity of vegetation communities, there is potential that suitable habitat for these species may occur in less disturbed areas.

Detailed assessment and targeted surveys are planned to determine the presence of the listed flora species and potentially suitable habitat for these species. An assessment of species listed on the Advisory List of Rare or Threatened Plants in Victoria (DEPI, 2014) has not been undertaken at this stage, but will be part of ongoing assessments for the Project. The full likelihood of occurrence assessment for onshore flora is provided in Appendix 1 of Attachment 2.

Table 7 Threatened onshore flora species

Scientific name	Common name	Listing status			Likelihood of occurrence
		EPBC	FFG	DELWP	
Amphibromus fluitans	River Swamp Wallaby-grass	VU			**Likely to occur.** Habitat exists and recorded within study area. Recorded at Port of Hastings by Biosis in 2015.
Commersonia prostrata	Dwarf Kerrawang	EN	L	en	**Likely to occur** Habitat exists and recorded within study area. Habitat modelled within referral area.
Dianella amoena	Matted Flax-lily	EN	L	en	**Possible to occur** Habitat exists and recorded within study area. Recorded by Biosis in

					2001. Habitat modelled within referral area.
Dodonaea procumbens	Trailing Hop-bush	VU		vu	**Possible to occur** Habitat exists and records within study area. Important population exists east of Seaspray. Habitat modelled within referral area.
Eucalyptus strzeleckii	Strzelecki Gum	VU	L	vu	**Possible to occur.** Habitat exists and records within study area. Habitat modelled within referral area.
Prasophyllum frenchii	Maroon Leek-orchid	EN	L	en	**Possible to occur.** Habitat exists but no records within the study area. Unconfirmed *Prasophyllum* specimen recorded by Biosis in 2001.
Pterostylis chlorogramma	Green-striped Greenhood	VU	L	vu	**Likely to occur** Habitat exists and records within study area. Recorded by Biosis in 2001. Habitat modelled within referral area.
Thelymitra epipactoides	Metallic Sun-orchid	EN	L	en	**Possible to occur.** Habitat exists and records within study area. Records also within Gippsland Lakes Coastal Park.
Thelymitra hiemalis	Winter Sun-orchid		L	en	**Possible to occur.** Habitat exists and records within study area. Habitat modelled within referral area.
Thelymitra matthewsii	Spiral Sun-orchid	VU	L	vu	**Possible to occur.** Habitat exists and records within study area. Habitat modelled within referral area.
Xerochrysum palustre	Swamp Everlasting	VU	L	vu	**Possible to occur.** Habitat exists but unsuitable soil type across majority of study area. Record from Port of Hastings potentially a VBA data error.

Threatened and migratory onshore fauna

Preliminary investigations identified a number of threatened fauna species listed under the EPBC Act, FFG Act or on the Advisory List of Threatened Vertebrate Fauna which are have been determined to be considered likely or possible to occur within the referral area as shown in Table 8. Given the size of the referral area there is potential that suitable habitat for these species may occur in less disturbed areas.

Detailed assessment and targeted surveys are planned to determine the presence of the listed fauna species and potentially suitable habitat for these species. The full likelihood of occurrence assessment for onshore fauna is provided at Appendix 2 of Attachment 2.

Table 8 Threatened fauna species

Scientific name	Common name	Listing status				Likelihood of occurrence
		EPBC threatened	EPBC migratory	FFG	DELWP	
Birds						
Australasian Bittern	*Botaurus poiciloptilus*	EN		L	en	**Likely to occur.** Habitat exists and recorded within study area.
Australian Little Bittern	*Ixobrychus dubius*			L	en	**Likely to occur.** Habitat exists and recorded within broader landscape (Jack Smith Lake).
Australasian Shoveler	*Spatula rhynchotis*				vu	**Likely to occur.** Habitat exists and recorded within study area.
Baillons Crake	*Porzana pusilla*			L	vu	**Possible to occur.** Habitat present within study area.
Barking Owl	Ninox connivens			L	en	**Likely to occur.**

						Records within study area (Biosis).
Black Falcon	Falco subniger			L	vu	**Likely to occur** Recorded within study area.
Blue-billed Duck	*Oxyura australis*			L	en	**Likely to occur.** Habitat exists and recorded within study area.
Caspian Tern	*Hydroprogne caspia*		M	L	nt	**Likely to occur.** Habitat exists and recorded within study area.
Chestnut-rumped Heathwren	*Calamanthus pyrrhopygius*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Common Greenshank	*Tringa nebularia*				vu	**Likely to occur.** Habitat exists and recorded within study area.
Fork-tailed Swift	*Apus pacificus*		M			**Likely to occur.** Suitable habitat exists and recorded within study area. Recorded during field assessment.
Freckled Duck	Stictonetta naevosa			L	en	**Likely to occur.** Habitat exists and recorded within study area.
Glossy Ibis	*Plegadis falcinellus*		M		nt	**Likely to occur.** Habitat exists and recorded within study area.
Eastern Great Egret	*Ardea alba modesta*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Grey Goshawk	*Accipiter novaehollandiae*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Gull-billed Tern	Gelochelidon nilotica affinus			L		**Likely to occur.** Habitat exists and recorded within study area.
Hardhead	*Aythya australis*				vu	**Likely to occur.** Habitat exists and recorded within study area.
Intermediate Egret	*Ardea intermedia*			L	en	**Possible to occur.** Habitat exists within study area.
Latham's Snipe	*Gallinago hardwickii*		M		nt	**Likely to occur.** Habitat exists and recorded within study area.
Lewin's Rail	*Lewinia pectoralis*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Little Egret	*Egretta garzetta*			L	en	**Likely to occur.** Habitat exists and recorded within study area.
Marsh Sandpiper	*Tringa stagnatilis*		M		vu	**Likely to occur.** Habitat exists and recorded within study area.
Masked Owl	*Tyto novaehollandiae*			L	en	**Possible to occur.** Habitat exists and recorded within broader landscape.
Musk Duck	*Biziura lobata*				vu	**Likely to occur.** Habitat exists and recorded within study area.
Powerful Owl	*Ninox strenua*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Red-necked Stint	*Calidris ruficollis*		M			**Likely to occur.** Habitat exists and recorded within study area.
Rufous Fantail	*Rhipidura rufifrons*		M			**Likely to occur.** Habitat exists and recorded within study area.
Satin Flycatcher	*Myiagra cyanoleuca*		M			**Likely to occur.** Habitat exists and recorded within study area.
Sharp-tailed Sandpiper	*Calidris acuminata*		M			**Likely to occur.** Habitat exists and recorded within study area.

Square-tailed Kite	*Lophoictinia isura*			L	nt	**Possible to occur.** Recorded in broader landscape. Potential visitor.
Swift Parrot	*Lathamus discolor*	CR		L	en	**Possible to occur.** Habitat exists within the study area.
White-bellied Sea-Eagle	*Haliaeetus leucogaster*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
White-throated Needletail	*Hirundapus caudacutus*	VU	M		vu	**Likely to occur.** Suitable habitat exists and recorded within study area. Recorded during field assessment.
Mammals						
Broad-toothed Rat	*Mastacomys fuscus mordicus*			L	en	**Likely to occur.** Habitat exists within the study area.
Common Bentwing Bat	Miniopterus schreibersii			L		**Possible to occur.** Habitat exists within the study area. Not recorded within study area or nearby.
Grey-headed Flying-fox	*Pteropus poliocephalus*	VU		L	vu	**Likely to occur.** Habitat exists within the study area.
New Holland Mouse	*Pseudomys novaehollandiae*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	EN		L	nt	**Likely to occur.** Suitable habitat at the Port of Hastings.
Southern Greater Glider	*Petauroides volans*	VU		L	vu	**Likely to occur.** Suitable habitat exists and recorded within study area.
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	EN		L	en	**Possible to occur.** Habitat exists and recorded within study area.
Swamp Antechinus	*Antechinus minimus maritimus*	VU		L	nt	**Possible to occur.** Habitat exists.
White-footed Dunnart	*Sminthopsis leucopus*			L	nt	**Possible to occur.** Habitat exists and recorded within study area.
Reptiles						
Lace Monitor	*Varanus varius*				en	**Likely to occur.** Suitable habitat exists and recorded within study area. Recorded during field assessment.
Swamp Skink	*Lissolepis coventryi*			L	vu	**Likely to occur.** Habitat exists and recorded within study area.
Glossy Grass Skink	*Pseudemoia rawlinsoni*				vu	**Likely to occur.** Suitable habitat exists and recorded close to study area.
Frogs						
Growling Grass Frog	*Litoria raniformis*	VU		L	en	**Likely to occur.** Habitat exists and recorded within study area.
Martins Toadlet	*Uperoleia martini*			L	cr	**Likely to occur.** Habitat exists and recorded within study area.
Southern Toadlet	*Pseudophryne semimarmorata*				vu	**Likely to occur.** Habitat exists and recorded within study area.
Fish						
Australian Grayling	*Prototroctes maraena*	VU		L	vu	**Possible to occur.** Habitat exists within referral area.
Dwarf Galaxias	*Galaxiella pusilla*	VU		L	en	**Likely to occur.** Habitat exists and recorded within study area.
Flinders Pygmy Perch	*Nannoperca australis*				vu	**Likely to occur.** Habitat exists and recorded within study area.

If known, what threatening processes affecting these species or communities may be exacerbated by the Project? (eg. loss or fragmentation of habitats) Please describe briefly.

Offshore ecology

The following threatening processes listed in the FFG Act that are relevant to offshore ecology have been evaluated in relation to the Project.

Habitat fragmentation as a threatening process for flora and fauna in Victoria.
Habitat fragmentation is low risk for marine flora and fauna due to the connectivity of adjacent parts of the coast and the ability of migrating fauna to find alternative routes if disturbed. The relatively small areas of disturbance in the referral area associated with the Project are unlikely to affect the ecological connection between marine habitats along the Gippsland coast and so offshore fauna would not be impacted by habitat fragmentation.

Input of petroleum and related products into Victorian marine and estuarine environments
Potential spills from vessel collisions, grounding or refuelling incidents could impact protected parks and reserves, wetlands and threatened communities depending on location, and nature and scale of the spill. With the implementation of the legislative and standard control measures, the likelihood of a substantial spill is low.

Onshore ecology

The following threatening processes listed under the FFG Act and relevant to onshore ecology have been evaluated in relation to the Project.

Alteration to the natural flow of rivers and streams
A number of designated waterways were identified by the database searches as intersecting the referral area, along with a number of unnamed waterways. These include Merriman Creek and Bruthen Creek, and tributaries of the Latrobe River, Merriman Creek or Bruthen Creek. While a preferred transmission corridor hasn't been selected, it is likely that a number of these waterways would be crossed by the Project. Potential impacts could include removal of habitat, sedimentation, reduced water quality and disturbance of water flows. Any effects on waterway flows and water quality would be expected to be temporary and of short duration.

Degradation of native riparian vegetation along Victorian rivers and streams
As mentioned above, there are a number of waterways identified that intersect with the referral area and therefore there is the potential for the degradation of native riparian vegetation along Victorian rivers and streams to be incurred during construction. Design and mitigation are likely to avoid and minimise these impacts to ecological values along riparian corridors.

Habitat fragmentation as a threatening process for fauna in Victoria
As there is likely to be removal of native vegetation for the onshore transmission assets, there is potential for fragmentation of habitats to impact threatened fauna species relying on vegetation within the referral area. This can impact the abilities of species to forage and breed depending on the location and severity of the fragmentation. As the design progresses, there is likely to be a minimisation of vegetation removal, however the potential for habitat fragmentation won't be determined until a preferred transmission alignment is selected.

Increase in sediment input into Victorian rivers and streams due to human activities
Design and mitigation are likely to avoid and minimise impacts to Victorian rivers and streams – this includes use of trenchless construction methods under important ecological values along riparian corridors. Best-practice construction procedures would be adopted throughout the Project and implemented in accordance with the CEMP. The CEMP would identify key waterways where runoff and sedimentation may result in down-stream impacts to significant waterways and aquatic fauna. This is particularly important in consideration of the three Ramsar sites relevant to the Project including Corner Inlet and Western Port. Strict sediment control measures would be adopted where these values and potential impacts to these values are identified.

Input of petroleum and related products into Victorian marine and estuarine environments
A number of key waterways were identified by the database search as intersecting the referral area, along with a number of unnamed waterways. While a preferred transmission corridor hasn't been selected, it is likely that there will be works required to cross these waterways. In addition, trenchless construction methods are proposed to avoid impacts to the coastal complex. Potential impacts that may occur as a result of works near waterways and the coastal margin could include the input of petroleum-based chemicals into designated and unnamed waterways which could lead to chemical contamination of marine and estuarine habitats. This potential impact will be addressed in the CEMP.

Invasion of native vegetation by 'environmental weeds'
The Project has the potential to introduce 'environmental weeds' during construction. This includes introducing exotic weeds to areas of high-quality vegetation where weeds are a minor component of the community and also facilitating invasion by native environmental weeds such as Burgan *Kunzea ericoides* by removing structural components of the vegetation community that allow it to become prolific. Best-practice construction activities and procedures for reducing the introduction and spread of environmental weeds would be addressed in the CEMP.

Loss of hollow-bearing trees from Victorian forests
Hollow-bearing trees are present within conservation reserves that intersect the referral area. They are also present in remnant roadside vegetation and are likely to be represented in scattered remnant and patches of trees on private land. Detailed tree surveys will be completed as the Project progresses and once a preferred corridor is selected. Ensuring hollow-bearing trees are identified and avoided will be a priority during the design and development process. This is a high priority action in consideration of the loss of habitat for threatened flora as a result of the 2020 bushfires in east Gippsland.

The spread of *Phytophthora cinnamomi* from infected sites into parks and reserves, including roadsides under the control of a state or local government authority
Phytophthora cinnamomi (cinnamon fungus) was observed during the preliminary assessment within Merriman Creek Flora reserve and Mullungdung State Forest. There is therefore the potential for this to spread to other parks and reserves during vegetation clearance and construction activities. Best-practice methods and procedures for reducing the introduction and spread of cinnamon fungus during construction would be addressed in the CEMP. Material and fill for the Project would be sourced from a reputable clean-waste company to reduce the instance of cinnamon fungus-infected gravel and material being introduced to sites.

Wetland loss and degradation as a result of change in water regime, dredging, draining, filling and grazing
Potential impacts to waterbodies and wetlands will be identified and addressed as the Project progresses and once a corridor is selected. No dredging is being proposed. Design and mitigation are likely to avoid and minimise impacts to wetlands and waterbodies at the early stages of design and development.

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the Project?

☒ NYD ☐ No ☐ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

Offshore ecology

The preliminary assessment of offshore ecology has identified a number of FFG Act-listed species that have been determined to be likely or possible to occur within the referral area (see Table 6). These include 11 marine invertebrates, three fish (Great White Shark, Australian Grayling and Southern Bluefin Tuna), one marine mammal (Humpback Whale) and 13 bird species (predominantly albatross', petrels and terns).

Fish and invertebrates

Habitat disturbance and underwater noise associated with planned activities such as the shore crossing and installation of the export cable within Victorian coastal waters, the installation and presence of offshore infrastructure in Commonwealth waters or unplanned activities such as spills and introduction of invasive marine species could affect the presence and abundance of listed fish and invertebrates within the referral area. Direct impacts on fish and invertebrates are mostly associated with the temporary construction phase and unlikely to lead to a long-term decrease of populations. Standard legislation and controls will be implemented for the project including the micro-siting of infrastructure to avoid sensitive habitats.

There is uncertainty associated with the Great White Shark and its use of the referral area which will be further investigated in the impact assessment phase.

Benthic habitat and fish baseline surveys are planned, which will provide more information to determine the presence or absence of these species within the referral area and their associated habitats and inform the impact assessment.

Marine mammals

Habitat disturbance and underwater noise associated with planned activities such as the shore crossing and installation of the export cable within Victorian coastal waters, the installation and presence of offshore infrastructure in Commonwealth waters or unplanned activities such as spills, vessel strike and introduction of invasive marine species could affect the presence and abundance of listed marine mammals within the referral area. Direct impacts on marine mammals within the referral area are mostly associated with the temporary construction phase and unlikely to lead to a long-term decrease of populations. Standard legislation and controls will be implemented for the project including the implementation of EPBC regulations for vessel speeds and minimum distances that must be maintained to decrease the risk of vessel strike on marine mammals.

Indirect impacts from underwater noise and vibration during the installation of offshore infrastructure in Commonwealth waters (particularly during foundation piling) could cause behavioural disturbance or displace marine mammals from the referral area. It is expected that marine mammals would return to the area following installation activities and it is not expected that impacts would affect the species populations in the long term. These impacts will be assessed as part of the EPBC process and marine mammal baseline surveys and underwater noise modelling would be used to inform the project impact assessment.

Birds

Habitat disturbance and underwater noise associated with planned activities such as the shore crossing and installation of the export cable within Victorian coastal waters, the installation and presence of offshore infrastructure in Commonwealth waters or unplanned activities such as spills, vessel strike and introduction of invasive marine species could affect the presence and abundance of listed bird species within the referral area. Direct impacts on bird species within the referral area are mostly associated with the temporary construction phase and unlikely to lead to a long-term decrease of populations. Standard legislation and controls will be implemented for the project.

Indirect impacts from the physical presence of the offshore infrastructure (cables, turbines and substations) in Commonwealth waters, noise and vibration of construction, operation and decommissioning activities and lighting could divert birds from their typical migratory flight paths or displace them from foraging habitat within the referral area.

Indirect impacts associated with the collision risk with turbines in Commonwealth waters could also affect various bird species. It is uncertain at this stage the level of impact associated with collision risk for birds for the Project. These impacts will be assessed as part of the EPBC process and seabird and shorebird baseline surveys and collision risk modelling would be used to inform the impact assessment.

A more detailed assessment of potential impacts to threatened or migratory species and other species of conservation significance relating to offshore ecology is provided in section 5 and section 7 of Attachment 1.

Onshore ecology

The preliminary assessment of onshore ecology has identified a number of FFG Act-listed species that have been determined to be likely or possible to occur within the referral area as shown in Table 7 and Table 8. A preliminary assessment determined that there are three threatened ecological communities, eight flora species and six fauna species that are FFG Act-listed that may be impacted by the Project.

FFG Act-listed threatened ecological communities
The locations and extent of the FFG Act-listed ecological communities are not currently known and field surveys are proposed to characterise their occurrence. These surveys will inform design decisions and enable a full assessment of potential impacts.

Threatened onshore flora
There is potential that onshore flora could be subject to habitat loss and direct removal to facilitate the construction of the onshore transmission assets. It is not yet known which species exist within the referral area or which would be removed. An assessment was undertaken to determine which flora species had the highest proportion of habitat within the referral area according to DELWP habitat importance modelling and so have potential to be impacted by the Project. These species include:

- Dwarf Kerrawang
- Matted Flax-lily
- Trailing Hop-bush
- Strzelecki Gum
- Green-striped Greenhood
- Metallic Sun-orchid
- Spiral Sun-orchid
- Swamp Everlasting
- Winter Sun-orchid.

The referral area supports a range of habitats suitable for these listed species including near-coastal communities, wetlands and waterbodies, grasslands and grassy woodlands, heathy woodlands and forests. Important populations of Dwarf Kerrawang and Green-striped Greenhood are known to occur within Giffard (Rifle Range) Flora Reserve and Mullungdung State Forest respectively.

Potential impacts on FFG Act-listed flora species are most likely to arise from the clearing of vegetation for construction of the transmission assets. Informed by the findings of planned flora surveys, direct impacts on these species would be minimised through the corridor selection process and by careful micro-siting of the transmission alignment within the preferred corridor.

Other threats to FFG Act-listed flora associated with construction included the introduction of weeds, pests and pathogens. These indirect effects would be addressed through the development and implementation of a CEMP to prevent these types of impacts. The significance of residual impacts on FFG Act-listed flora will be subject to future assessment.

Threatened and migratory onshore fauna
An assessment was undertaken to determine which onshore fauna species according to DELWP habitat importance modelling had the highest proportion of habitat within the referral area and so have potential to be impacted by the Project. These species include:

- Martins Toadlet
- Southern Toadlet
- New Holland Mouse
- Dwarf Galaxias
- Grey Goshawk
- Swamp Skink
- Chestnut-rumped Heathwren.

Potential impacts on FFG Act-listed fauna species are also most likely to arise from the clearing of vegetation for construction of the transmission assets where that vegetation provides habitat for

those species. Targeted surveys are planned for threatened species that are possible or likely to occur in the referral area and this will assist with the identification of habitats. It is likely that impacts to high value habitats could be avoided or minimised through preferred corridor selection and detailed design of the onshore transmission assets. The significance of residual impacts on FFG Act-listed fauna will be subject to future assessment.

Impacts to these listed species and communities and habitat for threatened or migratory species would depend on the onshore transmission route selected and the selection of construction methods. There is potential to avoid and minimise impacts on listed species and communities, however effects are envisaged due to the required clearing of vegetation and habitat.

Further information on the potential for onshore threatened or migratory species to be affected by the Project is provided in section 8.2 of Attachment 2.

Is mitigation of potential effects on indigenous flora and fauna proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

Results of the preliminary assessment identify a number of threatened flora and fauna species and ecological communities of concern to the Project. As mentioned above, detailed flora and fauna assessments have not yet been completed but are scheduled throughout 2020. The outcomes of detailed surveys in relation to these species and communities along with recommended mitigation will be documented in future application documents and will be developed in consultation with DELWP and other relevant authorities.

Results from the surveys will be incorporated into the Project design and development so that specific ecological values are identified, and impacts considered early in the design process. Given the scale of the Project, this is likely to be completed in iterations so that a number of potential mitigation options can be considered.

In the early inception, the Project allows for a corridor width of between approximately three and five kilometres to enable flexibility in the project design. The impact area will be refined as the Project progresses and is likely to be reduced to a footprint with a width of less than 100 metres where possible.

Significant impacts on wetlands, shorebird habitat, or pelagic species habitat are expected to be avoided or minimised by using trenchless shore crossing construction methods. Small waterways and shallow bodies of water which are present within other parts of the proposed corridors may also be avoided using trenchless construction approaches where significant impacts might be expected.

Further information on proposed mitigations for flora and fauna is provided in section 5 and section 8 of Attachment 1 and section 9 of Attachment 2.

Other information/comments? (eg. accuracy of information)

Refer to Attachment 1 – Preliminary marine ecology report and Attachment 2 – Preliminary onshore ecology assessment.

13. Water environments

Will the Project require significant volumes of fresh water (eg. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

Some water would be required during construction primarily for trench construction and dust suppression. Operational water requirements are expected to be substantially less than one gigalitre per year (<1GL/yr).

Water to be used during construction and operation would likely be sourced from a combination of on-site storages, on-site tanks, on-site bores or from potential off-site locations. Water sources for the construction and operation of the Project would be confirmed during detailed design.

Will the Project discharge waste water or runoff to water environments?

☐ NYD ☒ No ☐ Yes If yes, specify types of discharges and which environments.

There is potential for small volumes of runoff from work sites and access track surfaces during rainfall events during construction. There is considered to be a negligible risk of waste water runoff due to the relatively low volumes of waste water generated during construction and the existence of well understood mitigation measures typical for projects of this scale and complexity.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

Offshore environment

Within Victorian coastal waters, it is proposed to install export cables on the seabed and to construct a shore crossing using a trenchless construction method. Installation of the export cables may involve benthic habitat disturbance or removal and short-term impacts such as increased sedimentation in the water column, changes to water quality from vessel discharges and above and below-sea noise generation. These aspects could affect marine water and sediment quality, change the composition of benthic communities that inhabit the seabed and affect mobile marine fauna behaviours such as breeding, foraging, resting or migrating.

Impacts to the marine environment associated with installation of the export cables would be minimised through the implementation of a CEMP for the works. The export cables would be located to minimise disturbance to benthic habitats in the longer term. Legislative and standard industry control measures for managing vessel discharges will mitigate impacts on water and sediment quality.

Further details of the preliminary assessment of potential impacts on marine water environments are provided in section 5 and section 7 of Attachment 1.

Waterways, wetlands and estuaries

The three transmission corridor options are located within an area that contains around 20 designated waterways from within the Latrobe River and South Gippsland catchments. The main waterways within the area are Merriman Creek which starts near Balook and flows more than 80 kilometres to the coast at Seaspray and Bruthen Creek which originates near Carrajong Lower and reaches its estuary around 30 kilometres away near McLoughlins Beach. The Bruthen Creek sub-catchment is linked to the Corner Inlet Ramsar site. The remainder of the named waterways are tributaries of the Latrobe River, Merriman Creek or Bruthen Creek or smaller streams.

For the western transmission corridor option, the transmission alignment may intersect Traralgon Creek, Flynns Creek, Merriman Creek and Bruthen Creek. For the eastern and northern corridor options, the transmission alignments may intersect Waterhole Creek, Traralgon Creek, Flynns Creek and Merriman Creek.

While a preferred transmission corridor hasn't been selected, it is likely that a number of these waterways would be traversed by the Project. Potential impacts could include removal of habitat,

sedimentation, reduced water quality and disturbance of water flows. Any effects on waterway flows and water quality would be expected to be temporary and of short duration.

Effects on waterways can be minimised by selection of a route which avoids waterway crossings wherever possible. Where waterway crossings are unavoidable, potential impacts could be minimised by mitigation measures including use of trenchless construction methods where important ecological values exist along riparian corridors. Best-practice construction activities would be adopted throughout the Project and implemented in accordance with the CEMP. The CEMP would include measures to manage runoff and sedimentation that would otherwise result in downstream impacts to significant waterways, wetlands and estuaries. The CEMP would include measures consistent with EPA Victoria publications *480 Environmental Guidelines for Major Construction Sites* and 275 *Construction Techniques for Sediment Pollution Control* or any revised publication released under the new EP Act regime anticipated to come into force July 2020. This is particularly important with respect to any works at Bruthen Creek, which is linked to the Corner Inlet Ramsar site.

Coastal estuarine wetlands such as Jack Smith Lake, wetland swamps, ephemeral wetlands associated within the lowland plains and wetlands at the headwaters of named waterways exist in the vicinity of the referral area. The Jack Smith Lake area would be avoided for the shore crossing and the transmission asset alignment and construction methods would be selected to minimise impacts on wetland features.

For the proposed construction and operation port sites, where landside development is proposed, limited surface water features exist. One named waterway, Olivers Creek passes through the western edge of the referral area at the Port of Hastings whilst the BBMT and Port Anthony site does not contain any named waterways. The Port of Hastings site and the BBMT and Port Anthony site have existing infrastructure within the Western Port and Corner Inlet Ramsar sites respectively.

The majority of works at the ports will comprise landslide development to prepare land for manufacturing and storage facilities for the wind farm which will have minimal direct impacts on the wetlands. At BBMT structural improvements to a quay wall may be required however it is anticipated that these works would be undertaken from the landside area.

The works at Port of Hastings may include piling and this could result in underwater noise generation, impacts to the seabed, and localised sedimentation. The scale of the work would be limited to the immediate vicinity of existing port facilities where the environment has been historically disturbed and existing port operations occur.

Assessment of these potential impacts will be undertaken as part of impact assessment.

Further details of the preliminary assessment of potential impacts on waterways, wetlands and estuaries are provided in section 5, section 6 and section 7 of Attachment 4.

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

Offshore environment

The potential impacts on marine water environments within Victorian coastal waters are expected to be confined to localised and temporary changes in water quality due to disturbance of the seabed during construction. The threatened and migratory species listed under the FFG Act that could be exposed to changes in water quality include species of marine invertebrates, fish, marine mammals and various bird species.

In relation to marine fauna, three species of fish listed as threatened under the FFG Act are considered likely to occur within the referral area: Great White Shark, Australian Grayling and Southern Bluefin Tuna. Additionally, the Humpback Whale, also listed as threatened under the FFG Act is considered likely to occur. All other listed FFG Act species, identified through database searches are considered unlikely to occur or would rarely occur in the referral area.

The effects on marine water quality associated with construction would be monitored and controlled through implementation of a CEMP. Nevertheless, a detailed assessment of potential impacts of water quality changes on species listed under the FFG Act will be undertaken.

In relation to birds, 13 species, listed as threatened under the FFG Act are considered possible or likely to occur in the referral area. This includes a number of albatross', petrels and terns. These birds could be potentially affected by changes in water quality if they forage in those immediate areas. Water quality changes are not expected to be significant and widespread due to implementation of a CEMP, however a detailed assessment of potential impacts is proposed.

Further information about threatened and migratory species supported by the offshore environment is provided in section 4.3 of Attachment 1.

Waterways, wetlands and estuaries

The primary potential effects on onshore water environments associated with the Project are expected to be confined to the waterway crossings associated with the selected transmission asset alignment. There is potential that these waterway crossing locations may provide habitat for threatened or migratory species listed under the FFG Act such as those listed presented in Table 8.

Waterway habitats in the referral area may support the threatened native freshwater fish species Australian Grayling, while low-flowing and connected still habitats may provide refuge for another such species, Dwarf Galaxias. These two listed species of freshwater fish are most likely to occur in the referral area.

In addition, the following additional listed fauna species may occur in wetland habitats in the referral area: Australasian Bittern, Australian Little Bittern, Baillons Crake, Blue Billed Duck, Freckled Duck, Eastern Great Egret, Gull-Billed Tern, Intermediate Egret, Lewin's Rail, Little Egret, Growling Grass Frog and Martins Toadlet.

Further investigations are proposed to understand the use of affected proposed waterway crossing locations by threatened species, in particular fish, amphibians and reptiles.

The adoption of construction methods that avoid surface excavation will avoid direct disturbance to aquatic habitats, ensuring no reduction (temporary or permanent) in their extent and condition. Indirect impacts from construction (e.g. sediment-laden runoff) can be managed through the adoption of best practice erosion and sediment controls in the CEMP and OEMP for the Project, thereby ensuring water quality is not threatened by the project. Provided these measures are implemented effectively, it is not anticipated that these species or their habitats would be significantly affected.

Further information about threatened and migratory species supported by the onshore water environments is provided in section 7 of Attachment 2.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☐ No ☒ Yes If yes, please specify.

Direct impacts

The Port of Hastings site and the BBMT and Port Anthony site have existing infrastructure within the Western Port and Corner Inlet Ramsar sites respectively. The southern shore crossing location is adjacent to the north-eastern part of the Corner Inlet Ramsar site (Figure 2). These Ramsar sites contain intertidal mudflats which support the world's most southerly populations of white mangroves, as well as extensive areas of saltmarsh and seagrass; are important feeding and nesting areas for many waterbirds and important areas in Victoria for migratory shorebirds and support a range of native fish species. These wetlands are around 150 kilometres apart, however it is possible that seabird and shorebirds use both.

The majority of works at the ports will comprise landslide development to prepare land for manufacturing and storage facilities for the wind farm which will have minimal direct impacts on

the wetlands. At BBMT structural improvements to a quay wall may be required however it is anticipated that these works would be undertaken from the landside area.

The works at Port of Hastings may include piling and this could result in underwater noise generation, impacts to the seabed, and localised sedimentation. The scale of the work would be limited to the immediate vicinity of existing port facilities where the environment has been historically disturbed and existing port operations occur.

Assessment of these potential impacts will be undertaken as part of the impact assessment.

The Gippsland Lakes Ramsar site to the east of the transmission asset corridors is more than 10 kilometres away from the referral area and would not be affected by the Project.

Indirect impacts

Indirect effects on the Corner Inlet wetland are possible as a result of shore crossing activities for the installation of export cables including:

- Increased levels of suspended sediments in the water column during construction
- Routine discharges from support vessels
- Noise and vibration associated with construction and decommissioning.

These temporary impacts would be unlikely to affect the Corner Inlet Ramsar site in the long term. The physical presence of offshore infrastructure in Commonwealth waters outside the referral area could affect bird species within Corner Inlet through collision risk, displacement and barrier effects. The presence of offshore infrastructure (such as turbine and substation foundations) in Commonwealth waters may also result in local changes to the wave and current regime and sediment transport processes. It is not expected that these would result in potential long-term change to the ecological character of the wetland, however this will require further assessment in the impact assessment phase. Coastal processes and collision risk modelling are proposed to inform the impact assessment.

Further information about the potential impacts on Ramsar wetlands is provided in Attachment 1, Attachment 2 and Attachment 4.

Could the Project affect streamflows?

☐ NYD ☒ No ☐ Yes If yes, briefly describe implications for streamflows.

The Project is not expected to significantly affect streamflows as waterway crossings would be constructed using trenchless construction methods where necessary and practicable, to minimise impact on waterway flow regimes.

Further information on the hydrology of the referral area is provided in section 5 of Attachment 4.

Could regional groundwater resources be affected by the Project?

☐ NYD ☒ No ☐ Yes If yes, describe in what way.

The water table is typically a subdued version of topography. Shallow groundwater may be present in low lying areas near the coast and within alluvial sediments associated with significant watercourses. Deeper groundwater is expected beneath more elevated topography. The water table is mapped (www.vvg.org.au) as being less than five metres below ground surface (mbgs) close to the coast and within the valley system. Beneath higher topography away from the coast the water table depths increase to between 10 and 20 mbgs, and up to 50 mbgs beneath areas of higher topography.

Groundwater bores utilised in the area are typically greater than 20 metres deep (www.vvg.org.au), with a limited number of shallow bores (less than 20 metres) located along the coast and valleys.

The Project is not anticipated to impact on regional groundwater resources given the shallow excavations for onshore transmission assets (typically less than 2 metres deep). Impacts to shallow groundwater systems (if any) would be localised and temporal in nature.

Could environmental values (beneficial uses) of water environments be affected?

☐ NYD ☒ No ☐ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Salinity (measured as milligrams per litre total dissolved solids) is variable within the referral area. It is mapped (www.vvg.org.au) as ranging between 1,000 and 3,000 mg/L near the coast and to the northwest (near Traralgon). In the central portion it is mapped as between 500 and 1,000 mg/L TDS, and a lower salinity of less than 500 mg/L TDS to the north. Within the referral area the groundwater varies from Segment A1 to Segment C of the SEPP (Waters) guidelines. The following beneficial uses are therefore protected:

- Protection of water dependent ecosystems and species
- Potable water supply
- Potable mineral water supply
- Agriculture and irrigation (irrigation)
- Agriculture and irrigation (stock watering)
- Industrial and commercial
- Water based recreation (primary contact recreation)
- Traditional owner cultural values
- Cultural and spiritual values
- Buildings and structures
- Geothermal properties.

These beneficial uses are unlikely to be affected by the Project given the shallow excavations for onshore transmission assets (with trenching typically less than 2 metres deep) and the use of trenchless construction methods at the shore crossing and potentially some watercourse crossings where practicable.

Sections of Merriman Creek within the referral area have beneficial uses as a “designated water supply area”, that provides potable water for the township of Seaspray. Works in the referral area would need to minimise the impact of the Project on water quality and flows.

Works within tributaries flowing into Latrobe River (and ultimately the Gippsland Lakes) would need to minimise the impact on water quality due to the Gippsland Lakes being a Ramsar wetland.

Western Port Bay is a declared Ramsar wetland. Works associated with the Port, adjacent to the Bay would need to minimise the impact on water quality during construction and operation.

Could aquatic, estuarine or marine ecosystems be affected by the Project?

☐ NYD ☐ No ☒ Yes If yes, describe in what way.

See above response to question ‘Are any waterways, wetlands, estuaries or marine environments likely to be affected?’.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

The works that are likely to intersect with aquatic, estuarine or marine ecosystems are most significant during the construction phase. Once the project infrastructure is installed, long term impacts on these ecosystems is considered unlikely.

Is mitigation of potential effects on water environments proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

The selection of the onshore transmission asset route would be undertaken to minimise the number of waterway crossings and minimise impacts to water environments. The CEMP would include measures to protect water quality such as management of sediment and runoff from construction sites.

Further information on proposed mitigations for water environments are provided in section 5 and section 8 of Attachment 1 and section 9 of Attachment 2.

Other information/comments? (eg. accuracy of information)

Refer to Attachment 1 – Preliminary marine ecology report, Attachment 2 – Preliminary onshore ecology assessment and Attachment 4 – Preliminary hydrology assessment.

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☐ No ☒ Yes If yes, please attach.

The offshore wind farm will be located between seven and 26 kilometres from the Victorian coast and is expected to be visible from some coastal locations under certain conditions. A preliminary seascape and visual appraisal of this project component has been undertaken for the wind farm and this is provided at Attachment 5.

The preliminary seascape and appraisal identifies that the wind farm would be visible from representative locations at Woodside Beach and Sealers Cove (Wilsons Promontory). The significance of the potential impacts will be evaluated as part of a comprehensive seascape, landscape and visual assessment of the Project.

Views may be possible from landscapes of State importance at Ninety Mile Beach, Nooramunga Coast and Islands and Wilsons Promontory under certain conditions. However, the visual changes are expected to be minor from Wilsons Promontory locations such as Five Mile Beach and Sealers Cove as these places are 25 to 30 kilometres from the western edge of the wind farm.

The onshore transmission lines for the Project are proposed to be predominately underground, and therefore visual impacts of the infrastructure would be minimised. Overhead lines would most likely be used to facilitate connection to the preferred connection point. The extent of overhead transmission line will be known when the design is further progressed. The proposed substations are another potential source of visual impact and siting decisions will be made giving consideration to visual amenity. A full assessment of the potential visual impacts of the onshore transmission assets will be undertaken when the design is further progressed.

Is the Project to be located either within or near an area that is:

Subject to a Landscape Significance Overlay or Environmental Significance Overlay?

☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

The Project is not located within any area that is subject to a Landscape Significance Overlay, and whilst a Landscape Significance Overlay exists for the Ninety Mile Beach it only covers the section of the beach from Golden Beach to Glomar Beach. The wind farm would be more than 25 kilometres from land covered by the Landscape Significance Overlay.

The transmission asset corridor options do however contain areas that are subject to Environmental Significance Overlays. In particular, the two shore crossing locations are both subject to Environmental Significance Overlays covering the beach and dune environments. Impacts on these areas would be minimised by selection of a trenchless construction method for the shore crossing.

Each of the corridor options has several other Environmental Significance Overlays associated with riparian areas and conservation reserves within the various corridors. It is envisaged that the majority of these could be avoided by careful micro-siting of the preferred transmission alignment.

Refer to overlay plans provided at Figure 10, Figure 11 and Figure 12.

Identified as of regional or State significance in a reputable study of landscape values?

☐ NYD ☒ No ☐ Yes If yes, please specify.

The Project is not located within an area that has been identified to be of regional or State significance for its landscape values or in an area declared as a distinctive area and landscape under Part 3AAB of the *Planning and Environment Act 1987*. However, the Project is located near land identified as being of State significance in the Coastal Spaces Landscape Assessment Study (2006) prepared for the Department of Sustainability and Environment as follows:

- Ninety Mile Beach (around 20 kilometres from the wind farm)
- Nooramunga Coast and Islands (around 10 kilometres from the wind farm)
- Wilsons Promontory (around 20 kilometres from the wind farm).

Within or adjoining land reserved under the *National Parks Act 1975*?

☐ NYD ☐ No ☒ Yes If yes, please specify.

The Project is not located within or adjoining land reserved under the *National Parks Act 1975*.

Within or adjoining other public land used for conservation or recreational purposes ?

☐ NYD ☐ No ☒ Yes If yes, please specify.

The transmission asset corridor options under consideration intersect with a number of parcels of public land used for conservation and recreational purposes. It is envisaged that impacts on public land used for conservation and recreational purposes can be minimised through corridor selection and micro-siting of the alignment within the preferred corridor.

For the western transmission corridor, the intersecting or adjacent areas are McLoughlins Beach – Seaspray Coastal Reserve, Freshwater Swamp - Woodside Beach Wildlife Reserve, the Mullungdung Nature Conservation Reserve and the Gormandale Nature Conservation Reserve.

For the eastern transmission corridor, the intersecting or adjacent areas are McLoughlins Beach – Seaspray Coastal Reserve, Freshwater Swamp - Woodside Beach Wildlife Reserve, Woodside H25 Bushland Reserve, Warrigal Creek Streamside Reserve, Darriman H33 Bushland Reserve, Stradbroke Flora and Fauna Reserve, Merriman Creek Flora Reserve and the Gormandale Nature Conservation Reserve.

For the northern transmission corridor, the intersecting or adjacent areas are McLoughlins Beach – Seaspray Coastal Reserve, Giffard Flora Reserve, Stradbroke Flora and Fauna Reserve, Merriman Creek Flora Reserve and the Gormandale Nature Conservation Reserve.

In relation to the port sites, no public land used for conservation and recreational purposes intersects or adjoins the referral area except a parcel of public land south of Bayview Road.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

Clearing of vegetation is likely for the construction of onshore transmission assets and this has the potential to affect landscape values in areas immediate to the clearing depending of the design of the Project.

As the Project is in early stages of design, further assessment is required to determine the potential for impacts to landscape values arising from vegetation clearing and measures such as landscape planting would be considered to mitigate impacts where appropriate.

The Project would not involve the alteration of landforms with the potential to affect landscape values.

Is there a potential for effects on landscape values of regional or State importance?

☐ NYD ☐ No ☒ Yes Please briefly explain response.

Whilst the wind farm is located in Commonwealth waters, there is potential for indirect impacts in Victoria. The wind farm may be visible under certain conditions from locations identified as having landscape values of State importance at Ninety Mile Beach, Nooramunga Coast and Islands and Wilsons Promontory. The wind farm is quite distant from these locations, however a detailed landscape assessment will be undertaken once the design is further developed to determine the significance of any changed views.

The onshore transmission assets which would be substantially underground are not expected to have effects on landscape values of regional or State importance.

There is potential for some changes to landscape values of regional or State importance such as State parks, State forests and reserves. These are shown in Figure 2. The potential impacts to these will be assessed once further design development has been undertaken.

Is mitigation of potential landscape effects proposed?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

The Project is in the relatively early stages of development and has not yet been subject to a full assessment of landscape effects. The need for mitigation of potential landscape effects will be considered based on the results of the future assessments that will be undertaken in relation to the wind farm and the transmission assets.

Other information/comments? (eg. Accuracy of information)

Refer to Attachment 5 – Preliminary visual appraisal.

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

As the Project is still in the preliminary design phase, detailed investigations into acid sulfate soils or highly erodible soils are yet to be undertaken. However, the design of any infrastructure, including this Project, would consider the presence of acid sulfate soils, which include Coastal Acid Sulfate Soils (CASS), occurring naturally in coastal and inland settings. These soils contain metal sulphide minerals, which, if drained, excavated or exposed to air, can react with oxygen and water to form sulfuric acid (DSE, 2010).

CASS have been mapped in the Wilsons Promontory and the Gippsland and Western Port areas and are presented in the Australian Soil Resource Information System (ASRIS). Inappropriate management of CASS can result in generation of acid, damage to concrete and steel, environmental damage and release of other metals which can cause harm to plants and animals and contaminate drinking water. CASS may be encountered both onshore and offshore depending on geological and historical conditions at the site. Further environmental investigations into acid sulfate soils would be undertaken during the design and development phase of the Project after planning approvals have been granted.

Are there geotechnical hazards that may either affect the Project or be affected by it?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

There are no known geotechnical hazards that may affect the Project or be affected by it. Further environmental investigations would be undertaken during the design and development phase of the Project after planning approvals have been granted.

Other information/comments? (eg. accuracy of information)

15. Social environments

Is the Project likely to generate significant volumes of road traffic, during construction or operation?

☒ NYD ☐ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

There is potential that the Project would generate some traffic including heavy vehicles during construction, however this is not considered likely to be significant. It is intended that the main arterial roads along with some smaller roads would primarily be used for construction. These roads would be assessed for safety and suitability prior to use. A traffic management plan would be prepared to manage any changes in traffic during construction.

During operation, the traffic is likely to be limited to vehicles conducting maintenance activities and is unlikely to be significant.

An assessment of the potential changes to traffic during construction and operation of the Project will be conducted as part of planned environmental investigations.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☒ NYD ☐ No ☐ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

Construction activities associated with the Project would include construction of the transmission assets, substations, shore crossing, modifications to roads and upgrades of ports facilities. Construction is likely to generate some dust emissions, however these would be managed through the CEMP and are unlikely have a significant effect on the amenity of residents.

Construction-related noise impacts are yet to be assessed, however it is not anticipated that noise would cause significant effects on the amenity of residents. An assessment of the potential changes to noise during construction and operation of the Project will be conducted as part of planned environmental investigations.

Access arrangements to dwellings may change for discrete periods during construction, however this would not cause significant effects on residents. An assessment of the potential changes to traffic and access during construction and operation of the Project will be conducted as part of planned environmental investigations. Any changes during construction would be managed through a traffic management plan which would be informed by the traffic assessment.

A preliminary landscape assessment is provided in Attachment 5 to address the consequential impact of the offshore wind farm. As part of planned environmental investigations, a detailed landscape assessment will be conducted to assess the potential for significant effects on residents due to the Project. This would be undertaken once the design has been further developed.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

As above, there is potential for dust emissions to air, however these would be managed through the CEMP and so impacts to the health of the community are not anticipated.

As part of ongoing studies, a review will be undertaken using current guidance from the World Health Organisation and relevant standards and guidelines to evaluate the Project with reference to those standards and guidelines. It is anticipated that, due to the likely distance of residents to the transmission assets, there would not be impacts on human health due to the transmission assets.

It is not anticipated that there would be other significant exposures of the community to health or safety hazards during construction or operation of the Project.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

Construction of the onshore transmission assets is not anticipated to result in displacement of residences or severance of residential access to community resources. Access arrangements may change for discrete periods during construction, however this would not cause severance of access to community resources. Changes to access will be assessed as part of ongoing studies and alternative arrangements would be determined if any access routes were impeded.

Are non-residential land use activities likely to be displaced as a result of the Project?

☒ NYD ☐ No ☐ Yes If yes, briefly describe the likely effects.

The referral area has a diverse range of non-residential land use activities including agriculture, forestry, fishing, retail, recreation and conservation. It is not proposed that there would be displacement of activities due to the Project, however an assessment will be undertaken to determine if there would be significant impacts to the continued operation of these activities as part of planned environmental investigations.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☒ NYD ☐ No ☐ Yes If yes, briefly describe the potential effects.

As above, an assessment will be undertaken to determine the potential for adverse effects on non-residential land use activities within the referral area.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

At this early stage of the Project, specific mitigations aren't proposed. It can be assumed that general mitigations would be undertaken which would generally be implemented on projects of this size. A CEMP would be prepared to manage construction activities and limit the potential for effects on communities. This would include measures to manage potential effects such as emissions of dust or noise. A detailed traffic management plan would be prepared to manage any changes to access and traffic conditions during construction.

Following detailed assessments of the potential for social effects due to the Project, mitigation measures tailored to the potential effects will be determined.

Other information/comments? (eg. accuracy of information)

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the Project area?

☐ No If no, list any organisations that it is proposed to consult.

☒ Yes If yes, list the organisations so far consulted.

Star of the South has consulted with the key Registered Aboriginal Party for the referral area, the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC). Star of the South have met with GLaWAC a number of times and consultation is ongoing.

It is intended that a comprehensive consultation process, cultural values workshop and fieldwork be undertaken with both Registered Aboriginal Parties including the Bunurong Land Council Aboriginal Corporation (Port of Hastings) and the GLaWAC.

What investigations of cultural heritage in the Project area have been done?
(attach details of method and results of any surveys for the Project & describe their accuracy)

A preliminary assessment of Aboriginal cultural heritage has been undertaken and is provided at Attachment 3. In addition to desktop assessments, a high-level site inspection has been

undertaken of the referral area. The inspection involved a targeted assessment of landforms including dunes, coastline and transitional geologies to assess and verify the associated Aboriginal archaeological potential of those features. The inspection did not include an assessment of heritage places nor consultation with the Registered Aboriginal Party.

Further information about the method of the preliminary Aboriginal cultural heritage assessment is provided in section 4 of Attachment 3.

Is any Aboriginal cultural heritage known from the Project area?

☒ NYD ☒ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the Project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

A preliminary assessment of Aboriginal cultural heritage has been undertaken and is provided at Attachment 3. The majority of registered Aboriginal places within the referral area are artefact scatters, with higher density artefact scatters generally found in proximity to watercourses, and a number of shell middens located in proximity to the coastline. Other Aboriginal place types present include one Aboriginal ancestral remains (burial), low-density artefact distributions, object collections, scarred trees, one artefact scatter/object collection and an artefact scatter/earth feature/shell midden.

The following Aboriginal cultural heritage values are relevant to the referral area:

Northern corridor

- Most of the artefact scatters and low-density artefact distributions present within this area have been recorded on the high level terraces and fans (Geomorphological unit 7.3.1) and this unit is predominately associated with the area inland from the coastline, as well as areas along and adjacent to Merriman Creek, and in the Loy Yang region. The registered shell middens and Aboriginal ancestral remains are located on the coastal barriers.
- Most of the Aboriginal places have been recorded on the Haunted Hills Formation geological unit (Nlh). This geological unit is predominately situated in the inland area around Loy Yang, Merriman Creek, and Won Wron. There are also a number of Aboriginal places recorded on the Alluvial Terrace deposits geological unit (Qa2). This unit is predominately situated just inland from the coastline.
- Most of the Aboriginal places have been recorded in association with the Riparian Scrubs or Swampy Scrubs and Woodlands EVC.
- Most of the areas of sensitivity within the northern corridor relate to dunes.

Eastern corridor

- Most of the registered places are artefact scatters/shell middens recorded on the coastal barriers (Geomorphological unit 8.4). A number of Aboriginal places have also been recorded on the high level terraces and fans (Geomorphological unit 7.3.1).
- Most of the registered Aboriginal places are associated with coastal geological units.
- The 1750 EVCs that are predominately associated with registered Aboriginal places are the Coastal Scrubs Grasslands and Woodlands, Riparian Scrubs or Swampy Scrubs and Woodlands, and the Herb-rich Woodlands EVC.
- Most of the areas of sensitivity within the eastern corridor relate to dunes.

Western corridor

- Most of the registered Aboriginal places (predominately artefact scatter/shell middens) have been recorded on the coastal barriers (Geomorphological unit 8.4).
- Most of the registered Aboriginal places are associated with coastal geological units.
- The 1750 EVCs associated with registered Aboriginal places include Coastal Scrubs Grasslands and Woodlands located adjacent to the coastline, the Riparian Scrubs or Swampy Scrubs and Woodlands areas and the Herb-rich Woodlands EVC.

- Most of the areas of sensitivity within the western corridor relate to waterways.

Port development areas

- For the Port of Hastings area, all of the registered Aboriginal places were recorded on the Hills and low hills (Geomorphological unit 3.3.2).
- Registered Aboriginal places within the Port of Hastings were associated with Coastal dune deposits (Qdl1) and Red Bluff Sandstone (Nbr).
- Registered Aboriginal places within the Port of Hastings area were associated with Lower Slopes or Hills Woodlands, Salt-tolerant and/or succulent Shrublands, followed by Herb-rich Woodlands, Riparian Scrubs or Swampy Scrubs and Woodlands 1750s EVCs.
- Most of the areas of sensitivity within the Port of Hastings, BBTM and Port Anthony areas relate to the adjacent Ramsar wetlands.

Areas of cultural heritage sensitivity defined in the Aboriginal Heritage Regulations 2018 also occur in the referral area. Preliminary site predictive modelling indicated that the highest likelihood for identifying previously unregistered Aboriginal heritage artefact scatters would occur on Sandstone, Haunted Hills and volcanics, dune and terrace deposits, sloping ground of less than five degrees and in close proximity to water. Further, ancestral remains would most likely occur on dune deposits, coastal lagoon, swamp and lake deposits and sloping ground of less than five degrees and shell middens on coastal dune deposits, sloping ground of less than five degrees and in proximity to water. Further investigations are required to characterise Aboriginal heritage values throughout those areas.

It is proposed that further assessments and the identification of mitigation measures will occur as part of preparation of CHMPs for the works areas. These will be prepared in accordance with the Aboriginal Heritage Act 2006 (Vic) and will involve consultation with the applicable Registered Aboriginal Parties.

Further information about known Aboriginal cultural heritage within the referral area is provided in section 5 of Attachment 3.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the Project area?

☐ NYD ☐ No ☒ Yes If yes, please list.

A desktop assessment has been undertaken which has found the following sites on the Heritage Register or the Archaeological Inventory under the *Heritage Act 2017 (Vic)*:

- Goodwood Sawmill Site (VHR H2011, VHI H8221-0012, HO117)
- Dunrobin (VHI 8221-0003)
- Traralgon South (VHI H8221-0004)
- Denham Road Farmhouse (VHI H7921-0119).

The referral area may contain historic shipwrecks or other underwater cultural heritage sites which have not yet been discovered. A search of the Victorian Heritage Database, Commonwealth Heritage Register and Archaeological inventory and the DELWP datasets did not identify any significant heritage places, shipwrecks or other maritime cultural heritage sites or objects in the referral area.

Is mitigation of potential cultural heritage effects proposed?

☒ NYD ☐ No ☐ Yes If yes, please briefly describe.

The Goodwood Sawmill Site is within the area of the western corridor option for the transmission assets, although it would be avoided if this option is selected. A more detailed assessment of potential cultural heritage effects is proposed, including further characterisation of onshore cultural heritage values that could be affected by the Project. Mitigation measures, including design modifications will be considered to address any potential impacts that may be significant.

In relation to the offshore parts of the referral area, further investigations are proposed to verify the absence of shipwrecks within marine areas. In the event that any new site is found, it is envisaged that export cables could be positioned to avoid such locations.

Other information/comments? (eg. accuracy of information)

Refer to Attachment 3 – Preliminary assessment of Aboriginal cultural heritage.

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the Project facility would consume/generate?

- [x] Electricity network. If possible, estimate power requirement/output ……
- [ ] Natural gas network. If possible, estimate gas requirement/output ……...
- [x] Generated on-site. If possible, estimate power capacity/output …….
- [ ] Other. Please describe.

Please add any relevant additional information.

The aim of the Project is to generate renewable energy to supplement Victorian and Australian energy supply, through the development of a viable wind energy facility. The Project has the potential to power up to 1.2 million households. These calculations are preliminary and subject to final design.

What are the main forms of waste that would be generated by the Project facility?

- [ ] Wastewater. Describe briefly.
- [ ] Solid chemical wastes. Describe briefly.
- [x] Excavated material. Describe briefly.
- [x] Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

Majority of these waste forms would be generated during the construction phase of the Project. Material excavated during the construction, would be either be reused on site where practicable or removed off-site to a licenced landfill facility. During its operation, the Project would not generate any significant volumes of waste.

Any surplus material from seabed installation activities including soil and drilling muds would be captured and either reused or removed and disposed of as appropriate.

What level of greenhouse gas emissions is expected to result directly from operation of the Project facility?

- [x] Less than 50,000 tonnes of CO_2 equivalent per annum
- [ ] Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- [ ] Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- [ ] More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

It is estimated that the Project would save around 24 million tonnes of carbon annually through electricity generation during it's operational period.

17. Other environmental issues

Are there any other environmental issues arising from the proposed Project?

- [x] No
- [ ] Yes If yes, briefly describe.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

- [x] Siting: Please describe briefly

- [x] Design: Please describe briefly

- [x] Environmental management: Please describe briefly.

☒ Other: Please describe briefly

Add any relevant additional information.

The design and development of the Project has been informed by an understanding of the available wind resource, the proximity of a possible electricity transmission network connection point, site access and environmental and planning constraints. The project development will continue to occur as further site assessments are undertaken. This will be an iterative process that will respond to ongoing environmental and technical studies and will allow Star of the South to consider potential mitigations early in the design development process.

The referral area has been selected to avoid any areas of sensitive land uses. In particular, options evaluation considering technical, environmental and social factors, such as land use and tenure, locations of dwellings and other sensitive receptors, the boundaries of National Parks and Ramsar wetland sites, areas of ecological sensitivity, areas of cultural heritage sensitivity and feedback received during consultation will be undertaken to inform key design decisions. These design decisions will provide the biggest opportunity to avoid and mitigate potential impacts and may include the siting of infrastructure away from areas of known or potential habitat or dispersal areas for threatened or listed species and communities.

The principles of avoiding and minimising impacts would be applied wherever possible through design development. Once the Project is better defined, impact assessment studies will then be undertaken and these will be used to identify specific measures to manage residual impacts. Commitments on some design aspects have already been made to reduce potential impacts, including:

- Prioritising underground transmission cables where possible
- A trenchless shore crossing (subject to further technical feasibility studies)
- Investigation of trenchless crossings of sensitive waterways/habitats

The Project would be constructed and operated under an environmental management framework. A CEMP would be prepared and implemented for all project components and would include directions on how the Project is constructed to minimise its impacts. Similarly, an operational environmental management plan (OEMP) would be prepared and implemented for the operational phase of the Project to minimise potential impacts.

The locations of construction compounds would be defined in response to environmental, land use and topographical constraints, landholder negotiations and technical and operational requirements.

Mitigation measures for Aboriginal Cultural Heritage are not yet proposed. However, a mandatory CHMP will be developed in line with the Aboriginal Heritage Act 2006 for the components of the proposed Project that cannot avoid areas of cultural heritage sensitivity that have not been subject to significant ground disturbance, and the activity is listed as high impact pursuant to the Regulations. The CHMP will include measures to manage and mitigate potential impacts to both known and unknown sites of Aboriginal cultural heritage.

A preliminary suite of control measures that would be implemented in order to avoid or reduce the potential marine environmental impacts associated with the Project has been identified during the preparation of this referral.

Additional control measures would be identified as the Project progresses through the design phase and further information and knowledge is gained via proposed modelling, marine baseline survey results. Detailed control measures would be included within the environmental impact assessment.

Star of the South would further avoid or minimise impacts by:

- Adhering to legislative requirements that apply to the Project.
- Applying industry standards that apply to marine operations in Victorian coastal waters

19. Other activities

Are there any other activities in the vicinity of the proposed Project that have a potential for cumulative effects?

☒ NYD ☒ No ☒ Yes If yes, briefly describe.

There are a number of projects known under development or proposed in the region including Golden Beach Gas Project (referred), CarbonNet (proposed), Gippsland Renewable Energy Park (proposed) the Qube upgrade at BBMT (proposed), and Marinus Link (proposed). The potential for the Project to result in cumulative effects when combined with these projects will be considered through further assessment.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the Project?

☒ No ☒ Yes If yes, please list here and attach if relevant.

In November 2019, Star of the South installed metocean measurement equipment (wind and wave) within the Licence Area. This activity, along with certain activities that form part of the Project's marine ecology survey program, were subject to an EPBC Act self-assessment and were deemed to not require an EPBC Act referral. The Project's marine ecology survey program commenced in December 2019 and includes a comprehensive array of surveys such as aerial visual/aerial digital surveys, and underwater acoustic surveys. Further activities planned under the Project's marine ecology survey program, including key species tagging and fish surveys, have been subject to a second EPBC Act referral self-assessment and Star of the South are currently awaiting Commonwealth feedback. It should be noted that for species tagging effecting only Victorian receptors, permits have been obtained.

Further development of the Project's design is dependent upon understanding the marine geotechnical and geophysical environment within which the wind farm assets are proposed to be located. These activities were referred under the EPBC Act (reference 2019/8525). Environmental studies were undertaken within the offshore area to support that referral.

Star of the South has also undertaken targeted onshore soil investigation surveys along the potential transmission route corridors. Regional permits were obtained by the soil investigation contractor on behalf of Star of the South.

Has a program for future environmental studies been developed?

☒ No ☒ Yes If yes, briefly describe.

A program for future environmental studies has been planned and will be further developed. It is anticipated that future environmental studies will include (but not be limited to) detailed marine and onshore ecology surveys and assessments, historic and Aboriginal cultural heritage assessments, socio-economic assessments, and a detailed landscape assessment.

Consultation program

Has a consultation program conducted to date for the Project?

☒ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

The consultation program has been founded on a belief that involving communities and stakeholders early is critical to developing a successful project. Star of the South is committed to genuine and ongoing consultation with local communities and stakeholders.

Key objectives of consultation are to:

- Build awareness of the Project
- Provide and promote consultation opportunities so that people can get involved in project investigations and planning
- Ensure communications are clear, accessible and targeted, so that the proposed Project and activities are well understood
- Build a detailed understanding of community and stakeholder views
- Use feedback to shaping project outcomes

Star of the South's approach is informed by government and industry guidance and the following consultation principles:

- Open
- Responsive
- Flexible
- Inclusive
- Act with transparency and integrity
- Accountable

While informal consultation has taken place since 2012 when the Project was first considered, the formal consultation process commenced in 2019 following Commonwealth approval of the Project's offshore Exploration Licence. Consultation to date has focused on discussing the proposed Project, site investigations and understanding stakeholder and community values and views.

This has included community consultation both online at getinvolved.staroftheSouth.com.au, and in-person through meetings, presentations and at information sessions. Six information sessions held across Gippsland during August and September 2019 were attended by 350 people. A summary of the outcomes of the September engagement are included as Attachment 6 to this referral.

To date, Star of the South has started conversations with:

- Commonwealth Department of Agriculture, Water and Environment (formerly Department of Energy and Environment)
- Commonwealth Department of Industry, Science, Energy and Resources (formerly Department of Energy and Environment)
- Department of Defence
- Federal Member for Gippsland
- Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC)
- Office of the Victorian Minister for Planning
- Victorian Department of Environment, Land, Water and Planning
- Victorian Member for Gippsland South
- Victorian Minister for Energy, Environment and Climate Change
- Latrobe City Council officers
- South Gippsland Shire officers and administrators
- Wellington Shire officers and administrators
- West Gippsland Catchment Management Authority
- Boating Industry of Victoria
- Country Fire Authority
- Parks Victoria
- Transport for Victoria
- Transport Safety Victoria
- VicRoads
- Victorian National Parks Association
- Victorian Trades Hall Council
- Broadening Horizons Gippsland
- Committee for Gippsland
- Gippsland Climate Change Network
- Gippsland Ports Authority
- Latrobe Valley Authority
- Regional Development Victoria

- Basslink
- CarbonNet
- Australian Energy Market Operator
- Australian Energy Regulator
- Australian Renewable Energy Agency
- National Offshore Petroleum Safety and Environmental Management Authority
- National Wind Farm Commissioner
- Australian Hydrographic Service
- Birdlife Australia
- Friends of the Earth
- Geoscience Australia
- Australian Fisheries Management Authority
- Australian Maritime Safety Authority
- Australian Recreational Fishing Association
- Commonwealth Fisheries Association
- Seafood Industry Australia
- Seafood Industry Victoria
- South East Trawl Fishing Industry Association
- South Eastern Trawl Fishing Industry Association (SETFIA)
- Victorian Fisheries Authority
- VRFish.

Has a program for future consultation been developed?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

Star of the South will continue to offer numerous and ongoing ways to provide formal and informal feedback and input into the Project, including:

- Workshops and meetings
- Specific engagement with the supply chain, including local business and industries
- Local information hub
- Community consultation events
- Community Reference Group
- Online surveys
- Feedback forms
- Social research
- Focus on 'hard to reach' and vulnerable groups.

Consultation opportunities have been identified and are integrated with planning, project development and procurement milestones to ensure opportunities to discuss and input to the project design, investigations and approach to construction and operation are provided at the right time to influence decisions.

In response to current COVID-19 restrictions on public meetings, we have identified additional remote communication, consultation and feedback methods that will allow stakeholder involvement to continue through this period, including:

- Additional online engagement tools including surveys, polls and use of interactive maps
- Video presentations
- Live Q&As
- Webinars and video conferencing
- Hard copy information packs and feedback methods such as surveys
- Written submissions

Authorised person for proponent:

I, ……Casper Frost Thorhauge…….(full name),

……Chief Executive Officer…….(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____

Date 01 / 04 / 2020

Person who prepared this referral:

I, ……David Hyett……(full name),

……. Industry Director - Environment …….(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature ____ _____

Date 01 / 04 / 2020